

Plotting

Documentation

DDBSP - Dortmund Data Bank Software Package



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Quick Overview

Pages

The plot windows are arranged in pages. If there are several possible charts for the presented data, every chart is put on a separate page in the same plot window.

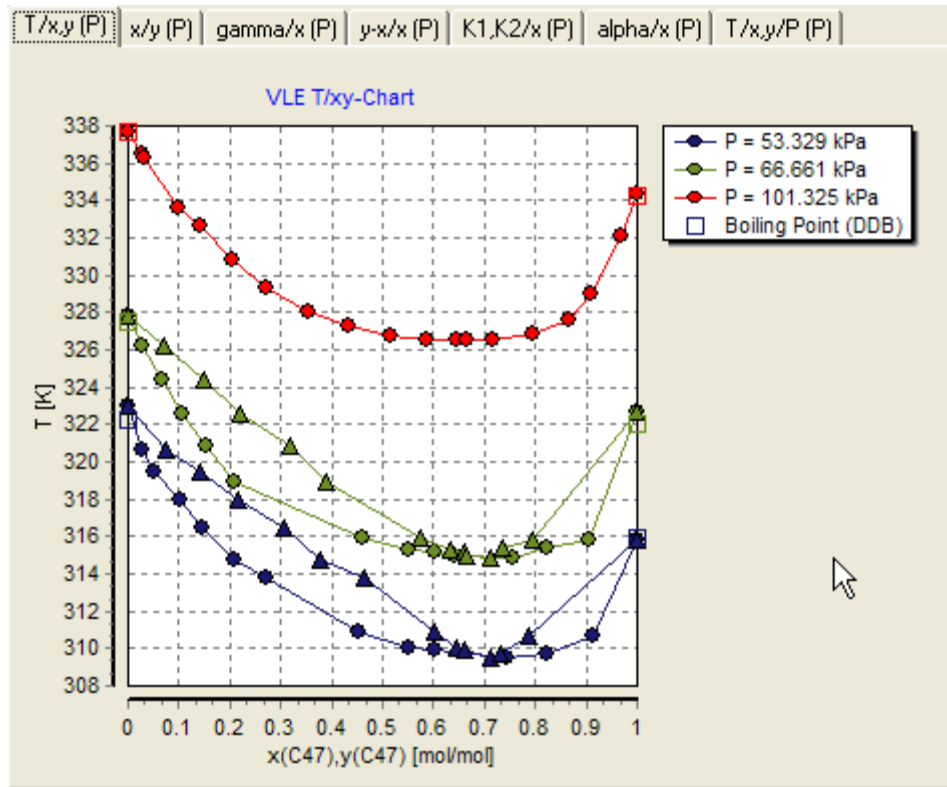
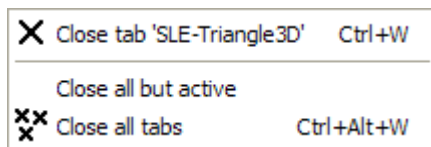


Figure 1: Main diagram window with tabs

The **page bar** has a context menu:



X Close tab 'P/y1/y2' Ctrl+W

Close the selected page. The tab's title is displayed in the context menu ('SLE-Triangle 3D' resp. 'P/y1/y2' in the screen copies).

Close all but active

Close all other pages (only the active page will be left).

XX Close all tabs Ctrl+Alt+W

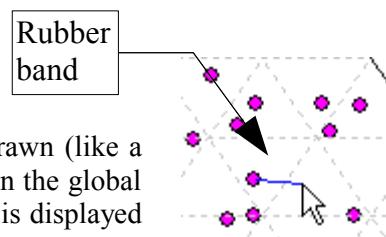
Close all pages.

When the last page is closed the main window is closed.

Moving Around the Chart

Display Data Point Details

When the mouse pointer is near a point a connection line to the point is drawn (like a **rubber band**). The maximum length of the rubber band can be customized in the global options (default: 75 points). When a point is focused some data information is displayed in the **information area** below the chart.



```
DDB-Number: VLE 548 [0]
Ref.: [407] Beebe A.H., Coulter K.E., Lindsay R.A., Baker E.M., Ind.Eng.Chem. Ind.Ed., 34, p150.

Components:
(1) C11 Ethanol C2H6O
(2) C174 Water H2O

Constant: P = 25.331 kPa
```

The data information can change with every point, for example. if more than one system is displayed in the chart. The selected text can be copied using the context menu. When nothing is selected the whole text will be copied.

Status Bar

The **status bar** contains data point information. In the first fields the (untransformed) axis values of the current point are displayed. They are followed by all other data point information, at last available constant value information is displayed.

The same information as shown in the status bar is also displayed as moving hint window following the mouse cursor.

This advantage of this hint window is that it all entries are visible. Entries in the status bar might become invisible when the window becomes smaller.

```
y(C12) : 0.8245 mol/mol
y(C11) : 0.1755 mol/mol
P: 35.837 kPa
x(C12) : 0.2 mol/mol
x(C11) : 0.8 mol/mol
K1: 4.1225
K2: 0.21937
SepFac: 18.792
y1-x1: 0.6245
Act.Coeff.1: 2.06382
Act.Coeff.2: 1.00135
T: 298.15 K
```

Show Data

The **data table** to a selected point can be displayed using the series context menu.

The data table will be displayed within the Dortmund Data Bank program.

Copying Data

Use “Copy Series Data to Clipboard” to copy the **series data** to the clipboard.

Changing Z-Order

To access series points which are hidden behind another series use “Send to Back” or “Bring to Front” to change the **Z-order** of the series. This changes the order in the legend, too.

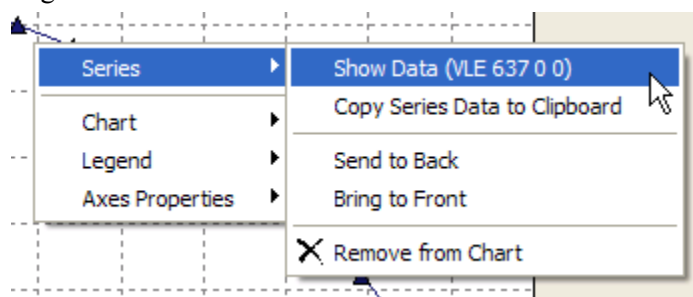



Figure 2: Chart Context Menu: Series

Zoom

The mouse can be used to **zoom** into an area by holding down the left mouse button and mark the rectangle to be zoomed beginning in the *top left corner* of the area. To **scroll** the chart contents hold down the right mouse button and move in the desired axis directions. To **undo zoom** or scroll either the “Undo Zoom/Scroll” button () can be used or by marking an area with the left mouse button pressed beginning in the *top right corner* of the area.

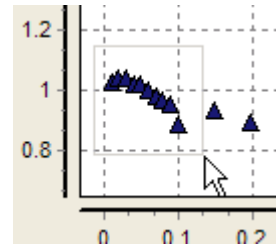


Figure 3: Zoom In

The Legend

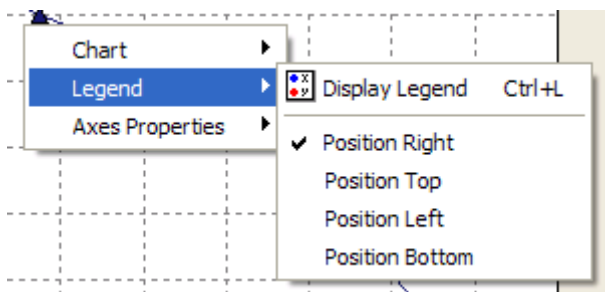



Figure 4: Chart Context Menu: Legend

The **legend** can be turned on/off using the  button or the corresponding entry in the legend part of the chart context menu. The legend position can be left from, right from, above or below the chart.

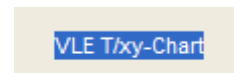
If not all legend entries can be displayed at once the legend contents can be scrolled using the mouse wheel or by holding down the left mouse button and move up- or down within the legend. The possible scrolling directions are reflected by the mouse pointer shape.

In most charts the **pointer shape** reflects the phase information. A circle is used for the liquid phase. If there's more than one liquid phase the different phases are distinguished by using left and right triangle. The vapor phase is represented by a triangle and the solid phase by a rectangle.

Customizing the Chart

Chart Title

The **chart title** can be changed by a single click on it. In the title edit mode press ENTER or click somewhere in the chart to commit the modification or ESC to restore the previous title text.



Axis Properties

The **axis properties dialog** can be accessed by double-click on the desired axis or by using the axis context menu (right-click on the diagram).

The axis properties dialog allows to change the axis title, axis title font (upper **A**) and the font of the axis labels (lower **A**). In several cases the axis can be transformed for example to get a representation like $\log(P)$ vs. $1000/T$. Furthermore the minimum and maximum axis value can be set manually. The axis increment can be set manually or automatically.

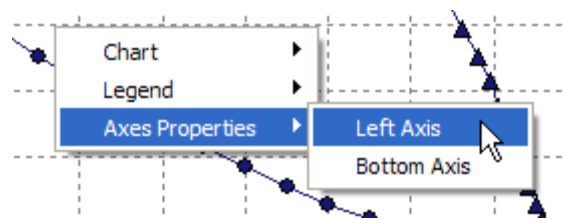


Figure 5: Chart Context Menu: Axes Properties

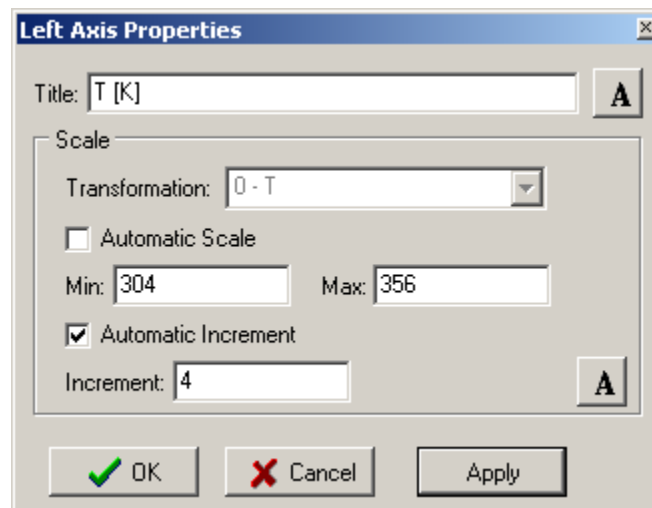






Figure 6: Axes Properties

The buttons  and  allow to switch quickly between the $\log(y)$ vs $1000/x$ scale and normal scale representation.

Other Tool Bar Options

 The *Make Chart Area Quadratic* button is useful for reports which often contains quadratic charts. This function adjusts the height of the diagram.

 The *Chart Editor* is a powerful integrated tool which allows to change nearly everything in the chart. This editor allows to change almost every details including hiding lines and points, changing every color, modify markers, etc.

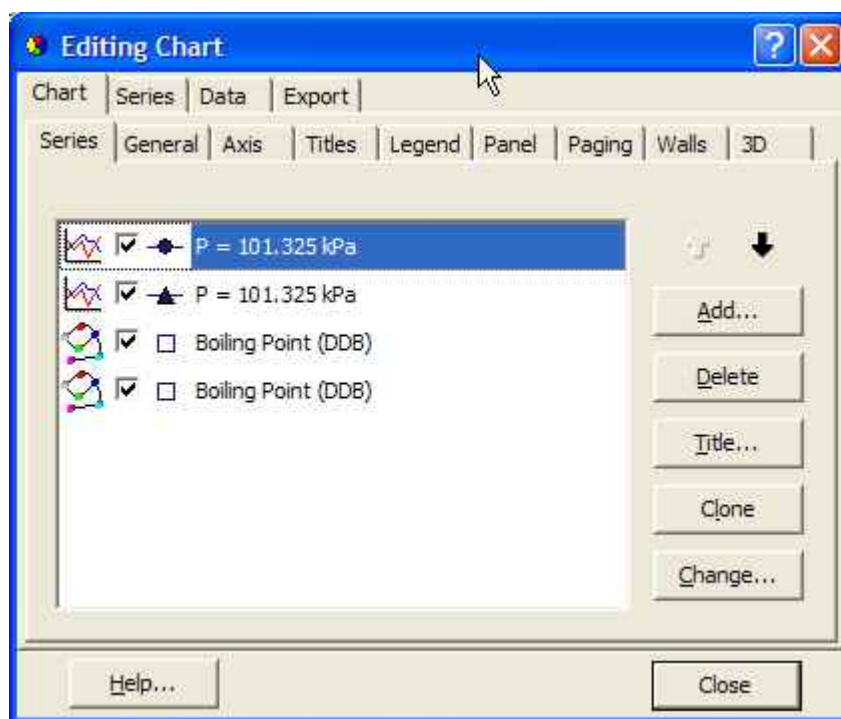



Figure 7: Chart Editor

 **Set Chart Size:** This dialog allows to set the size of the diagram in pixels. This feature is especially useful when the size of the diagram is important like they are in publications.

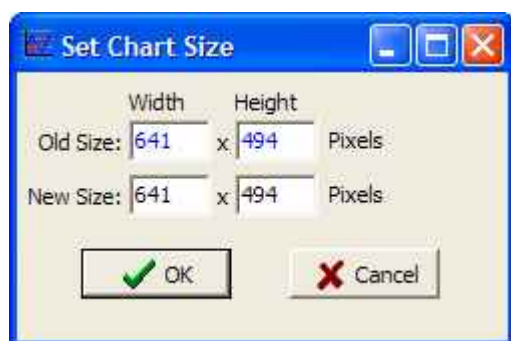




Figure 8: Setting diagram size manually





Customizing 3D-Charts

The 3-dimensional chart has some additional features represented by the tool buttons which are only visible when a 3D-chart is active.


 When the **3D Normal Mode** is activated the mouse can be used to zoom and scroll the chart like in the 2D mode.

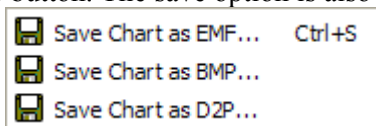
 When the **3D Rotate Mode** is activated the mouse can be used to rotate the chart in all directions. When the chart is in “orthogonal mode” at the beginning of the rotation the orthogonal mode is automatically turned off.


When the **3D Move Mode** is activated the mouse can be used to move the chart around in the plot area.

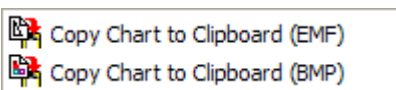
-  When the **3D Zoom Mode** is activated the mouse can be used to change the size of the chart. When the global option “Zoom Text” is set the size of the axis labels changes with the size of the chart.
-  When the **3D Depth Mode** is activated the mouse can be used to change size of the depth axis.
-  The **Toggle Orthogonal** button can be used to switch to the orthogonal chart and back. The size of the depth axis and the zoom scale is set for the orthogonal chart separately.
-  To switch between 2D and 3D the **Toggle 3D Mode** button can be used.

Save and Copy

The  button can be used to save the chart as enhanced meta file (EMF). To save as bitmap (BMP) or D2P file use the drop-down menu next to the button. The save option is also available in the chart context menu.




The  button can be used to copy the chart content to the clipboard as EMF. To copy as BMP the menu entry in the chart context menu can be used.



D2P files are a DDB internal format that is described in the separate document “Plot Input Files for Ternary and Binary Plots.pdf”.

Printing

To avoid undesired results printing is only available using the  button to open the **print preview dialog**.

The preview allows to set the fonts for

1. chart descriptions
2. data descriptions
3. header and footer

Additionally the chart description can be modified.

The “Append Data Sheet” option allows to append the data sets as text below the diagram and on following pages.

The button calls the standard Windows print dialog where a printer, the print area, and the number of copies can be selected.

The preview dialog support zooming the print area by left-clicking (🔍) on the page.

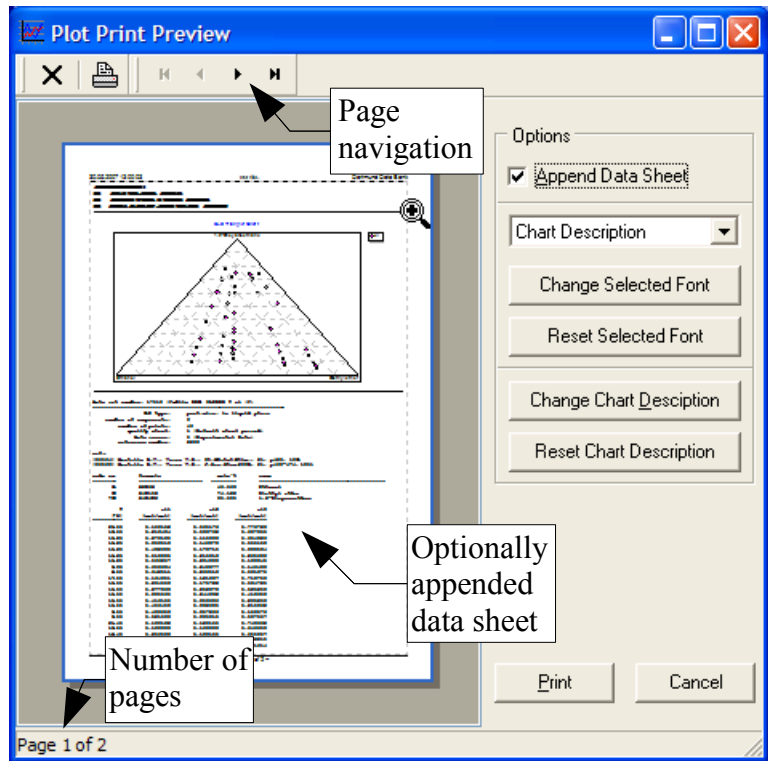


Figure 9: Print Preview