WaterfallChart Control Reference

Show how increases and decreases add up to a running total.

Reference **Controls** **Charts** WaterfallChart

Available from FrameworX 10.1.6.

The WaterfallChart draws floating columns over a running total. Use it for an OEE loss waterfall (planned time, then each loss, down to good output), an energy balance or a batch mass balance. Increases, decreases and totals each have their own color, and connector lines link consecutive columns.

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Requirements

This component is Portable. It runs both on Windows and on Web Pages hosted on any platform.

Clients: works in the Rich Client and in the web client (HTML5), with the same values and layout on both. Verified on FrameworX 10.1.6.

Configuration

1. Go to **Displays / Draw**.
2. In the Components Panel, select **Charts**, then choose **WaterfallChart**.
3. Click or drag-and-drop the component into the drawing area.
4. Double-click the object to open the configuration window.

Data Binding

- **Tag mode** (default): fill the **Steps** list, left to right. Each step has a **Label**, a **LinkedValue** (a number, a tag or an expression) and **IsTotal**. A total step draws a full column from 0 to the running total and ignores its own value.
- **Table mode**: set **UseDataTable** to true and point **DataSourceLink** to a Dataset query or table (`@Dataset.Query.Name` / `@Dataset.Table.Name`) or a tag that holds a DataTable (`@Tag.Name`). **CategoryColumn** and **ValueColumn** name the columns; the optional **IsTotalColumn** marks total rows (true, yes, or a non-zero number).

Behavior

- A step with a value of 0 or more uses **IncreaseFill**; a negative step uses **DecreaseFill**; a total uses **TotalFill**.
- The value axis is automatic and always includes 0.
- At most 100 steps are drawn; with more, the **StepLimitText** note is shown.
- When a value label does not fit its slot, all value labels shrink; when the category labels do not fit, only every k-th label is drawn.

Properties

Property	Description	Default
Steps	Tag mode: the columns, left to right (Label, LinkedValue, IsTotal).	(empty)
UseDataTable	Read the steps from a table instead of the Steps list.	false
DataSourceLink	Table mode: the data source (Dataset query or table, or a DataTable tag).	(empty)
CategoryColumn	Table mode: column that holds the step label.	Category
ValueColumn	Table mode: column that holds the step value.	Value
IsTotalColumn	Table mode: optional column that marks total rows. Empty means no totals.	(empty)
ShowConnectors	Draw a connector line at the running total between consecutive columns.	true
ShowValueLabels	Show the value above each column (the running total on a total column).	true
ShowCategoryLabels	Show the step labels under the columns.	true
ShowValueAxis	Show the value-axis tick labels on the left.	true
ShowGridLines	Show the grid lines.	true

BarWidthRatio	Column width as a fraction of its slot, 0.1 to 1.	0.6
ValueFormat	Format of the value labels and axis.	#,0.##
LabelFontSize	Font size of the labels.	11
LabelFontFamily	Font family of the labels.	Verdana
StepLimitText	Note shown when the data has more than 100 steps.	Step limit reached (100)
Localize	Enable runtime text localization.	false

Colors follow the Display theme by default: each color property has a theme slot. Set an explicit color (#AARRGGBB) only to override the theme. Color properties: **IncreaseFill** (theme green), **DecreaseFill** (theme red), **TotalFill** (theme accent), **ConnectorStroke**, **GridStroke** and **LabelForeground**.

Example

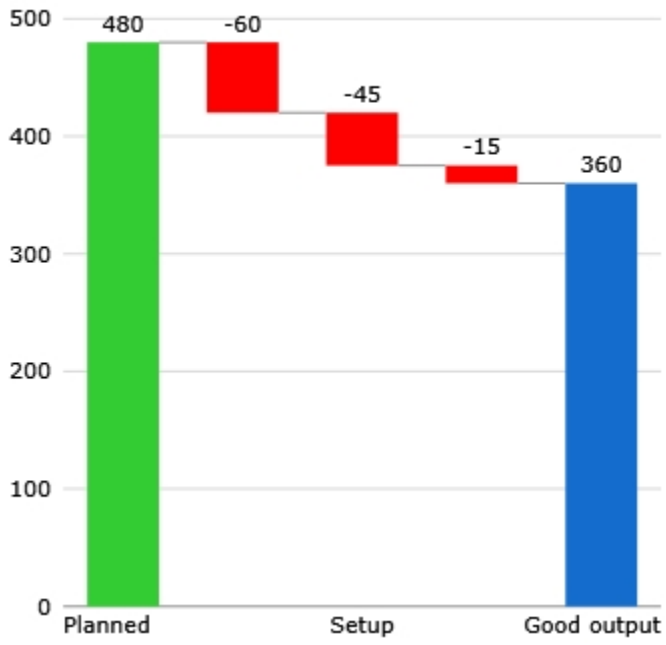
An OEE loss waterfall for one shift, in minutes, in tag mode with five steps:

Label	Value	IsTotal
Planned	480	false
Breakdowns	-60	false
Setup	-45	false
Speed	-15	false
Good output	(ignored)	true

The chart draws Planned from 0 to 480, three red loss columns stepping down to 420, 375 and 360, and the Good output total from 0 to 360, labelled 360. The value axis runs from 0 to 500. In the narrow chart of the image, the Breakdowns and Speed labels are skipped because they do not fit.

Runtime Execution

At runtime the WaterfallChart recomputes the running total and redraws when the values change. The image shows the example above in the Rich Client; the web client draws the same chart.



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