



Revit Butterfly V 0.3

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Introduction

Butterfly is a data visualization tool which helps you to create astonishing diagrams and charts with few mouse clicks!

Butterfly Charts



Just like Excel charts that create charts from the Excel tables, this tool enables Revit users to create charts from Revit schedules directly within the Revit application. How does it work?

The screenshot shows the 'Butterfly Charts' dialog box with the following components and annotations:

- (1)** Chart name: columns
- (2)** Revit Schedule: Room Schedule
- (3)** Name: abc
- (4)** Number Label: abc
- (5)** Area Value: 123
- (6)** Group: Group
- (7)** Color palette
- (8)** Item list table
- (9)** Chart type icons
- (10)** Essentials settings: Gap (01mm), Width (50mm), Height (50mm)
- (11)** Bar chart visualization
- (12)** Ready status
- (13)** Revit family / Image radio buttons and Update button

Item	Area (m²)
Item 1	163
Item 4	59
Item 3	17
Item 2	27
Item 5	243
Item 6	21
Item 7	31
Item 8	57
Item 9	90
Item 10	87
Item 11	204

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Click on the **Generate Chart** button to open up Butterfly charts dialog. From this dialog you can choose a Revit schedule under Data source settings and then pick two columns of the schedule

in order to generate the graph. The values under [Label](#) column will be used to label the chart and the values under [Value](#) column will be used as scalar information to generate the graph. Choose one graph type from the [Graph type](#) menu. A [preview](#) of the graph will be shown immediately when all information are provided. Enter a name for the graph in [Graph name](#) box and then click on [Generate](#) button to create the graph. When a chart is created successfully the graph family will be loaded into the project and you must place it on a 2D view.

After the graph is created you can use the same dialog to modify the graphs or use [Refresh graphs](#) command to update the graphs if the database (Revit schedule) has been changed.

Chart Name (1):

Each chart must have a unique name, the name of the chart will be used to save the Family file (file name on hard disk will be [CHART NAME].rfa or [CHART NAME].png) therefore the name must follow the rules for a valid file name. The chart family will be saved under the same folder as the project.

If a family with the same name exists in this folder, the graph will not be created.

If a graph with the same name is already placed in the project , the settings for that particular chart will be listed. All existing charts will be listed in this combo box and users can choose from the list in order to modify the settings of the existing chart.

Note : it is not possible to rename a chart after it is created.

Schedule (2):

List of all Revit schedules exist in the current project. The schedule must have at least two rows and two columns. It is recommended to create an independent schedule for chart creation than those you place on the sheets. In the Revit schedule make sure that under sorting and grouping the “**Itemize every instance**” option is not selected and under formatting the total value is calculated. Note that the total value will be calculated by the AddOn.

Note : Number of columns in each schedule is indicated by the set of short bars on the left side of the schedule name .



Columns (3):

List of all columns in the selected Revit schedule. To create a data source for your chart you need to at least choose two columns from this list. Simply drag the column name to one of the three fields **Label** , **Value** or **Group**.

Note : The ‘123’ next to the column name indicates that the column contains numeric values and the ‘abc’ indicates that the column contains text values.



Label (4):

For each cell in the Revit schedule under this column an item will be generated in the graph. The text is used as the **Item title** in the chart.

Value (5):

For each item in the chart the corresponding **Item value** will be derived from this column. The values can be both positive and negative but notice that not all the graphs can display negative values.

Group (6):

In this version of the Butterfly Chart , you have the option to group the items in the chart just like grouping by Revit schedules.

Note : Not all charts support this functionality.

Coloring tools (7):

Provide various methods to paint the chart. The color of individual items in the chart can be modified using the color switches in the **Data review** or directly from the **Chart preview**.

Data preview (8):

Once the Revit schedule and both [Label:](#) and [Value](#) columns are selected a summary of the schedule will be shown in this table. The information shown in this table will be used to generate the graphs.

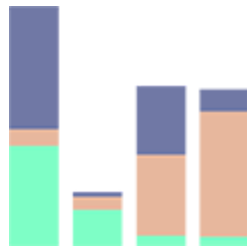
Note : The order of the items in the schedule affects the chart.

Chart type (9):

Multiple chart types are available from this list. Changing the chart type will force the **Preview chart** to display the chart. You can switch between different chart types to see how they look before placing them in the project. Currently 13 chart types are available :



Donut



Columns



Bars



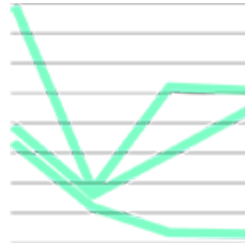
Single column



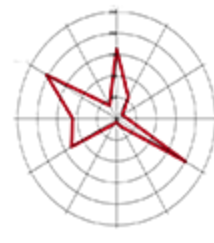
Single bar



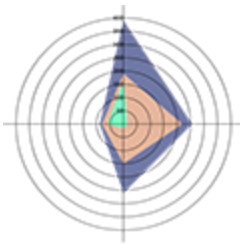
Area



Line



Radar (Void)



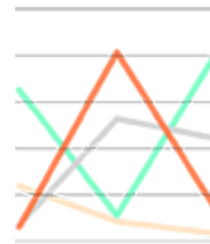
Star



Flower



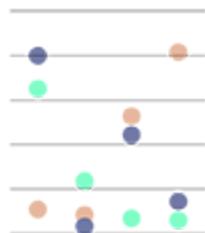
Rings



Grouped lines



Arcs



Points

Note that you can change the color and pattern of the graph by editing the chart family and loading it back to the project. These changes will be kept for the next updates.

Note : You may add elements to the Revit family and pin them to avoid deletion while updating the chart family.

Chart settings (10):

Each chart has its setting that can alter its size and graphics. Once a chart type is selected from, the settings will be displayed here. Any change in the setting will immediately be reflected on the preview display. Typical settings are as follow :

Essential :

Contains essential parameters affecting the size and geometry of the chart.

Grid:

Display a grid with regular spacing in the background.

Legend:

Show the labels at the bottom of the graph.

Common:

Present common chart parameters such as labeling and border visibility.

Text:

Control the text size and orientation.

Chart preview (11):

Displays preview of the chart. If the chart contains errors or cannot be generated because of missing information, a warning message will be displayed in the **Prompt line**. You can zoom and pan the preview display to see the details.

Note: It is possible to select and change the color of one or multiple items directly from the preview display.

Prompt line (12):

Display errors or useful information.

Generate/Update (13):

Butterfly chart offers two options for creation of a chart in Revit document. A chart as a **Revit family** or as an **image**. Users must select the element type before creation of the first instance.

When a successful preview is displayed in **Chart preview**, the user can generate the graph and place it in a 2D view. If the button shows 'Create' , a new generic annotation family or an image will be created with the same name as entered in the [Chart name](#) box. Then the chart family or the chart screenshot will be loaded into the project and the Chart dialog goes to background temporarily. Once the user places a chart in the view, the chart dialog will come to foreground and show the settings of the created chart. At this point the **Create button** is changed to **Update button** meaning the user can alter the settings of the chart and update all the instances of the chart from the dialog.

Since all the settings are saved in the Chart instance, when the user closes and reopen the Revit project, the settings can be reloaded for each chart by selecting the chart name (Family name) from the [Chart name](#) menu.

Update all



If the data from a Revit schedule has changed, User can update the related chart(s) without need to open the Chart dialog simply by clicking on this button.

Note : only charts that are created in the format of the Revit families can be updated in this way. The image charts must be updated from the Chart dialog.

Update selected



Does the same as [Update all](#) , but only for the selected graphs.

The End