

Scheme Editor

Version 6.3

Manual

Edition 1



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1 Scheme Editor

The Scheme Editor is a desktop application for the creation of hydraulic and pneumatic diagrams in compliance with standards. On the basis of a hydraulic and pneumatic symbol library, it is easily possible to also prepare complex diagrams. Additional libraries can be added. Material numbers, item numbers and accessory can be assigned to diagram components so that it is possible to generate a parts list on the basis of this model.

By means of graphical objects like e.g. line, circle and rectangle with many possible settings for colors and types, the diagram can be extended by individual requirements. For an easier navigation, each object can be assigned a hyperlink to further documents. Apart from that, each sheet can be assigned a title block with defined input fields.

The Scheme Editor software can be operated intuitively and does not presuppose special CAD knowledge. It can be used at the customer, in the sales, in the technical indoor service or in the application center. This manual describes the functional scope of the application and thus allows you a quick start. The order of the individual chapters corresponds to the standard workflow in the creation of a diagram.

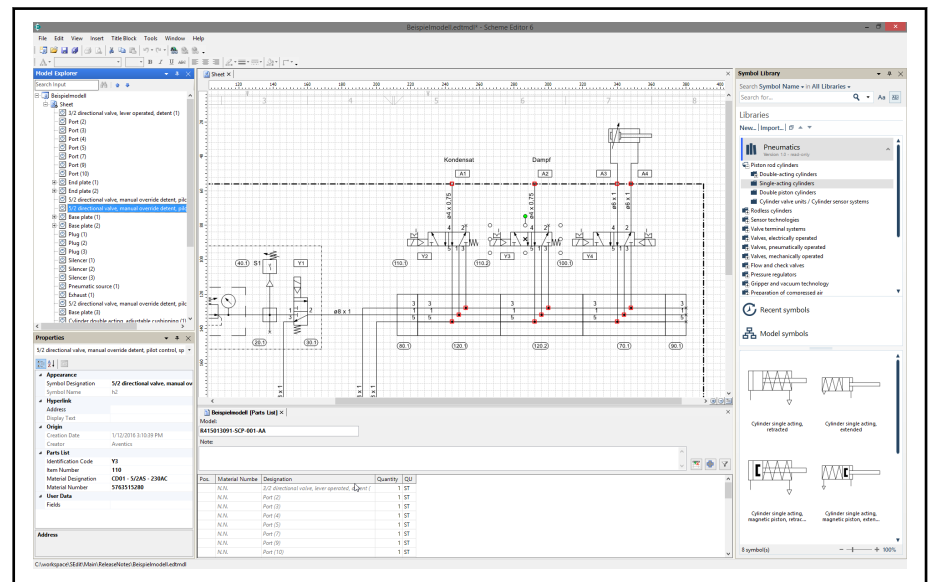


Fig. 1-1: The user interface of the Scheme Editor application

2 Description of the User Interface

2.1 General

This section explains the user interface, its individual components and the toolbars. In this section you learn how to design the program window according to your requirements by docking and undocking the different windows. The terms used in this section will also be used in the whole documentation.

2.2 Main Window

The main window is the desktop of the program. Its size and position can be changed. For many other interface elements (e.g. menu bar, toolbars, "dockable" windows), the main window can be regarded as a kind of "frame". Within the main window, these elements can be attached to the window edges.

Size adjustment



The change in the size of the main window is visualized by three dotted slashes at the lower right edge . In the maximized view of the main window, the slashes are not shown. For this purpose, the window must be minimized, e.g. using the  button in the title bar. The size of the window can be changed by positioning the mouse pointer on the window frame area and dragging the window frame to the left / right or upwards / downwards while keeping the left mouse button pressed.



Fig. 2-1: *Scaling the main window using the window frame*

2.3 Title Bar

The horizontal bar at the upper edge of a Windows application is called title bar. It contains the program symbol with the system menu, the program name and the pushbuttons for the size (minimize, restore or maximize) as well as the symbol for exiting the program.

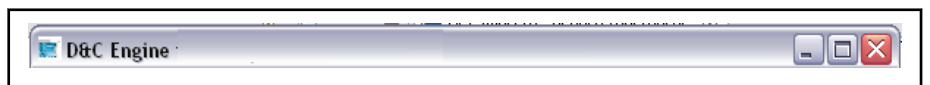


Fig. 2-2: *Title bar*

2.4 Program Window

2.4.1 Areas of the Program Window

The program window is divided into the following areas:

Description of the User Interface

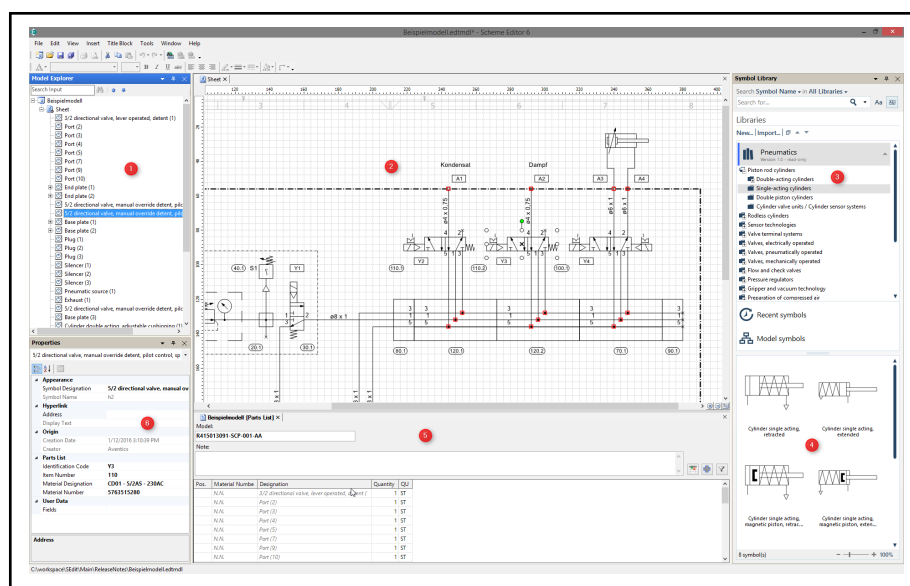


Fig. 2-3: The program window of the Scheme Editor application

1. Model explorer

In the model explorer, the opened model with the related sheets and components is shown in a structured form. It is used for navigating in the model and for executing different commands.

2. Model view

The model view document window represents the connection scheme. For creating the scheme, components from the library can be dragged into the model view by means of Drag&Drop and connections between the components can be established.

3. Library

In the library, all domains that can be used for the connection scheme creation are listed. By selecting a domain, the components contained therein are shown in the component preview (4) situated below.

4. Component preview

In the component preview, the components of the selected domain are shown.

5. Parts list

The parts list shows a list of the components and accessories used as table.

6. Properties

The properties window allows for the processing of the properties of selected components. Identification code designation, material and item number can be processed.

2.4.2 Showing and Hiding Areas

The individual areas can be shown and hidden via the menu item **View** from the main menu.

The "model view" window cannot be hidden. If all opened worksheets are closed, the area is shown in gray.

2.5 Toolbars

2.5.1 General Information on Toolbars

By default, the toolbars are located below the menu bar and consist of push-buttons by means of which the most important functions can be called. If the mouse pointer rests over a symbol for some seconds, its meaning is shown by means of a tooltip.

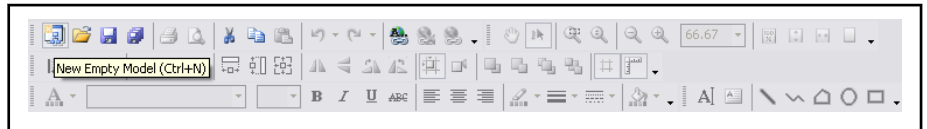


Fig. 2-4: The toolbar of the application

The symbols in the toolbar are shown in gray if they are not available due to the current processing step.

Hiding and showing toolbars:

Toolbars that are not required can be hidden. Clicking on a free area in the menu bar or toolbar using the right mouse button opens a context menu.

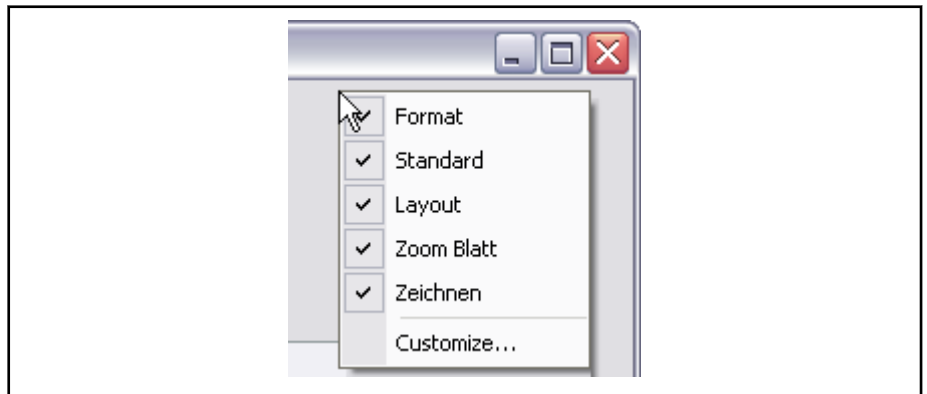


Fig. 2-5: Showing and hiding toolbars via the context menu

The context menu shows all available toolbars. Shown toolbars are marked by a preceding checkmark. The toolbars can be shown or hidden by setting the checkmark.

2.5.2 Standard Toolbar

The standard toolbar allows for simple commands like the creation of a new model, saving, copying or cutting.

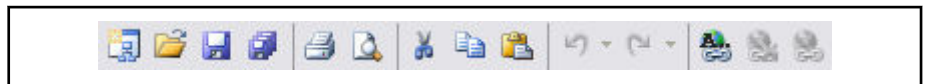
















Fig. 2-6: Standard Toolbar

The function of the symbols (from left to right):

-  New Model
-  Open Model
-  Save
-  Save All
-  Print

Description of the User Interface

-  Print Preview
-  Cut
-  Copy
-  Paste
-  Undo
-  Redo
-  Edit Hyperlink
-  Delete Hyperlink
-  Open Hyperlink















2.5.3 Layout Toolbar






In the layout toolbar you can, for example, show or hid the grid or the ruler and edit the size and position of components.



Fig. 2-7: Layout Toolbar

The function of the symbols (from left to right):

-  Align Lefts
-  Align Centers
-  Align Rights
-  Align Tops
-  Align Middles
-  Align Bottoms
-  Make Same Width
-  Make Same Height
-  Make Same Size
-  Flip Horizontal
-  Flip Vertical
-  Rotate Right
-  Rotate Left
-  Align to Grid

-  Align to Objects
-  Bring to Front
-  Send to Back
-  Show/Hide Major Grid
-  Show/Hide Ruler

2.5.4 Zooming Toolbar

Settings for zooming the worksheet are made in the zooming toolbar.

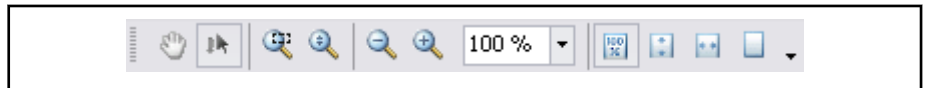













Fig. 2-8: Zooming Toolbar

The function of the symbols (from left to right):

-  Hand Tool
-  Selection Tool
-  Partial Zoom
-  Dynamic Zoom
-  Zoom Out
-  Zoom In
-  100 % Zoom Values
-  Original Size
-  Window Height
-  Window Width
-  Zoom Whole Page

2.5.5 Format Toolbar

Using the format toolbar, settings for tests are made, like e.g. font type and type face. Here, you can also select the fill and line colors.

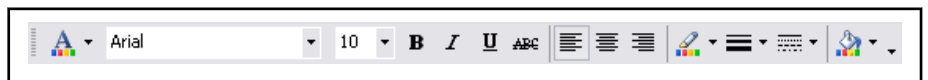








Fig. 2-9: Format Toolbar

The function of the symbols (from left to right):

-  Font Color
-  Courier New 10 Font and Size
-  Bold

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-  Italic
-  Underlined
-  Underlined
-  Left-aligned
-  Centered
-  Right-aligned
-  Line Color
-  Line Strength
-  Line Type
-  Fill Color

2.5.6 Drawing Toolbar

This toolbar includes the functions for free drawing.

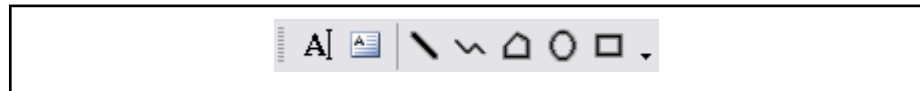











Fig. 2-10: Drawing Toolbar

The function of the symbols (from left to right):

-  Adds a Free Text
-  Adds a Text Box
-  Adds a Line
-  Adds a Polyline
-  Adds a Polygon
-  Adds an Ellipse
-  Adds a Rectangle
-  Adds an Elliptical Arch
-  Adds an Elliptical Pie

2.6 Adjusting the Program Window

2.6.1 Resetting the Program Window

The alignment of the main menu, the toolbars and tool windows can be reset at any time in the option dialog that is accessible via the main menu item **Tools ► Options**, by means of the buttons **Reset main menu and toolbars** and **Reset tool windows**.

2.6.2 Docking

The work environment can be adjusted to your working habits. Many windows that are frequently required for processing data can be permanently positioned in the program window while working.

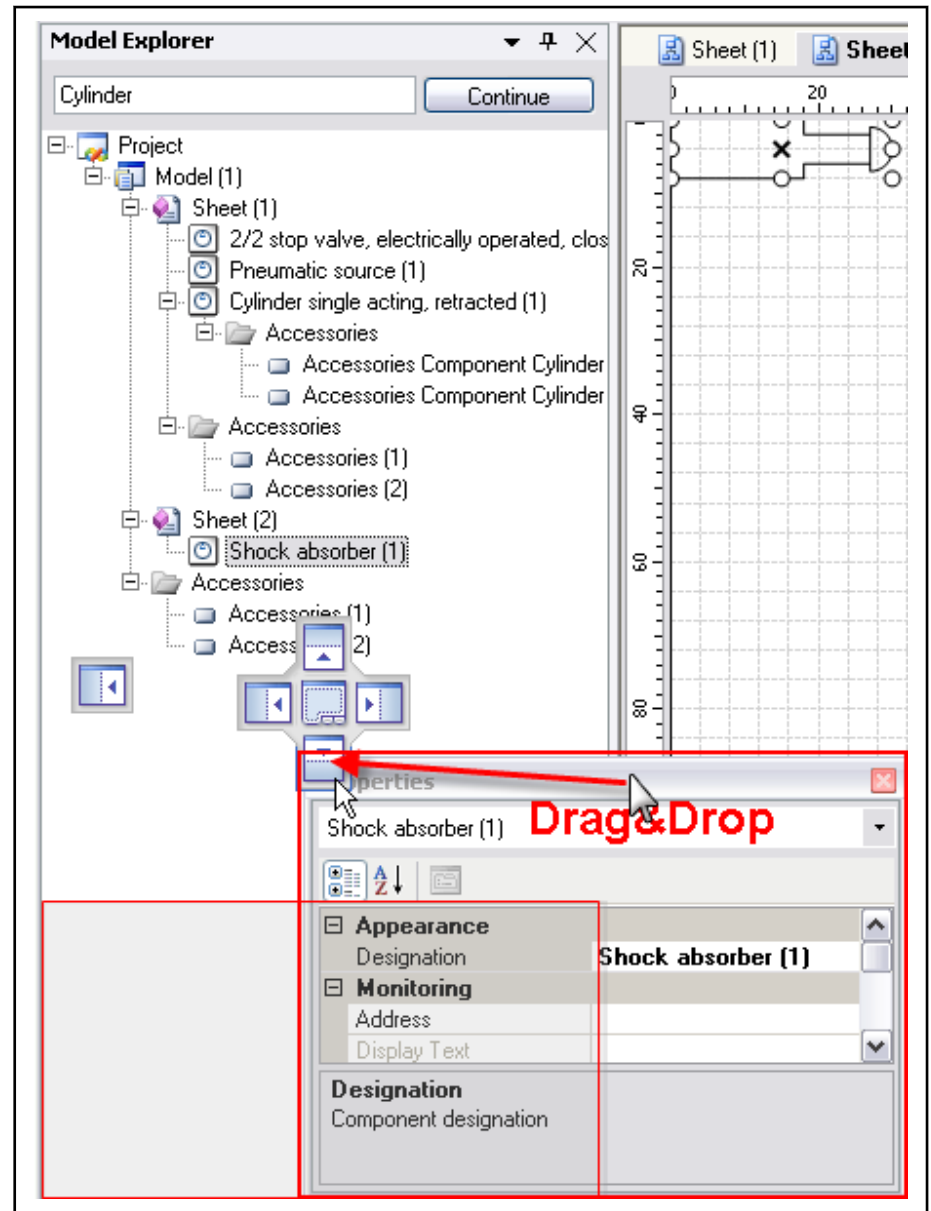


Fig. 2-11: Docking the independent properties window to the program window

The following steps must be completed for docking a window:

1. Place the mouse pointer on the title bar
2. Press the left mouse button and keep it pressed
3. Drag the mouse button with the attached window to the desired place in the program window
4. Select the desired docking mode by placing the mouse pointer on the pictogram (the following modes are available: upper, lower, left and right window frame as well as docking as tab)
5. Release the mouse button

Description of the User Interface

2.6.3 Undocking

Docked windows can be released from the program window and be placed as independent window next to the program window on the desktop or on a second monitor, if applicable.

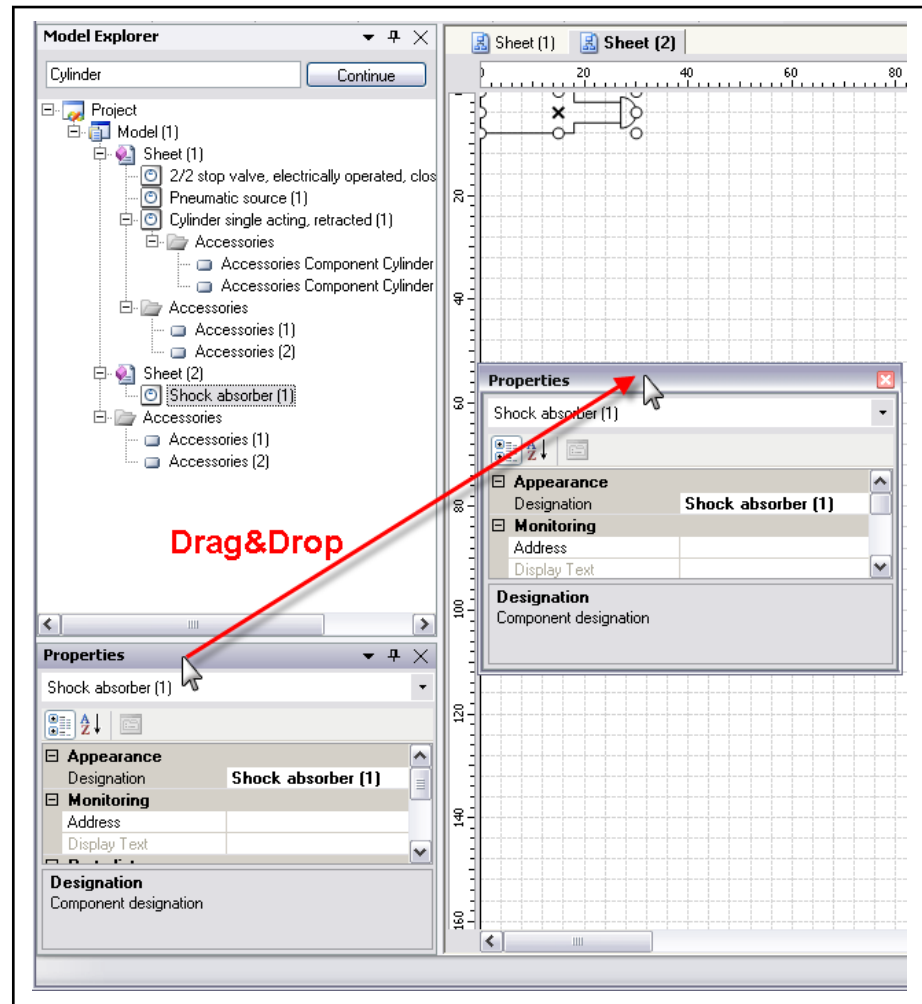


Fig. 2-12: Undocking for the properties window and placing on a freely selectable place of the desktop

The following steps must be completed for undocking a window:

1. Place the mouse pointer on the title bar
2. Press the left mouse button and keep it pressed
3. Drag the mouse button with the attached window to the desired place of the desktop
4. Release the mouse button

2.6.4 Automatic Hiding

Another possibility for adjusting the program window to one's own requirements is offered by the automatic hiding of program windows as it is, for example, known from the Windows task bar. Windows hidden in that way are shown as pictograms at the program window frame to which they are docked. If the mouse pointer is placed on the pictogram, the window is shown as long as the cursor is within the shown window and automatically hidden as soon as the cursor leaves the window. In this way, the place for the model view can be enlarged in a very effective way.

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By default, the automatic hiding of a window is deactivated. This is shown by the vertical pin in the right corner of the window title bar:

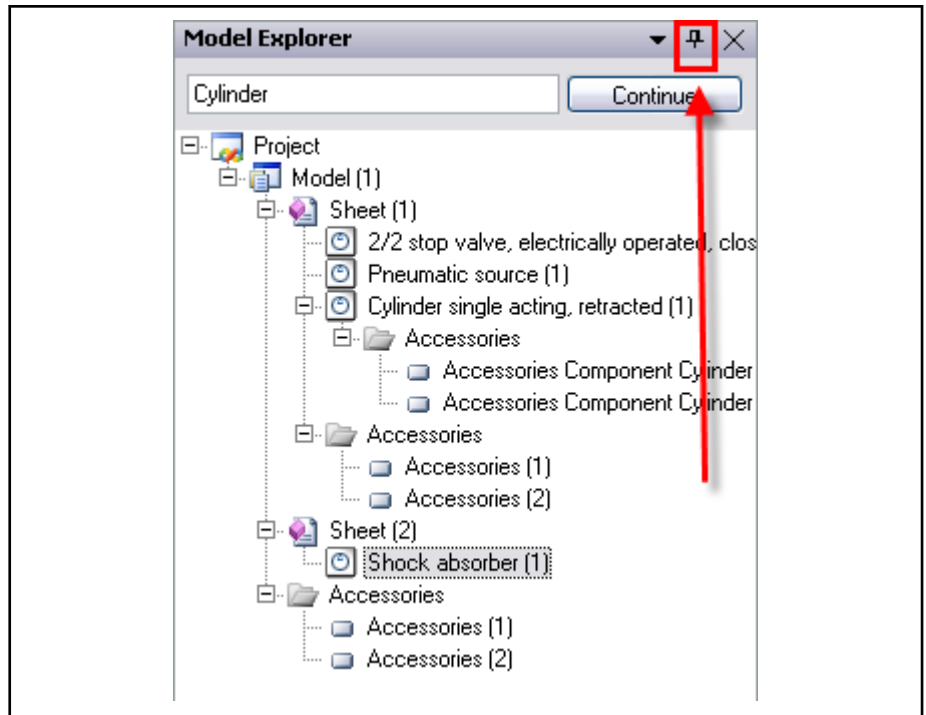


Fig. 2-13: Automatic hiding is switched off

Automatic hiding is switched on by clicking on the pin. The pin then changes into a horizontal orientation, the program window is closed and shown as pictogram at the edge of the display:

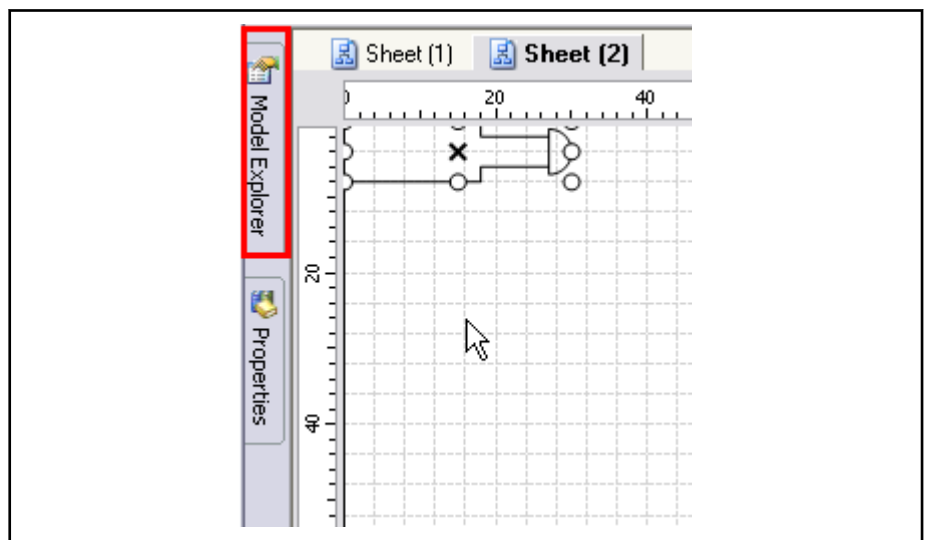


Fig. 2-14: Automatic hiding activated

If you now move the mouse over the pictogram at the edge of the display, the window is shown:

Description of the User Interface

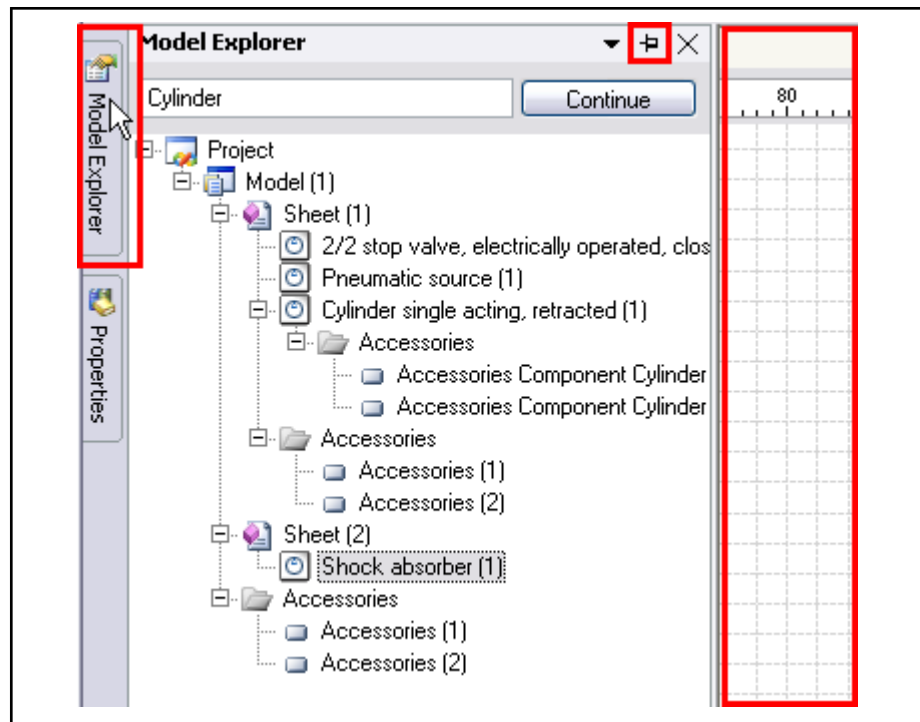


Fig. 2-15: When moving over the pictogram, the hidden window is shown

Now, you can work with the window. If the mouse leaves the window, it is hidden again.

2.6.5 Window Alignment

If two or more windows are opened, they can be aligned vertically next to each other or horizontally above each other. The starting point of the action is the context menu of the tab of the window that is to be re-aligned.

If the windows are to be shown vertically next to each other, the **New Vertical Tab Group** is to be selected, for a horizontal alignment, select **New Horizontal Tab Group**.

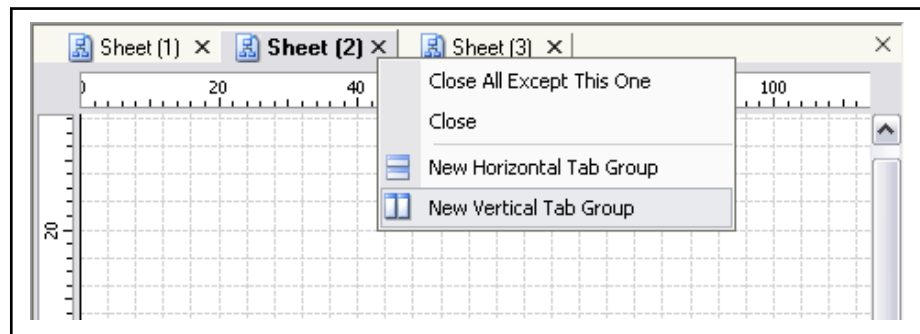


Fig. 2-16: The second model view is to be aligned next to the first model view. After executing the command, the window is shown next to the first window.

Description of the User Interface

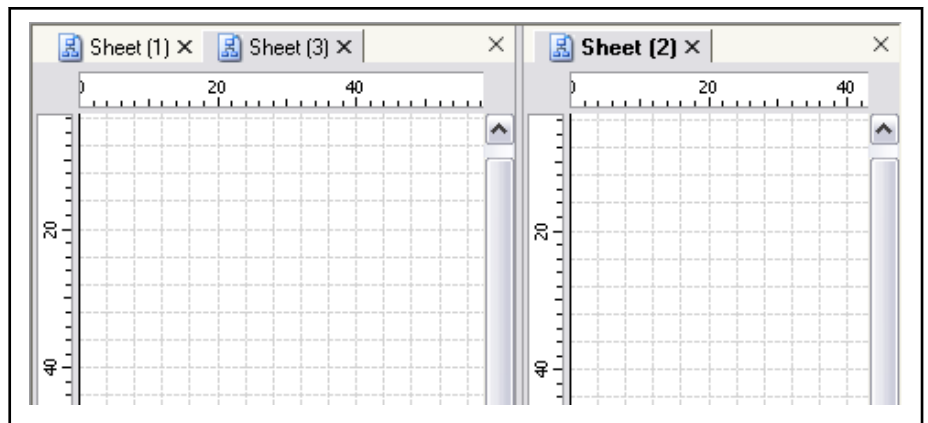


Fig. 2-17: The second worksheet is shown vertically next to the first worksheet.

The currently active document window is marked by the name in the tab written in bold. If now, new windows are opened, they are opened in the active document window and a new tab is created for the new window.

In this way, the document windows can be divided as often as required - the only limiting factor is clarity. The document window that has just been created can, for example, firstly be divided horizontally, and then vertically again.

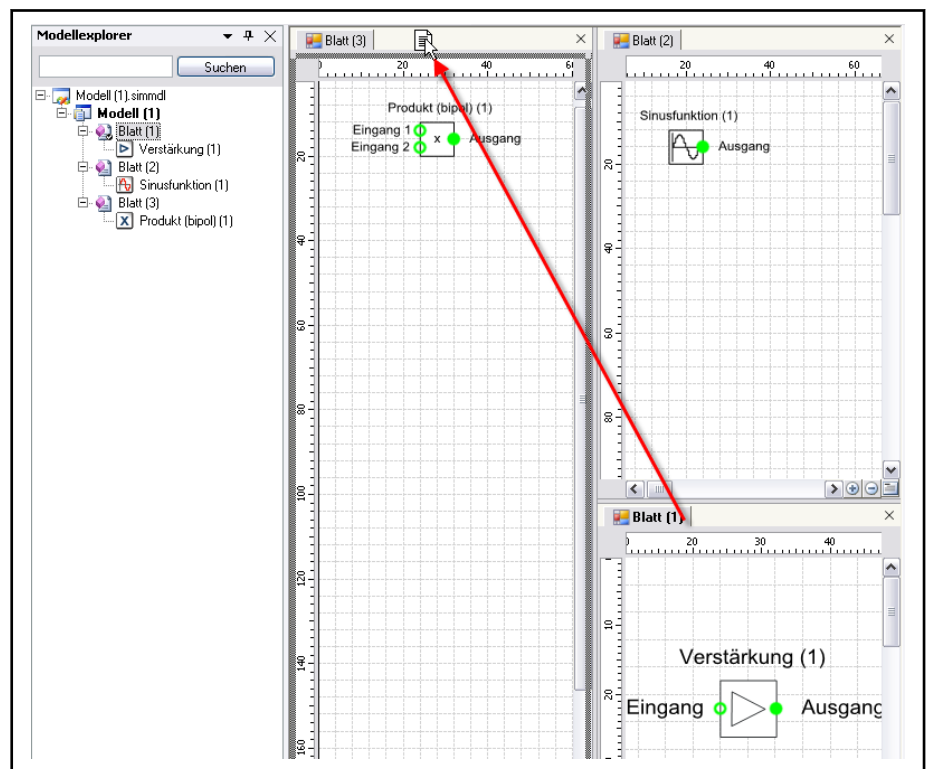


Fig. 2-18: The division of the document windows can be nested arbitrarily. Windows can be moved from one document window into another one by means of Drag&Drop.

Via their tab, the windows of a document window can be moved from one document window into another one by means of Drag&Drop. If the last model view of a document window is moved into another one, the empty document window will be closed. In the preceding example, the document window containing the model view "Sheet (4)" is, for example, closed after the latter has been moved so that the document window with the model view "Sheet (2)" takes the free space.

Description of the User Interface

An other possibility to move a document window is provided in the tab context menu. By using the context menu entry **Move to Previous Tab Group** the window is moved to the left tab group. This possibility is also provided for horizontal tab groups.

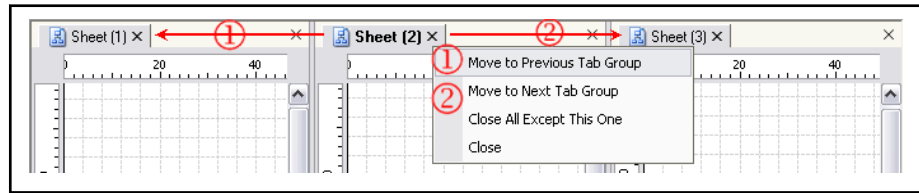


Fig. 2-19: Using the context menu to move a window to another tab group.

The context menu entry **Close** closes the window. The entry **Close All Except This One** closes all windows except the one you started the command.

2.7 Extern Shortcuts

2.7.1 General

Linkages with external references can be made to frequently used programs, files or web pages. These links are accessible via the main Tools menu.

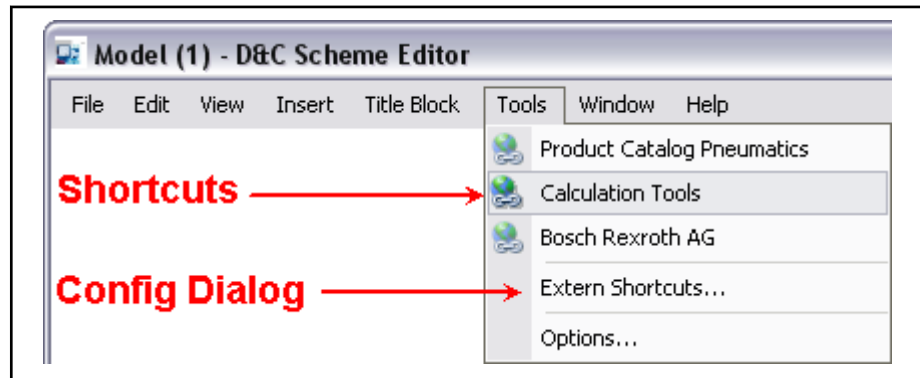


Fig. 2-20: The configurable extern shortcuts provide quick access to frequently used applications, files or web sites.

2.7.2 Configure Extern Shortcuts

The Extern Shortcuts can be adapted to your personal need via the main menu **Tools ► Extern Shortcuts....**

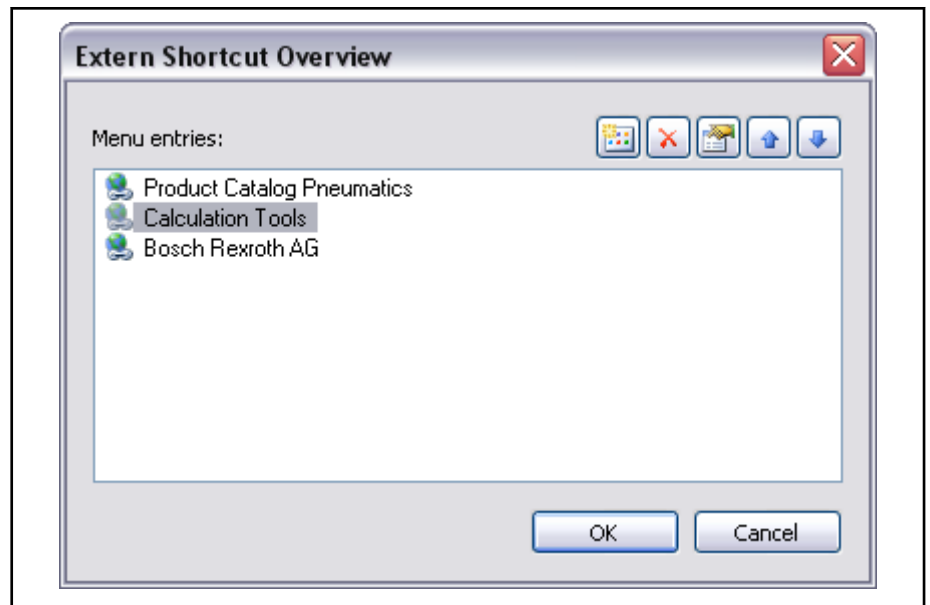


Fig. 2-21: The Extern Shortcuts can be adapted to your personal need via the main menu.

The toolbar in the dialog provides the possibility to (from left to right):

- create a new shortcut
- delete a shortcut
- edit a shortcut
- change the shortcut display order

By clicking in the list control you can create a new shortcut using the context menu entry **New**, and existing shortcuts can be deleted by their context menu entry **Delete** or edited via **Properties....** The dialog for editing shortcut properties is the same as for creating a new shortcut.

2.7.3 Create Shortcut

File

To create a shortcut for a file click the button **File**, enter a display text which is displayed in the Tools menu and select the file with the button

Click **OK** to create the shortcut.

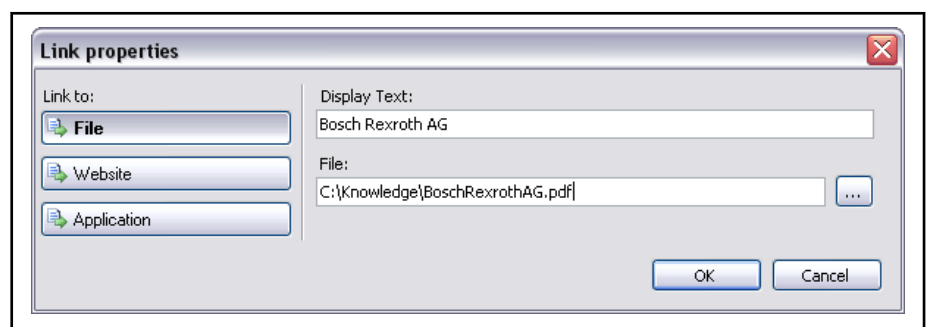


Fig. 2-22: File shortcut

Website

To create a shortcut for a website click the button **Website**, enter a display text which is displayed in the Tools menu and enter the web site address.

Click **OK** to create the shortcut.

Description of the User Interface

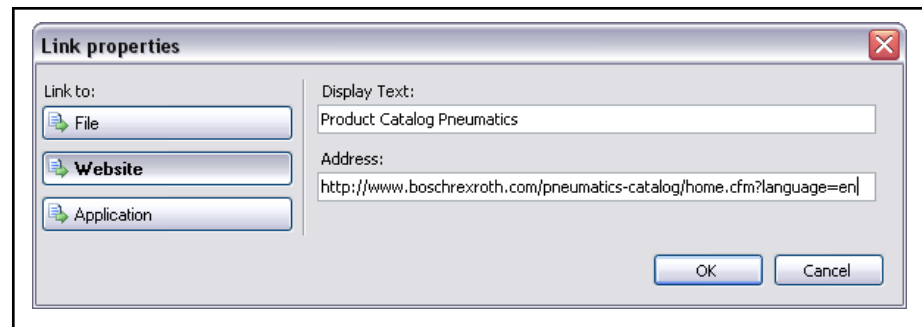


Fig. 2-23: Website shortcut

Application

To create a shortcut for an application click the button **Application**, enter a display text which is displayed in the Tools menu and select the application executable via the button ...

Enter the working directory and provide command line arguments needed to start the application.

Click **OK** to create the shortcut.

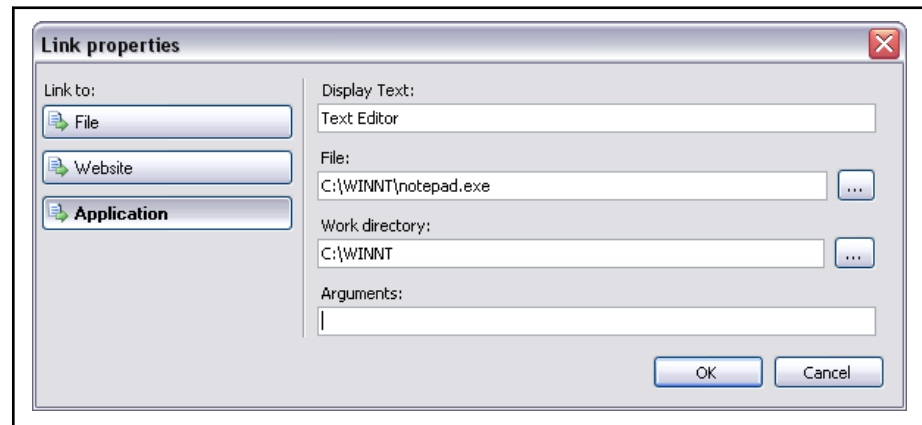


Fig. 2-24: Application shortcut

3 Library

3.1 General

The Symbol Library contains the libraries. These libraries contain the symbols necessary for creating the model. In the upper area, the libraries with their different domains and subdomains are listed; after selection, the components contained therein are shown in the lower area with symbol and designation.

Library

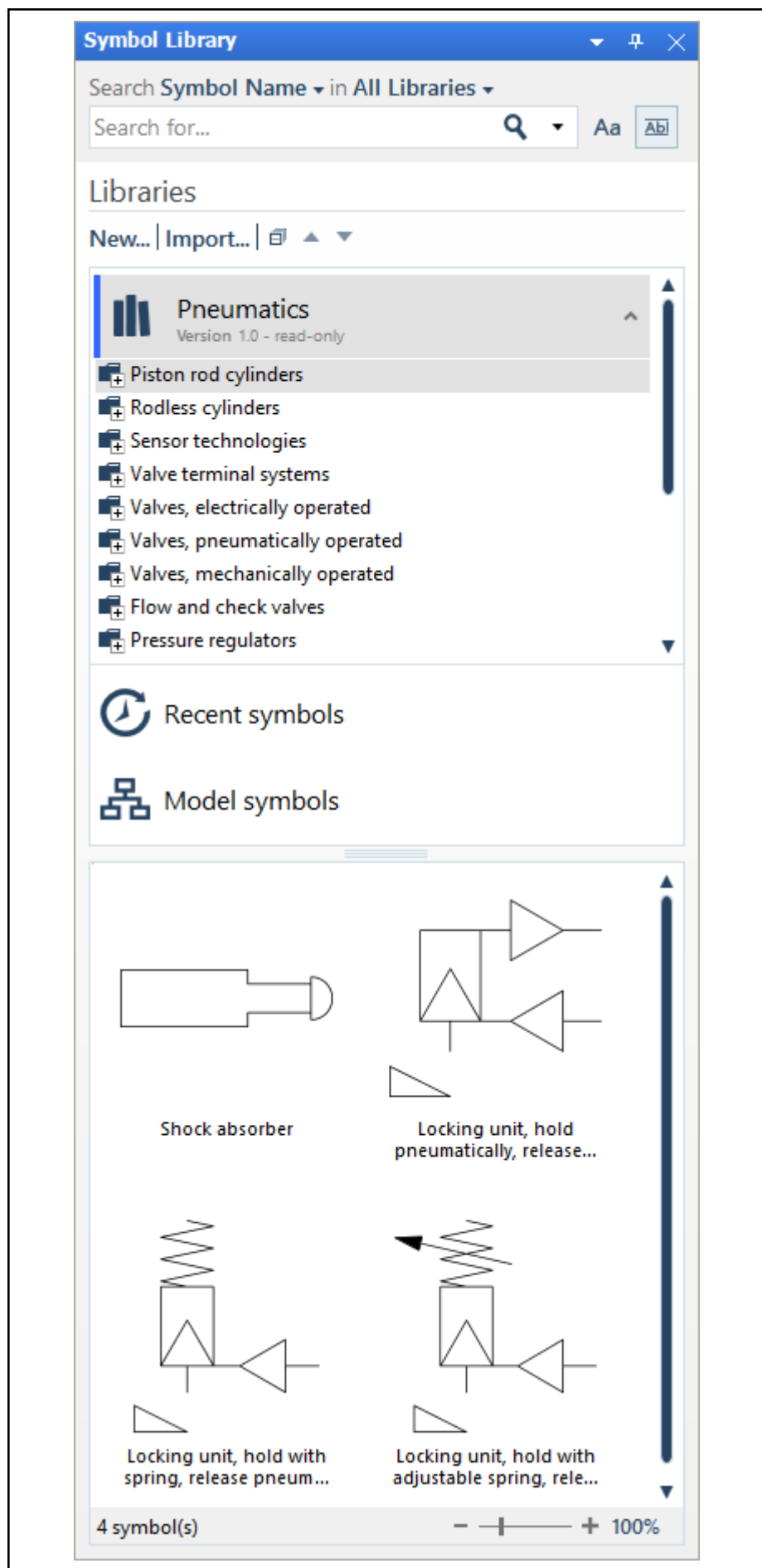


Fig. 3-1:

The Symbol Library with the libraries and components

3.2 Selection of Components

The components of the library can be dragged to the model view or, in the model explorer, to a sheet by means of Drag&Drop.

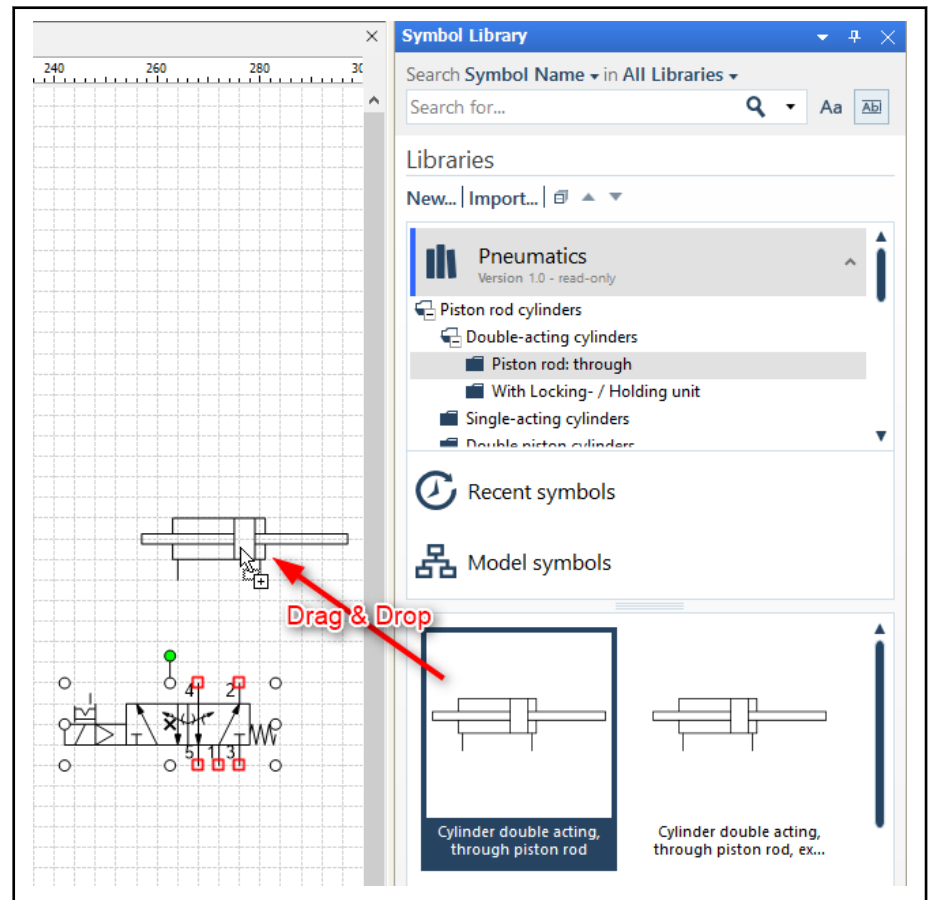


Fig. 3-2: Using a component by means of Drag&Drop

If the component is dragged to the model view, it is placed at the point where the mouse button is released.

If the component is dragged to a sheet in the model explorer, the component is placed in the left top corner of the sheet.

The library supports the multiple-selection of components. For selective multiple-selection, keep the <CTRL> key pressed when selecting the components. For a from-to area selection, keep the <SHIFT> key pressed and select the first and then the last component of the area; all components in between will be selected, as well.

The multiple-selection can be dragged to the model view or a sheet in the model explorer by means of Drag&Drop. In this connection, the components are placed over each other.

3.3 Searching Components

The library has a search function by means of which components can be easily found on the basis of their name. The search with the search term "directional", for example, will find all components with the term directions in their name.

Library

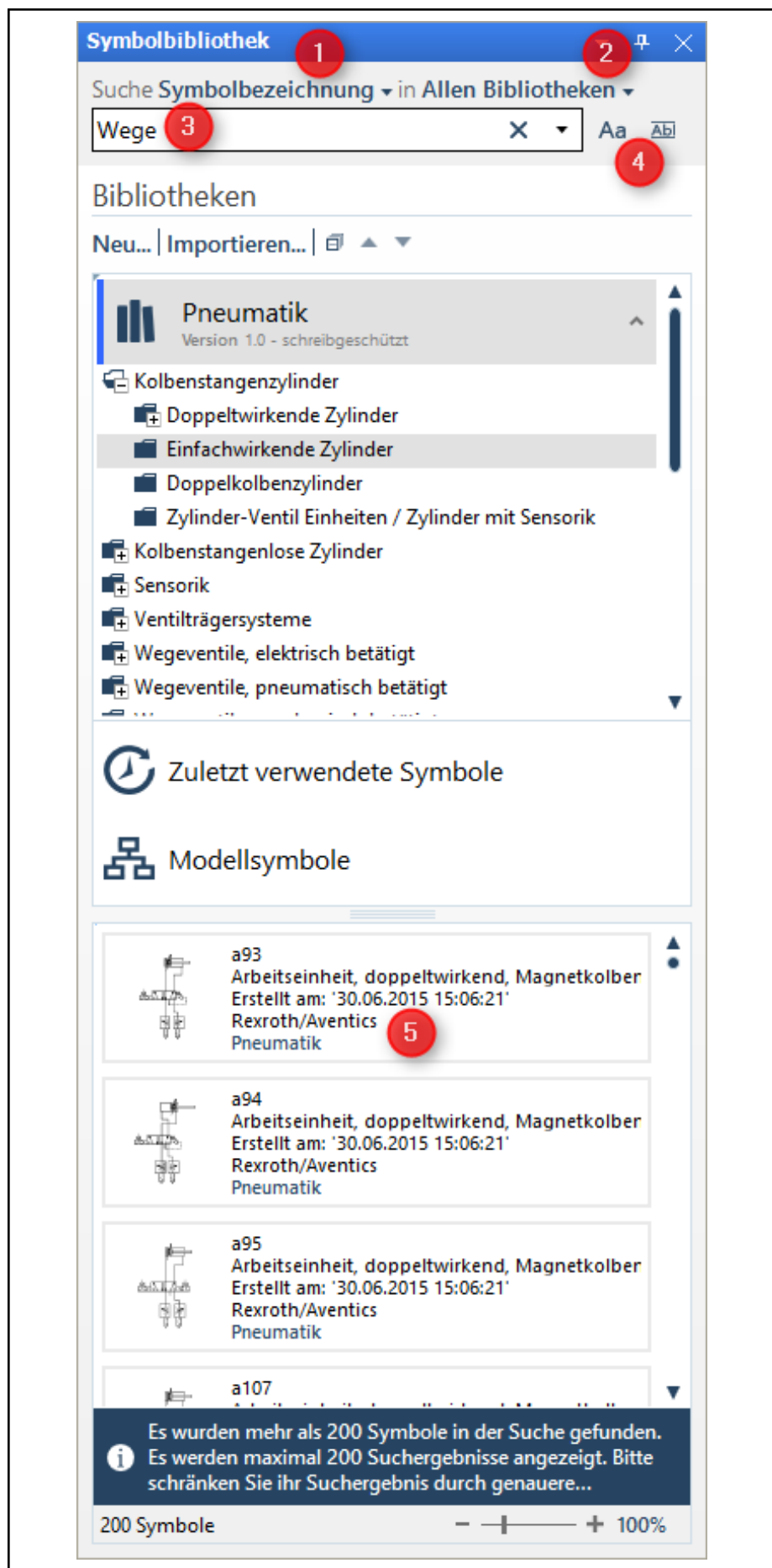


Fig. 3-3: Search for components

1. Select the search criteria
2. Select where the search should be performed
3. Enter the search term
4. Search options: match case, search only whole word
5. Search results are displayed in lower section

Similar to the library, the found components can be dragged from the search results window to the model view or a sheet in the model explorer by means of Drag&Drop, whereas multiple-selection is possible here, as well. Double-click on the component selects the component in the library and marks the superior domain and subdomain, if applicable.

3.4 Searching Material

If the library is searched by material numbers or material designation, a different presentation of the search result is shown.

In this mode two Drag & Drop possibilities exist:

1. Drag & Drop of a symbol will put the symbol on the drawing area without any material numbers or material designation.
2. Drag & Drop of a material number will put the symbol with the selected material number and material designation on the drawing area

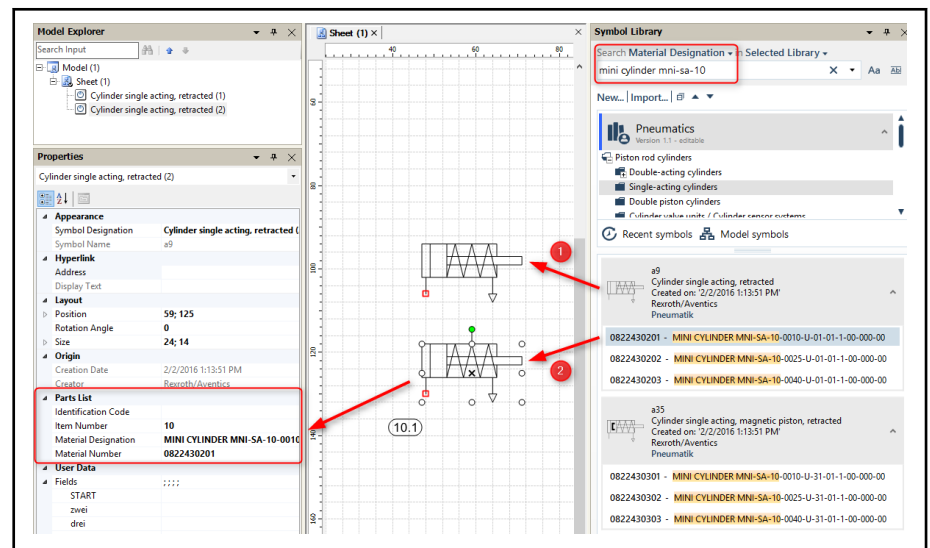


Fig. 3-4: Drag & Drop of symbols or material numbers using the search result window of material based searches

3.5 Model and Recent Used Symbols

By clicking the icon **Recent symbols** you will get a list of all symbols recently used:

Library

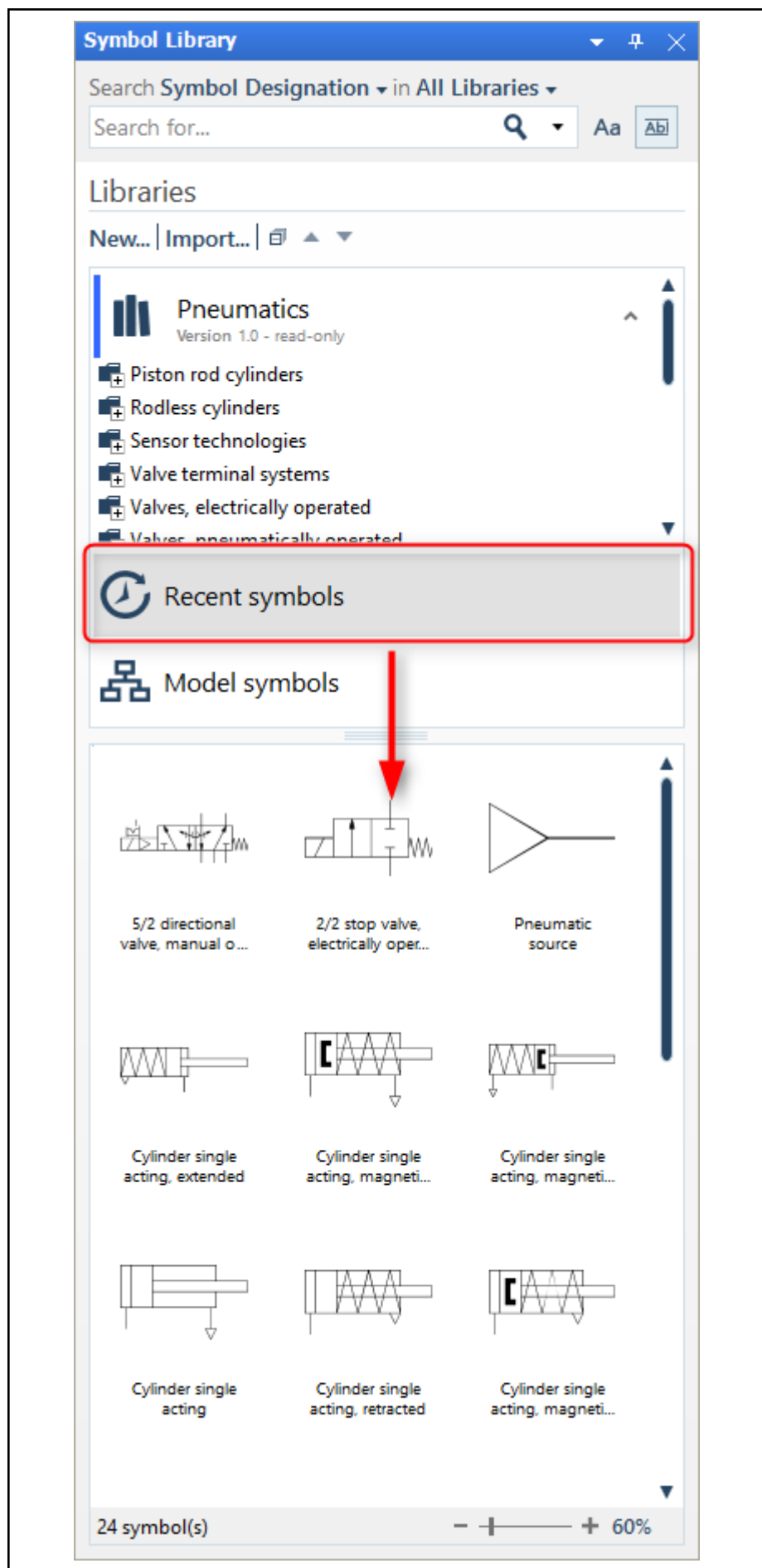


Fig. 3-5: Recent symbols

Library

By clicking the icon **Model symbols** you will get a list of all symbols used in your current model:

Library

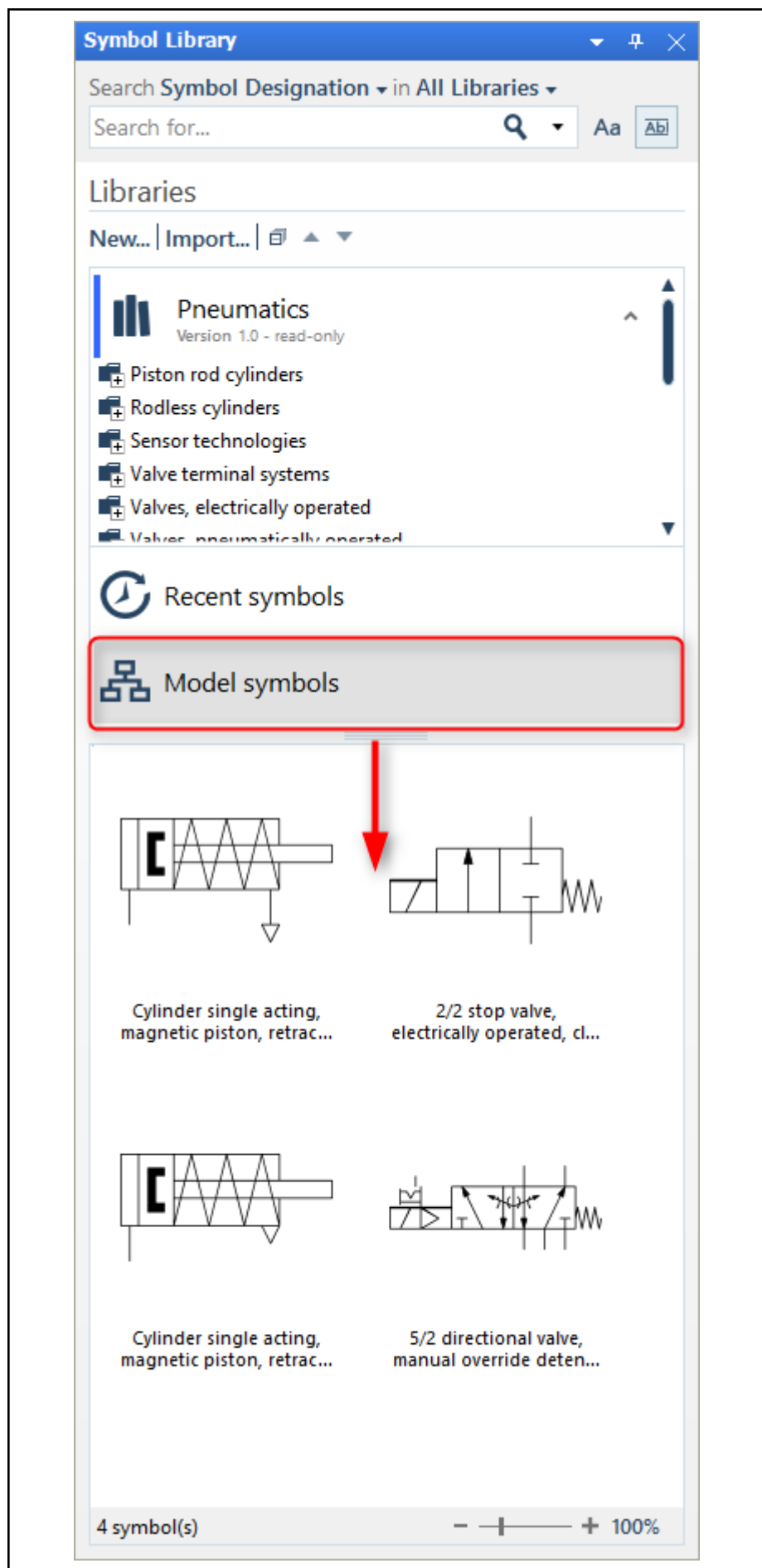


Fig. 3-6: Model symbols



You can add the symbols to your model using Drag & Drop.

3.6 Accessories

The accessory component is the representative for any accessory that is to be listed in the parts list, however, not to appear on the model.

Like any other component, the accessory is dragged to the model view or the model explorer by means of Drag&Drop and placed there. After pasting, a short pop-up window notifies the pasting process; now, the accessory is available in the model explorer under accessories.

If the accessory is placed on a sheet, it will be listed in the Model Explorer as accessory of the sheet. If it is placed on a symbol, it will be listed as accessory of the symbol.

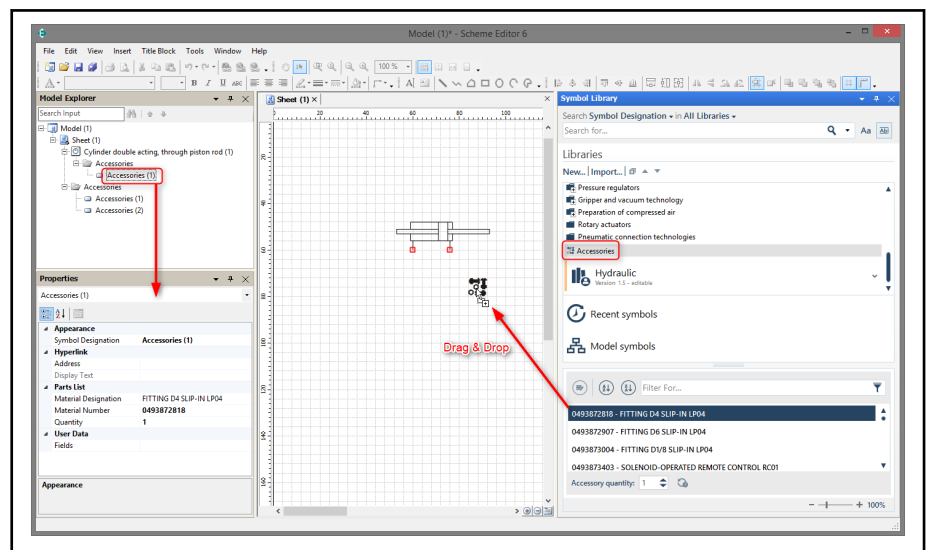


Fig. 3-7: After Drag&Drop of the accessory component it is listed in the model explorer under accessories and can be edited in the properties window.

The **Properties** context menu of the accessory in the model explorer or - if the properties window is already open - the selection in the model explorer is used for editing the accessory properties. For more information see [chapter 5.5 "Properties Dialog"](#) on page 70 and [chapter 4 "Model Explorer"](#) on page 41.

3.7 Import Library

The Scheme Editor Symbol Library allows the import of other Scheme Editors libraries.

1. Click on **Import...** in the Symbol Library
2. Select the library file and click on **Open** to start the import
3. After the import the new library can be used

Library

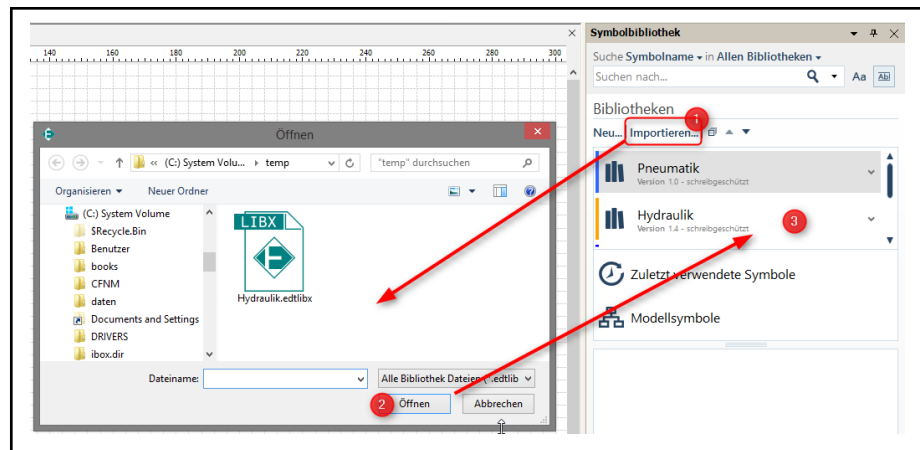


Fig. 3-8: Importing a Scheme Editor library



Scheme Editor does not need the library file anymore after importing it.

3.8 Export Library

The Scheme Editor Symbol Library allows the export of each library.

An exported library can be set read-only so this library can't be changed by users.

1. Right-Click on library
2. Select **Export...**
3. Set read-only state, name, designation DE and EN, version, color and creator
4. step to next page
5. edit the library description and click **Next**
6. edit library signature
7. select file path and enter file name after clicking on **OK** and start export by clicking **Save**

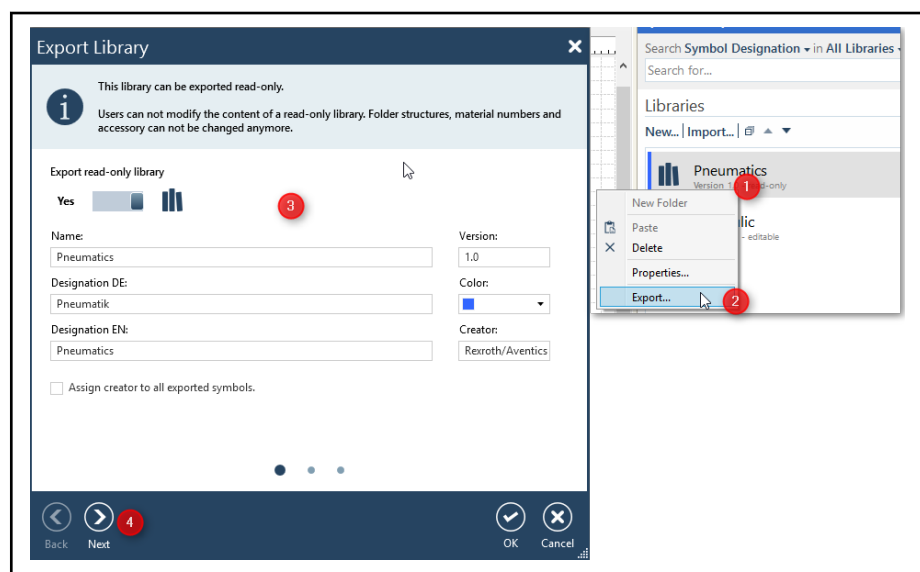


Fig. 3-9: Export any library, set read-only state, color, name, creator and designation

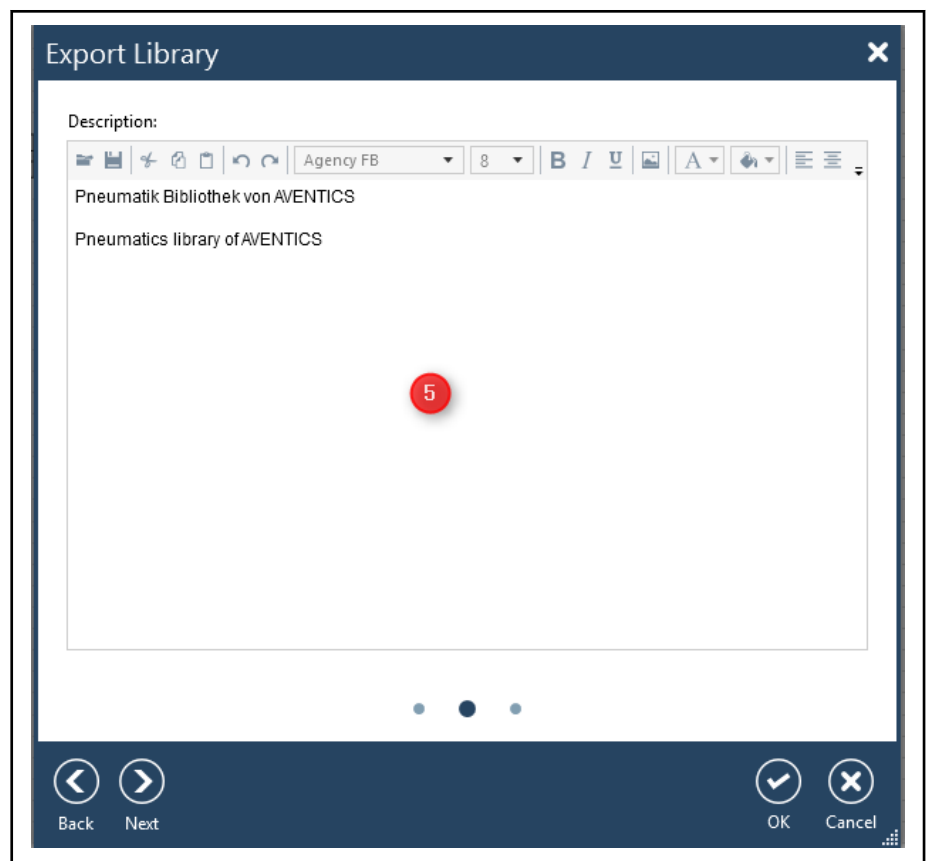


Fig. 3-10: Edit library description

Library

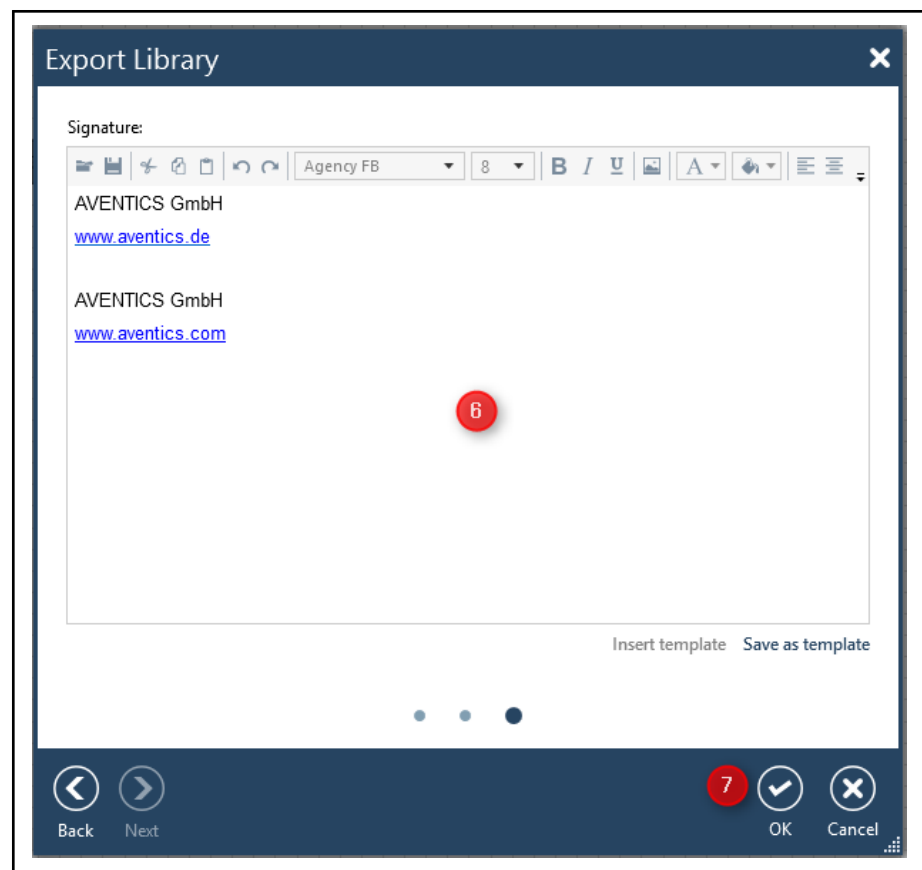


Fig. 3-11: Edit library signature

3.9 Create Library

The Scheme Editor provides the creation of new libraries.

1. Click on **New...** in the Symbol Library
2. Enter the name of the library
3. Enter the German and English designation of the library. This will become the display name in the Symbol Library.
4. Enter description and signature
5. Set version, color und creator
6. Create library by clicking on **OK**


New Library

Name: My Library

Version: 1.0





Designation DE: Neue Bibliothek

Designation EN: New Library

Color: 





Creator: franllor

Description:

 Agency FB 8 B I U   

Please describe your library

Signature:

 Agency FB 8 B I U   

Creator: <Name>
Creation Date: <Date>
Contact: <Mail>
Info: <Hyperlink>

Insert template Save as template

OK Cancel

Fig. 3-12: Create new library



A new library created by you will be read-only by default.

3.10 Edit Library

You can change an editable library as described here.

Library

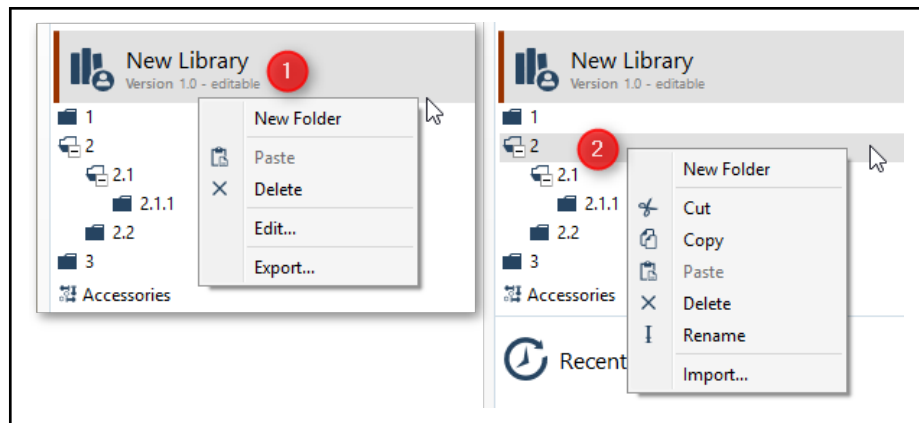


Fig. 3-13: Edit library

Library context menu (1):

- New Folder - creates a new top level folder (check 1, 2 or 3)
- Delete - deletes the library
- Edit... - opens the dialog to edit library name, version, creator, signature, color, ...
- Export... - exports the library

Library folder context menu (2):

- New Folder - creates a subfolder below the current selected folder (check 2.1 or 2.2)
- Cut - cuts the folder and all its symbols and copies it into the clipboard
- Copy - copies the folder and all its symbols into the clipboard
- Paste - copies the clipboard content into this position
- Delete - deletes the folder, its subfolders and all its symbols
- Rename - opens a dialog to rename the folder
- Import... - opens the dialog to import objects to this position

3.11 Copy Symbols

Library symbols can be copied on various ways.

Drag & Drop

Any symbol of any library can be copied into an other, editable library using Drag & Drop.

- Bring the symbol to be copied to display
- Bring the target folder to display by scrolling the Symbol Library
- Drag & Drop the symbol out of the symbol view into the target folder

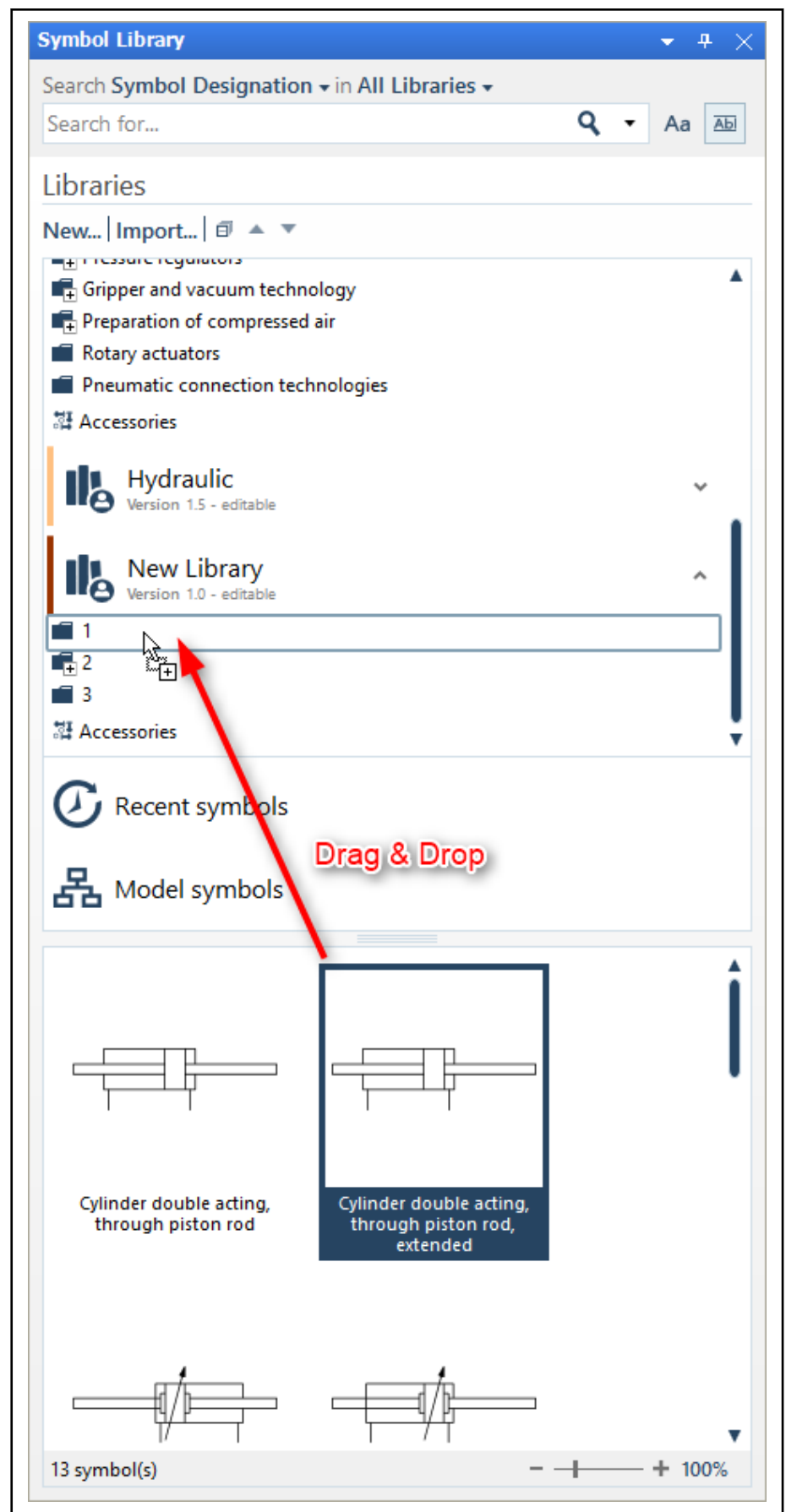


Fig. 3-14: Copy a symbol to an other library by Drag & Drop

Library



If the target folder is in the same library as the symbol, the symbol is moved and not copied to the new location

Context Menu

By copying symbols using the context menu commandos copy (<Ctrl>+<C>) and paste (<Ctrl>+<V>) symbols can be copied into folders of other libraries and also be copied to a new folder in the same library. The paste commando can be performed directly on a library folder or the symbol view.

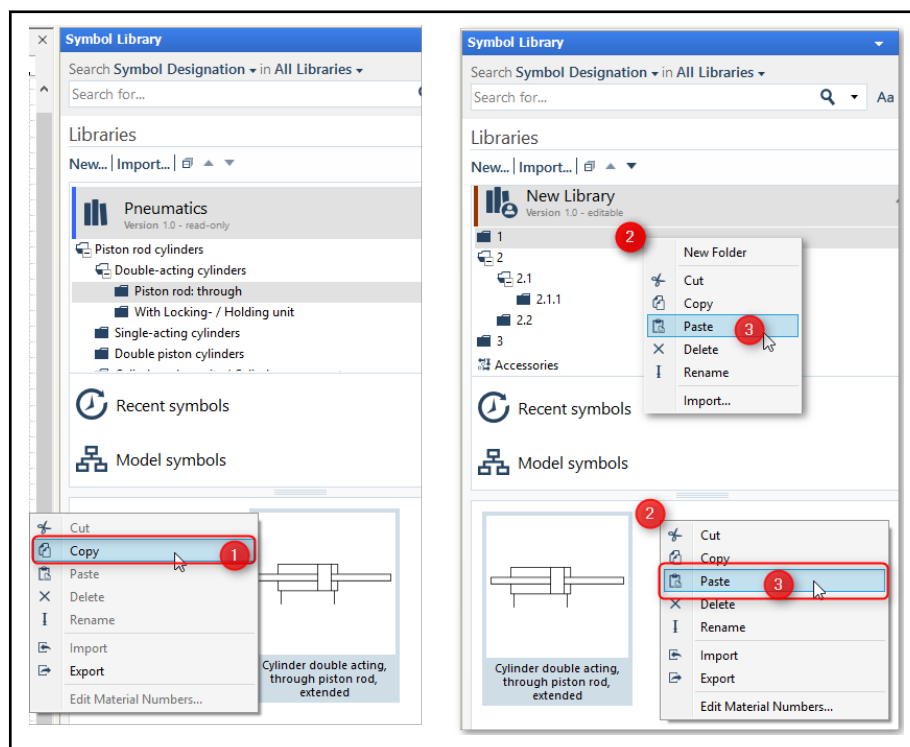


Fig. 3-15: Copy symbol using copy and paste operation

3.12 Import and Export Symbols

Any symbol can be exported. Importing a symbol is only possible into libraries that are editable.

To export a symbol, right-click on the symbol in the library and select the context menu commando **Export**. After that select a file location where to export the symbol.

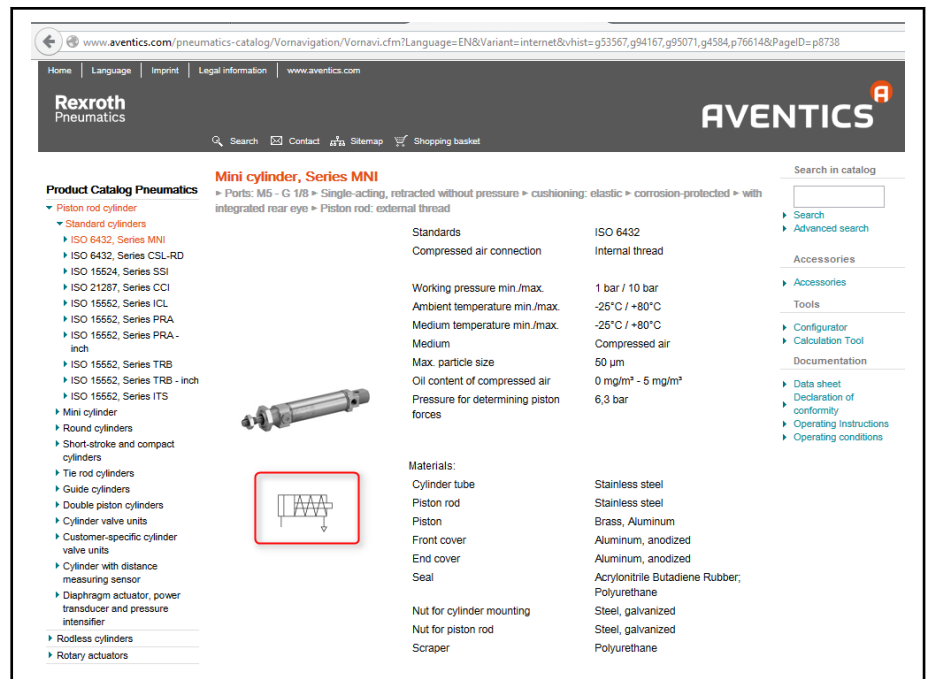
This symbol can be edited with the [chapter 12 "Symbol Modeling Tool" on page 111](#) which is installed together with the Scheme Editor and can be imported into an editable library.

To import a symbol, right-click on the target folder of an editable library and select the context menu commando **Import**. Now a file open dialog appears where you can select the symbol file to import.

3.13 Product Catalog

The Aventics Pneumatic product catalog allows you to transfer components to the Scheme Editor. You can find the product catalog here: <http://www.aventics.com/pneumatics-catalog/>.

Open the product catalog, navigate to the desired component and select the desired variant.



Product Catalog Pneumatics

Mini cylinder, Series MNI

Ports: M5 - G 1/8 - Single-acting, retracted without pressure - cushioning: elastic - corrosion-protected - with integrated rear eye - Piston rod: external thread

Standards: ISO 6432

Compressed air connection: Internal thread

Working pressure min./max.: 1 bar / 10 bar

Ambient temperature min./max.: -25°C / +80°C

Medium temperature min./max.: -25°C / +80°C

Medium: Compressed air

Max. particle size: 50 µm

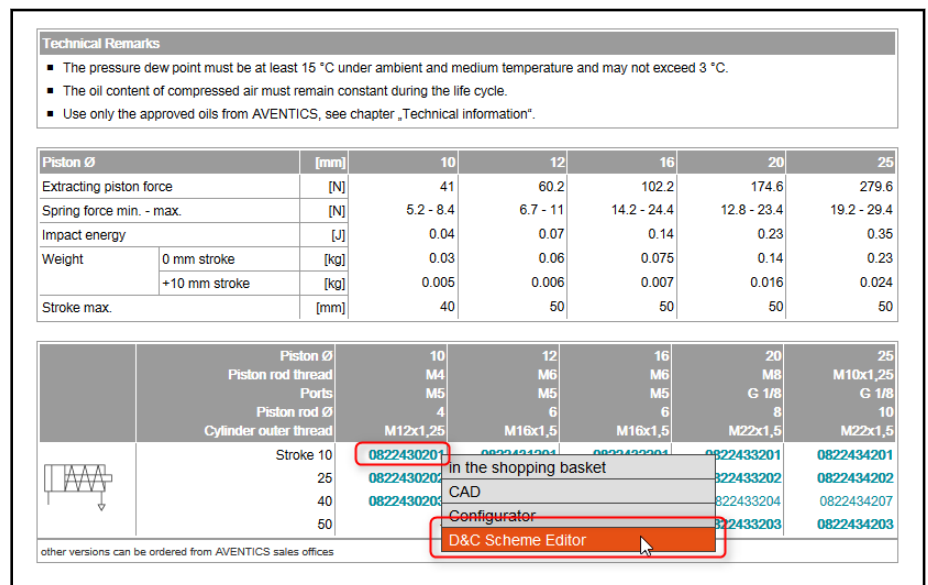
Oil content of compressed air: 0 mg/m³ - 5 mg/m³

Pressure for determining piston forces: 6,3 bar

Materials:

- Cylinder tube: Stainless steel
- Piston rod: Stainless steel
- Piston: Brass, Aluminum
- Front cover: Aluminum, anodized
- End cover: Aluminum, anodized
- Seal: Acrylonitrile Butadiene Rubber, Polyurethane
- Nut for cylinder mounting: Steel, galvanized
- Nut for piston rod: Steel, galvanized
- Scraper: Polyurethane

Fig. 3-16: Select the component in the AVENTICS Pneumatic product catalog
Scroll down the page until you see the material numbers. Click on the material number you need and select the context menu entry **D&C Scheme Editor**.



Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.

Piston Ø	[mm]	10	12	16	20	25
Extracting piston force	[N]	41	60.2	102.2	174.6	279.6
Spring force min. - max.	[N]	5.2 - 8.4	6.7 - 11	14.2 - 24.4	12.8 - 23.4	19.2 - 29.4
Impact energy	[J]	0.04	0.07	0.14	0.23	0.35
Weight	[kg]	0.03	0.06	0.075	0.14	0.23
0 mm stroke	[kg]	0.005	0.006	0.007	0.016	0.024
+10 mm stroke	[kg]					
Stroke max.	[mm]	40	50	50	50	50

Piston Ø	10	12	16	20	25
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4	6	6	8	10
Cylinder outer thread	M12x1,25	M16x1,5	M16x1,5	M22x1,5	M22x1,5

Stroke	10	25	40	50
0822430201	0822430201	0822430201	0822430201	0822430201
0822430202	0822430202	0822430202	0822430202	0822430202
0822430203	0822430203	0822430203	0822430203	0822430203

other versions can be ordered from AVENTICS sales offices

Fig. 3-17: Click on the material number to transfer it to Scheme Editor
The Scheme Editor shows you the symbol in the symbol view from where you can Drag & Drop it into the model view.

Library



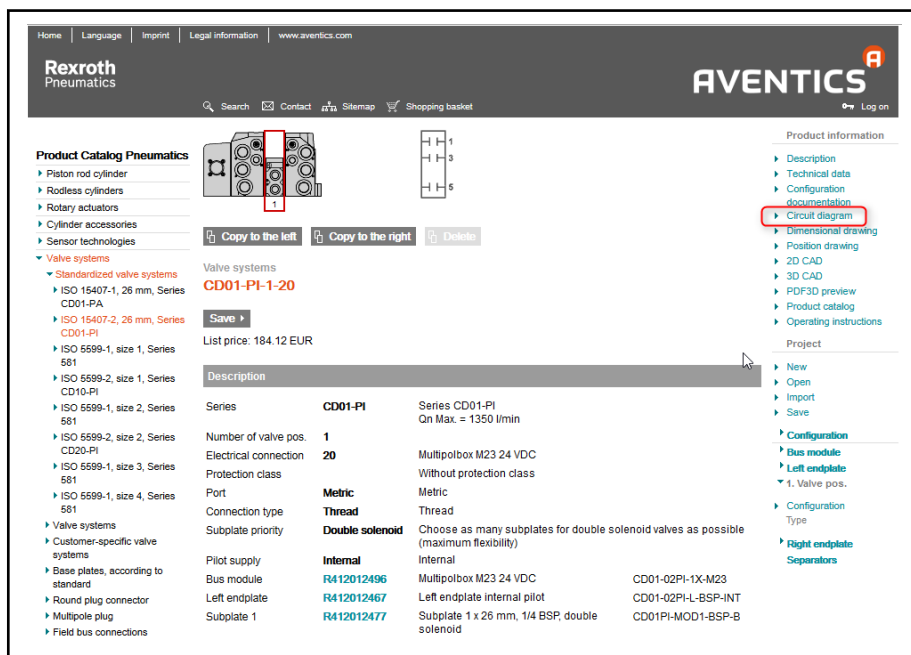
Fig. 3-18: Drag & Drop the symbol into the model view

3.14 ICS Configurator - Send Circuit Diagram to Scheme Editor

The Aventics configurator enables you to send system circuits to Scheme Editor. In the configurator, click on **Circuit diagram** on the right navigation pane.



The Scheme Editor must be started and a project with a sheet must be available. No Scheme Editor dialogs as for example the Options dialog must be opened. Otherwise the circuit can not be send to Scheme Editor.

Fig. 3-19: In the configurator click on **Circuit diagram**

On the following page, click on **Send to D&C Scheme Editor**. This starts the download on you local PC.

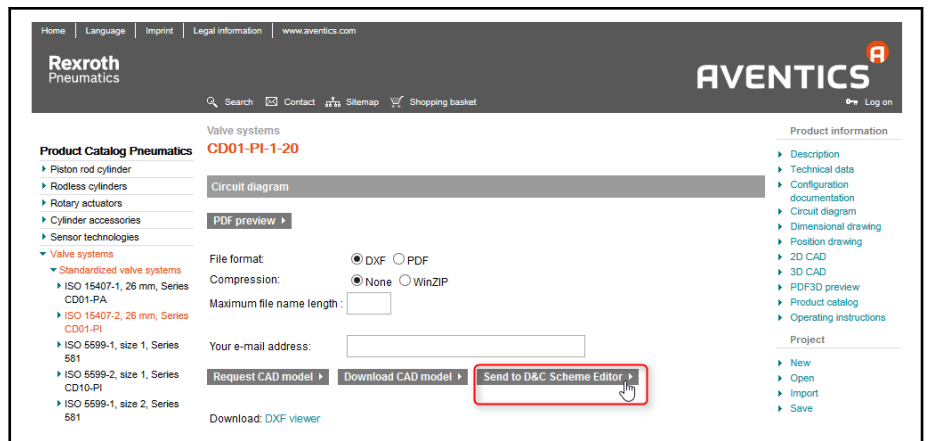


Fig. 3-20: Click on **Send to D&C Scheme Editor** to send the circuit diagram

The following steps depend on the internet browser and security settings you are using. The Microsoft Internet Explorer offers you the possibility to directly open the download. Other browsers save the file to a directory where you must open it.

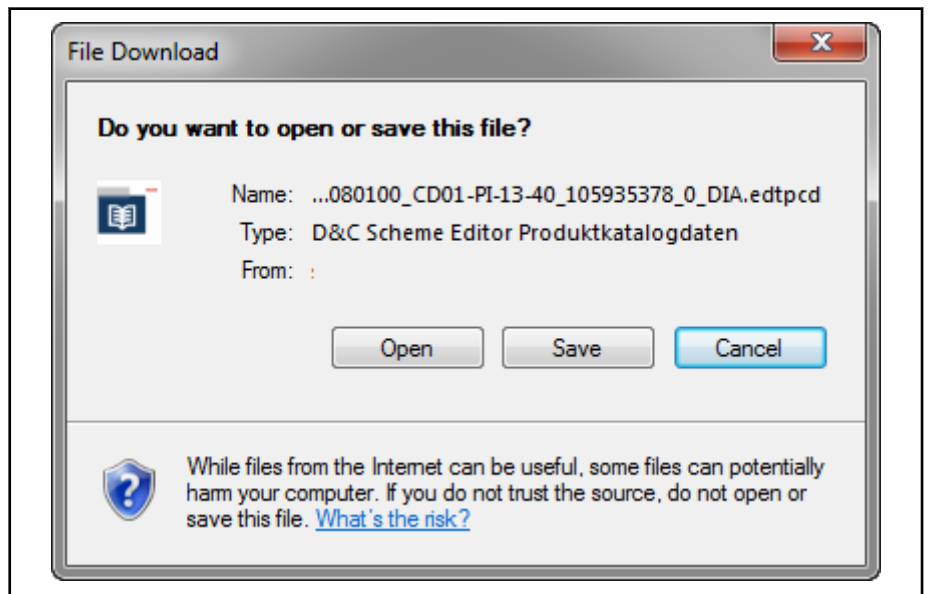


Fig. 3-21: Open the download to import the circuit as vector graphics into the current sheet.

After opening the download the circuit will be imported as vector graphics into the current sheet.

Library

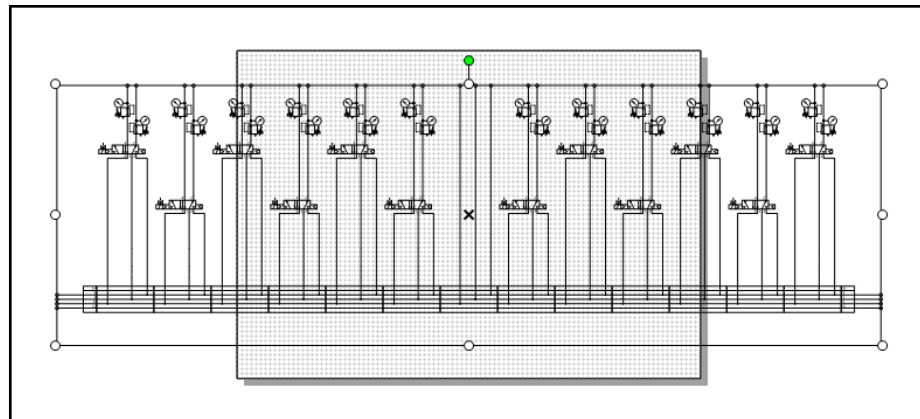


Fig. 3-22: After opening the download the circuit will be imported as vector graphics into the current sheet.

4 Model Explorer

4.1 General

In the model explorer, all opened models with their sheets and components are shown below the project node in a tree structure. The context menu of the model explorer offers the following:

- Context menu at free area of model explorer
 - New Model
 - Open Model...
 - Import...
- Context menu model
 - Open Parts List
 - Open User Defined Fields
 - New Sheet
 - Export...
 - Import...
 - Publish As PDF...
 - Close Model
 - Properties
- Context menu sheet
 - Open Sheet
 - Open Parts List
 - Open User Defined Fields
 - Export...
 - Select All
 - Cut
 - Copy
 - Delete
 - Duplicate
 - Rename
 - Properties
- Context menu component
 - Open Parts List
 - Open User Defined Fields
 - Export...
 - Select All
 - Cut
 - Copy
 - Delete
 - Duplicate
 - Hyperlink
 - Rename
 - Properties

Model Explorer

- Context menu accessories
 - Open Parts List
 - Open User Defined Fields
 - Add Accessories
 - Select All
 - Delete
 - Rename
 - Properties
- Context menu accessory position
 - Open Parts List
 - Open User Defined Fields
 - Edit...
 - Select All
 - Cut
 - Copy
 - Delete
 - Duplicate
 - Hyperlink
 - Rename
 - Properties

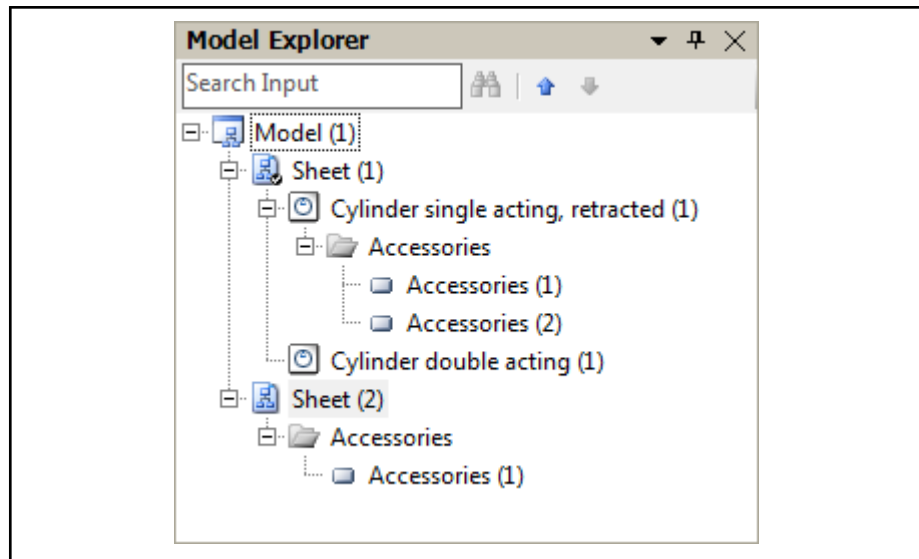


Fig. 4-1: Model explorer with model, sheets, components and accessories
Further functionality depends on the current application state.


4.2 Operation

4.2.1 General Functions

Create New Model

In order to create a new model, select the context menu item **New Model** from the context menu of the project explorer. A new model with ascending numbering is created. The model automatically contains a new "sheet (1)" that is displayed, as well.

Open Model

Using the **Open Model...** function, a model stored on data carriers or network drives can be opened. The function can be accessed from the context menu of the model explorer, the main menu **File ► Open Model...** or the  toolbar icon. After selection of the menu item, the added model can be selected in a file dialog.

Close Model

The model can be closed using the **Close model** menu item whereas the respective model name is shown instead of the model. If since it has been saved for the last time, the model has been changed, the user can choose in an automatically appearing dialog whether the changes are to be saved or rejected or if closing of the model is to be canceled.

Create New Sheet

The number of sheets managed by one model is unlimited. In order to create a new sheet for a model, select the menu item **New sheet** from the context menu. A new sheet is created and displayed.

Searching

The model explorer offers a search function by means of which you can search for an element in the model explorer. As search criterion, the name or only a part of the name is used. If the search criterion applies to several elements, the next hit is highlighted by actuating the search button once again.

If the hit is a component the model view of which is open for editing, the component is marked in the model explorer and in the model view.

1. Enter the search term
2. Start the search by clicking the search icon
3. Hit is marked in the model explorer
4. By clicking the search icon again, the next hit is marked

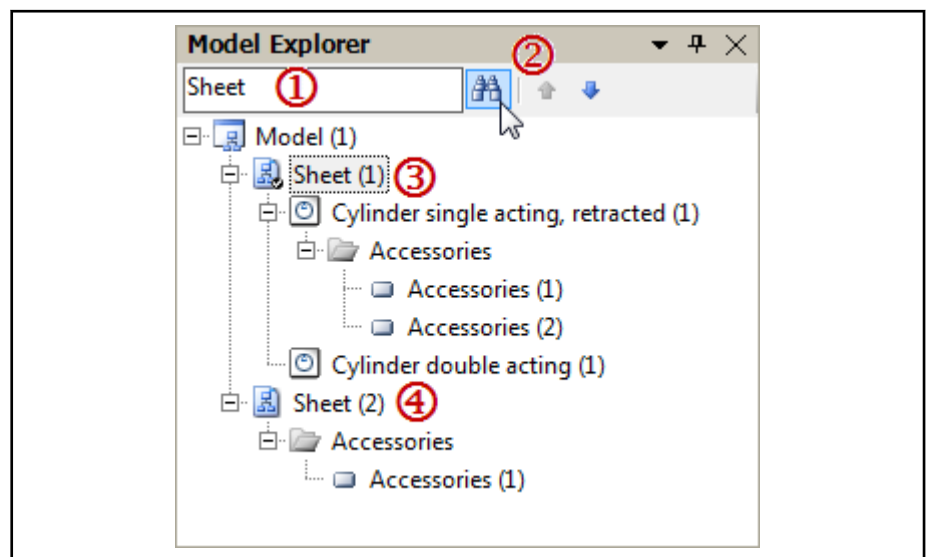


Fig. 4-2: Search function of the model explorer

Opening Sheets and Components

Sheets can be displayed using the **Open Sheet** context menu item or by double-clicking on the sheet in the model explorer in the model view.

Model Explorer

By double-clicking on a component in the model explorer, the related sheet is opened. The component is marked in the model view and the sheet is displayed, if necessary, so that with large sheets, the component is shown in the visible area.

Renaming Elements

Renaming of an element can be initiated in 3 ways:

- "Rename" context menu item of the element
- Marking the element and actuating the <F2> functional key
- Marking the element, waiting approx. 1 s, and marking it once again

Afterwards, the new name can be entered.

As long as the renaming process has not been completed by means of the <Enter key> or marking another element, the old name can be restored by pressing the <ESC> key.

The system simulator offers the possibility to give the same name to 2 elements. I.e. a model can have 2 sheets with identical name and one sheet can have 2 components with identical name.

Cutting, Copying, Pasting and Deleting Elements

The model explorer allows for the cutting, copying, pasting and deleting of elements via the context menu or the corresponding shortcuts:

- Cutting: (<CTRL>+<X>)
- Copying: (<CTRL>+<C>)
- Pasting: (<CTRL>+<V>)
- Deleting: ()

By means of the "Delete" function, the element marked in the model explorer together with all subordinate elements that might exist will be deleted after a confirmation prompt. You can delete all elements except the models.

By means of the "Cut" function, the element marked in the model explorer together with all subordinate elements that might exist will be copied to the clipboard and deleted at the place of origin. It can then be pasted at the new destination using the "Paste" function.

By means of the "Copy" function, the element marked in the model explorer together with all subordinate elements that might exist will be copied to the clipboard and can then be pasted at the new destination using the "Paste" function.



The paste operation must always be performed from a superior element.

- A sheet can be pasted at the model
- A component can only be added to a sheet

Duplicating

Using the **Duplicate** context menu item, the marked sheet, component or accessory object can be duplicated in the model explorer. The new component is placed in the top left corner of the model view.

Change Element Order

The order of the elements displayed in the model explorer can be changed by Drag&Drop. To do this, first choose the elements to be moved by selecting it

Model Explorer

with your mouse, for a multi selection hold down the <Ctrl> key while selecting the elements.

After selecting the elements, click the selected element and hold down the mouse button during moving the selection to the new location. The insert position is highlighted by a blue line.

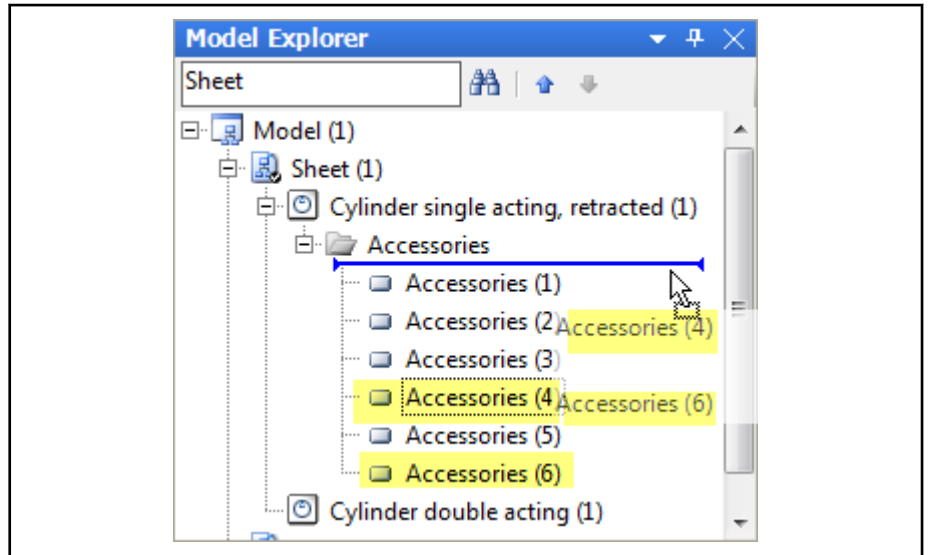


Fig. 4-3: The model explorer support changing the element order by Drag&Drop

If the insert position is correct, release the mouse button. The element order is changed now.

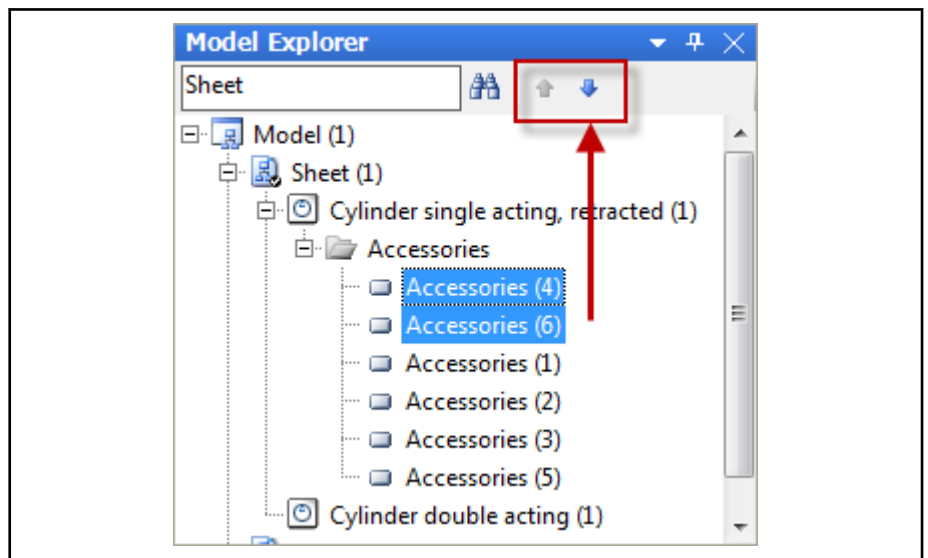


Fig. 4-4: Result of changing element order



You can change the selection order position using the up/down buttons marked in the screenshot above.



You can only change the element order - you can't move an child element to another parent element.

Model Explorer

4.2.2 Export / Import of Elements

Export

All elements of the model explorer can be exported. When exporting an element, all subordinate elements are exported, as well - if, for example, you export a model, all sheets contained therein with all components will be exported, as well.

For exporting elements, only 2 steps are necessary:

1. Mark the element, call the context menu by means of the right mouse button and select the "Export..." menu item
2. Determine the destination directory and the file name in the export dialog and export the element by means of saving

If a model is exported, the system simulator automatically selects the file type "model file (*.edtml)". A model exported in this way can be added at any time using the "Open model..." function.

If a worksheet is exported, the system simulator automatically selects the file type "sheet file (*.edtsht)". A sheet exported in this way can be added to any model at any time using the "Import..." function.

If a component is exported, the system simulator automatically selects the file type "component file (*.edtcmp)". A component exported in this way can be added to any model at any time using the "Import..." function.

Import

The context menu command **Import** allows the adding of models, sheets and components. Depending on the object the import is started, different objects can be imported:

- whole models (*.edtml) via the model explorer context menu
 - sheets (*.edtsht) via the context menu of a model node
 - components (*.edtcmp) via the context menu of a sheet node
1. Mark the model or sheet in the model explorer, call the context menu by means of the right mouse button and select the "Import..." menu item
 2. Select the file with the import data in the dialog and start the import by means of **Open**

If the import is started from a model, only sheets can be imported; the file type is already specified as "sheet file (*.edtsht)".

If the import is started from a sheet, sheets and components can be imported whereas the file type is pre-set to "component file (*.edtcmp)". If a sheet is imported, it is added under the currently selected model.



Import and export can be initiated directly from the model view.

4.2.3 Functions for Sheets

Select All

Using the **Select All** context menu item, all sheets are selected and are thus available for further processing.

Set as StartUp Sheet

The sheet displayed directly after this model is loaded can be set via the context menu **Set as StartUp Sheet**.

4.2.4 Functions for Components

Select All

Using the **Select All** context menu item, all components in the sheet of the selected component are marked and are thus available for further processing.

Edit Properties

Using the **Properties** context menu item, the properties like material number and designation can be adjusted. For more information, please refer to chapter [chapter 5.5 "Properties Dialog" on page 70](#).

Edit Hyperlink

Via the **Hyperlink ► Edit Hyperlink...** context menu item, the marked component or the accessory can be assigned a hyperlink. For more information, please refer to chapter [chapter 5.6 "Hyperlink" on page 75](#).

5 Model View

5.1 General

The model view is used for creating and visualizing a model. It presents the sheets of a model as well as the components contained therein in a graphical form in a drawing sheet. The required components can be dragged from the component library to the model view, placed at the desired place and connected with each other.

The model view offers the user functions for the visual revision of the model. The size and position of the components can be changed, free drawing functions allow for the creation of lines and simple geometrical figures of any color.

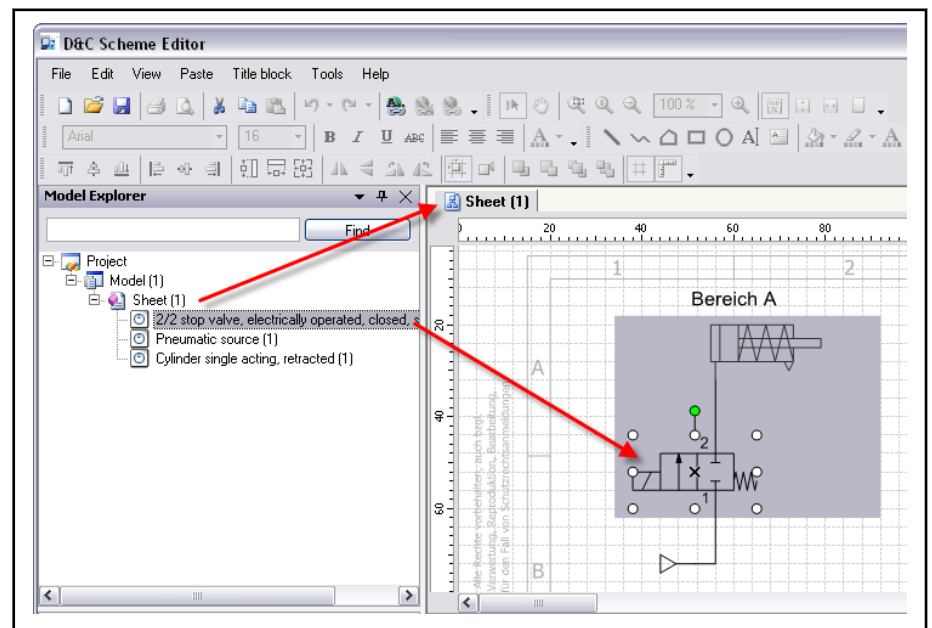


Fig. 5-1: The model view shows the sheets of a mode together with their components and serves the creation and visualization of a model.

5.2 Set-up of a Model

5.2.1 Adding Components

A model consists of components and their connection among each other. From the library, the components are directly dragged to the model view by means of Drag&Drop.

After positioning of the component, the latter is marked in the model view and in the model explorer.

From the library, the components can also be directly dragged to a sheet in the model explorer whereas they will then be positioned in the top left corner.

5.2.2 Marking Components and Objects

There are several possibilities for marking components and other objects on the model view.

Marking individual objects in the model view

The most usual one is the positioning of the mouse pointer over the object to be marked until the mouse pointer turns into an arrow cross.

Model View

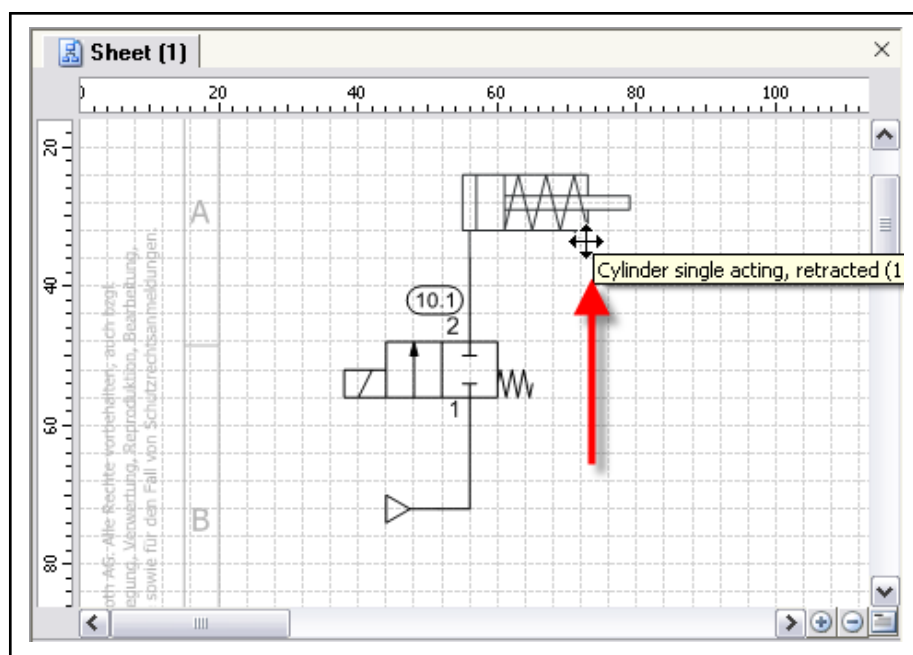


Fig. 5-2: Marking of components - The mouse pointer changes into an arrow cross if the object under it can be marked.

By clicking with the left mouse button, the object can be marked. A marked object is highlighted by showing the manipulation points and the green center of rotation. The marked object is moreover highlighted as marked in the model explorer.

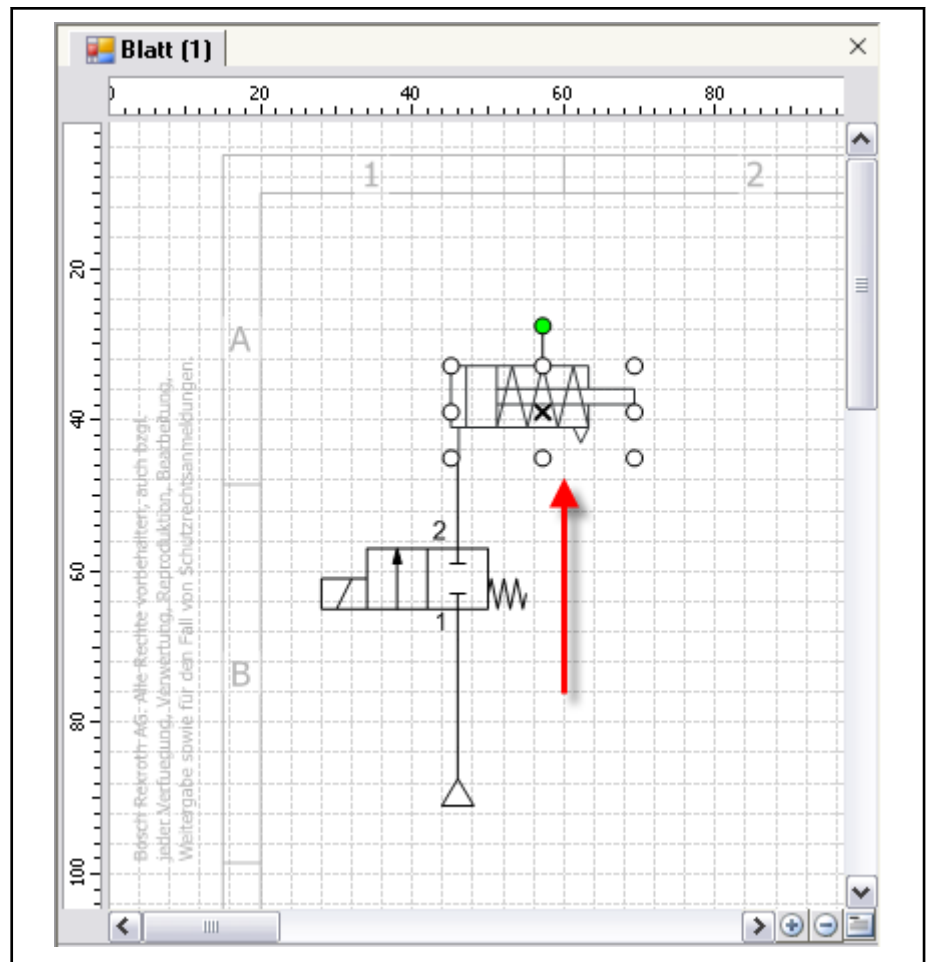


Fig. 5-3: The sine function component is marked

Selective marking of several objects

When marking objects using the mouse, keep the <SHIFT> key pressed; in this way, you can mark any number of objects. The component marked last is highlighted by means of white manipulation points, the ones marked first by means of gray points. The marked objects are highlighted as marked in the model explorer.

Model View

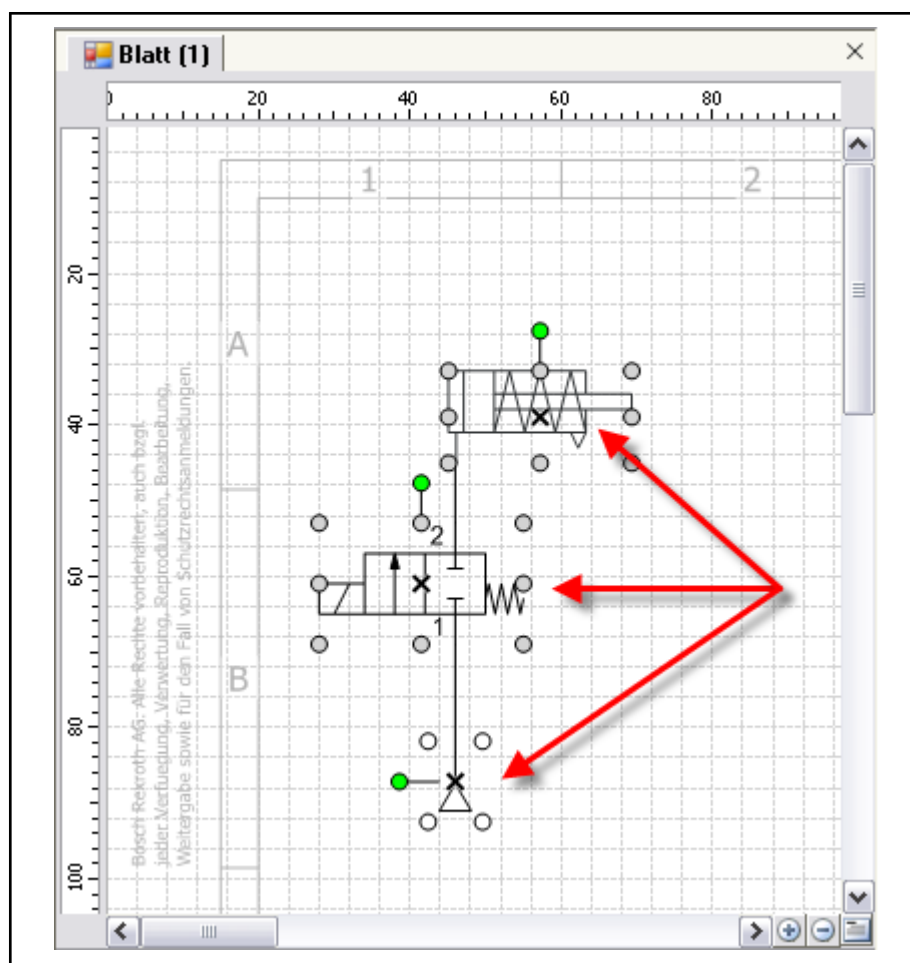


Fig. 5-4: Three marked objects. The object marked last has white selection points, all others have gray ones.

Marking several objects by means of area selection

For an area selection, position the mouse cursor at a free place of the model view, press the left mouse button, keep it pressed and drag open an area shown as dashed rectangle. When the area comprises all desired objects, release the mouse button. All objects within the dragged open area are marked and are also highlighted as marked in the model explorer.

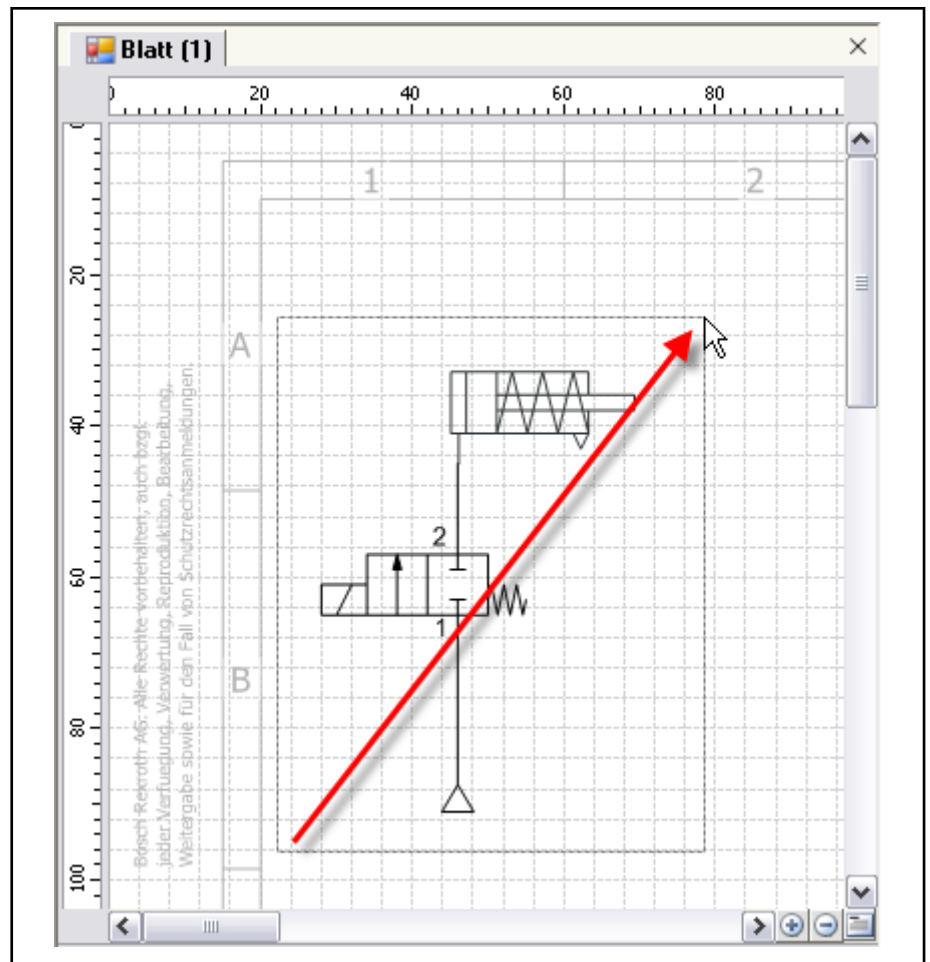


Fig. 5-5: Marking several objects by means of area selection.

Marking in the model explorer

Components and objects can also be marked in the model explorer. A single object is marked by means of a mouse click, several objects by means of selective multiple-section (keep the <CTRL> key pressed) or by means of area selection (<SHIFT> mouse click start of area and <SHIFT> mouse click end of area).

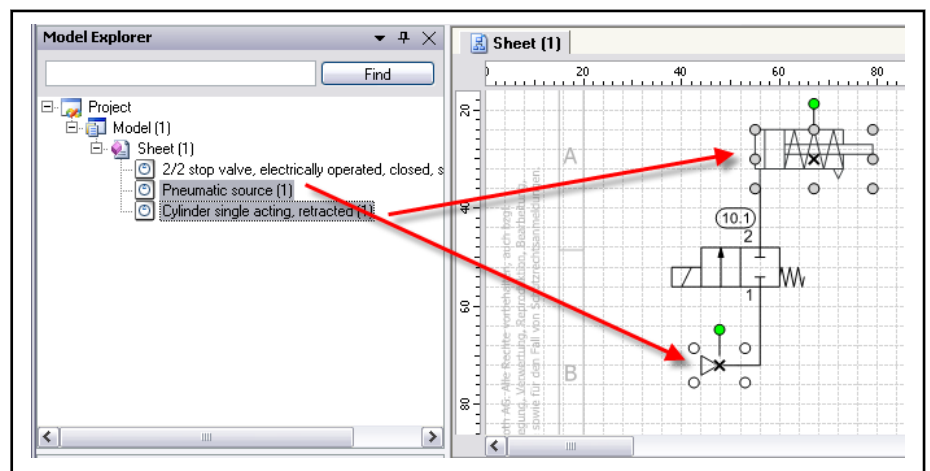


Fig. 5-6: Marking components in the model explorer


Model View

5.2.3 Connecting Components

Components can be connected by means of their free ports. You can recognize the free ports of a component by the red squares.

For establishing a connection, firstly place the cursor over the port of the first component until the cursor changes from the mouse pointer to the connection

establishment cursor .

Now click with the left mouse button in order to access the connection mode - the mouse pointer then changes over to the connection cursor . If the mouse pointer is moved to the port of the other component, a connection line between the port and the current cursor position is drawn automatically.

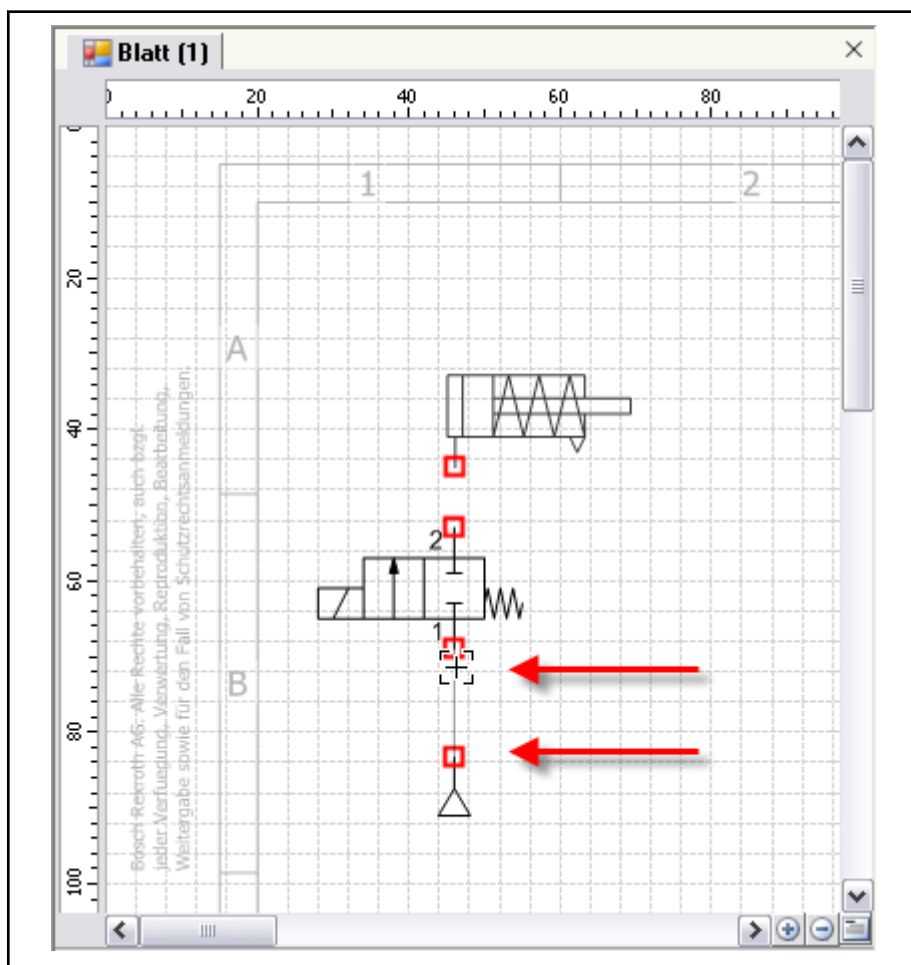



Fig. 5-7: Establishing a connection - Positioning the mouse pointer over the port of the other component

If the mouse pointer is positioned over the port of the other component, the cursor changes from the connection cursor to the connection establishment

cursor . By clicking with the left mouse button, the connection is established and the cursor changes to the normal Windows cursor.




Establishment of the connection can be canceled using the <ESC> key or the **Cancel** context menu item.

Alternatively to clicking twice, the connection can also be established by keeping the left mouse button pressed and releasing it at the target port.

5.2.4 Connection Network

If the inputs of several components are connected with one output, you talk of a connection network.

Start establishing the connection by creating a connection line starting at the input of the new component. Drag this connection line either to one of the two ports of the already connected components or to any place of the already existing connection line between the components. The cursor changes to the connection establishment cursor  if the connection network can be set up.

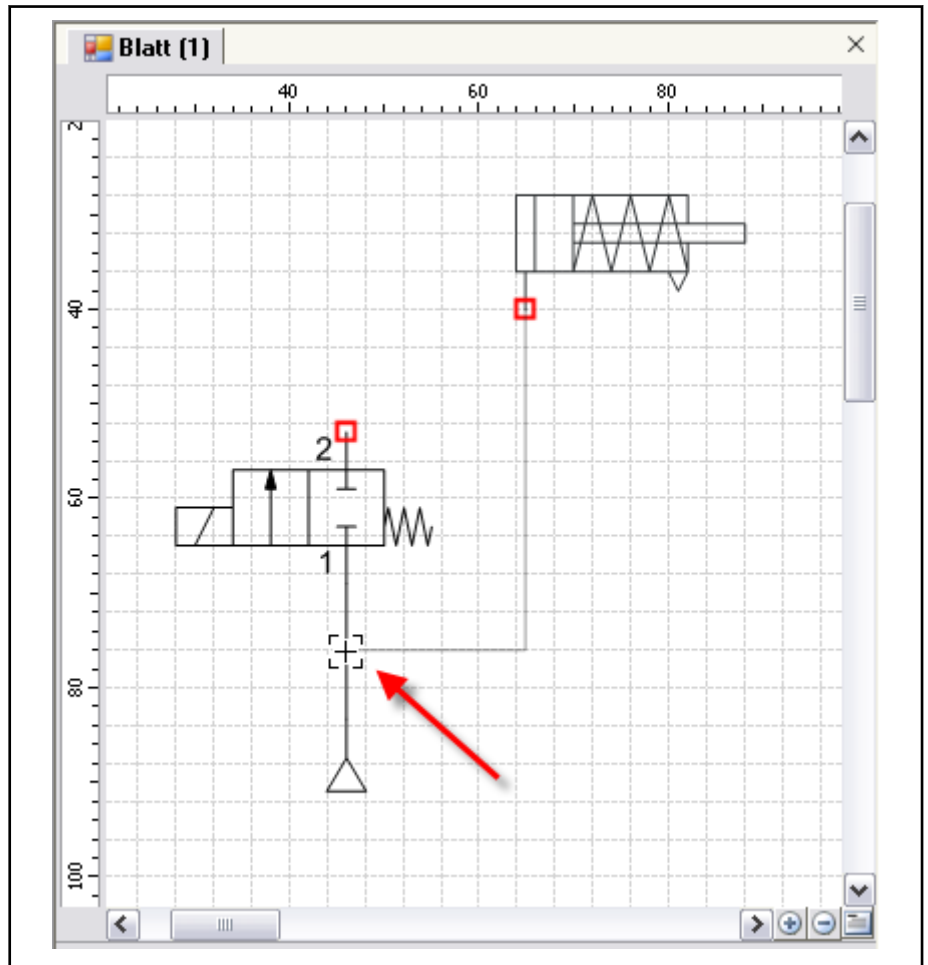


Fig. 5-8: Setting up a connection network - Connecting the input of the A/B converter with the already existing connection line

If the connection network has been set up successfully, this is symbolized by a connection point on the connection line.

Model View

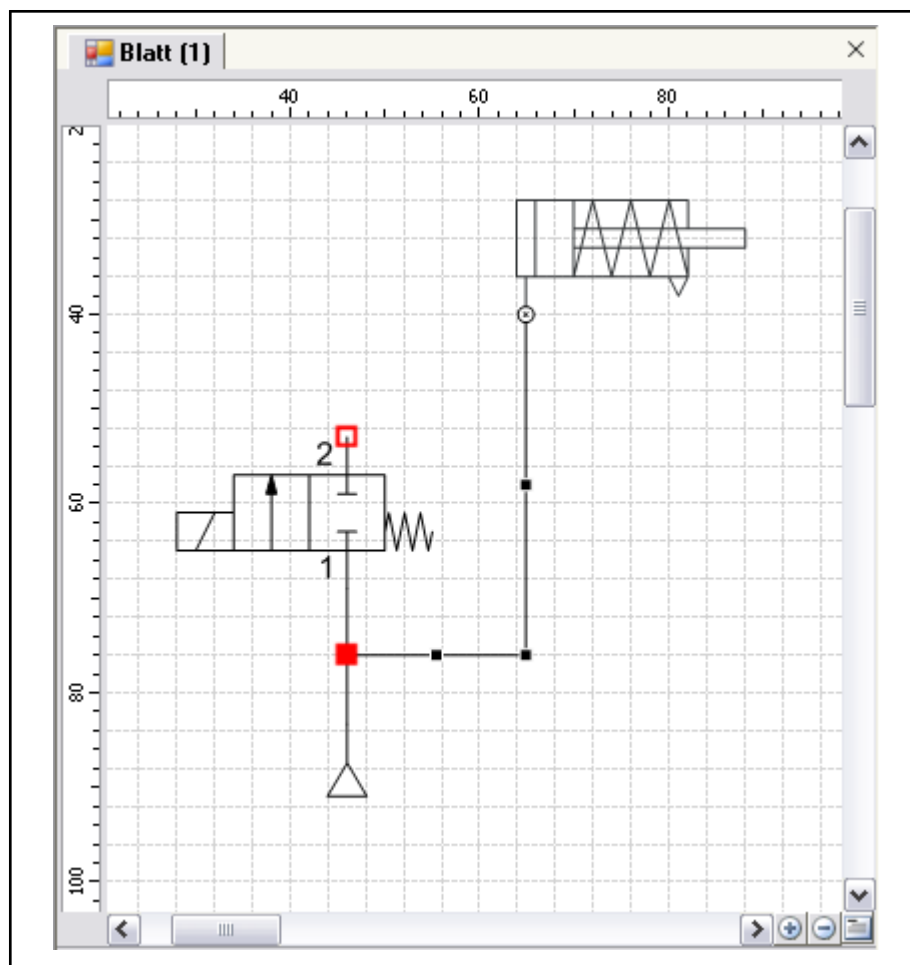


Fig. 5-9: Connection network set-up



A maximum of four connection lines can be connected to a connection point.

5.2.5 Change Connection Line Type

A connection line can be adapted to your special needs by formatting it.

The first possibility is to format the connection line free. Select the connection line and change color, width and dash style using the toolbar icons or the properties window as shown in the following screenshot:

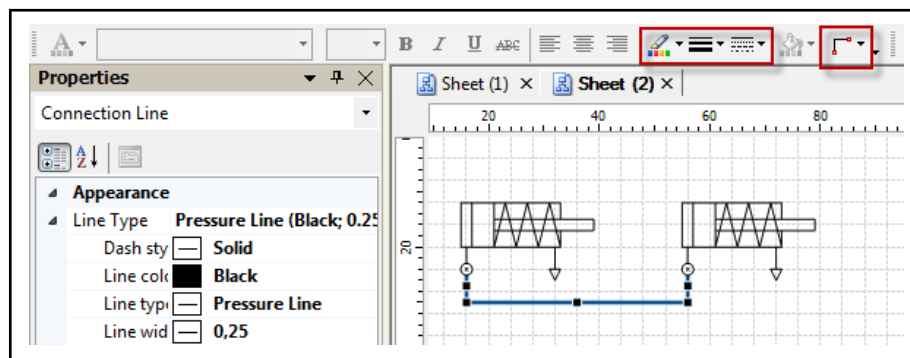


Fig. 5-10: Free formatting a connection line using the toolbar icons or the properties windows

The second possibility is to assign a predefined line type as shown in the following screen shot. You can define new line types using the options dialog. For further informations please check [chapter 10.3.4 "Line Types" on page 104](#).

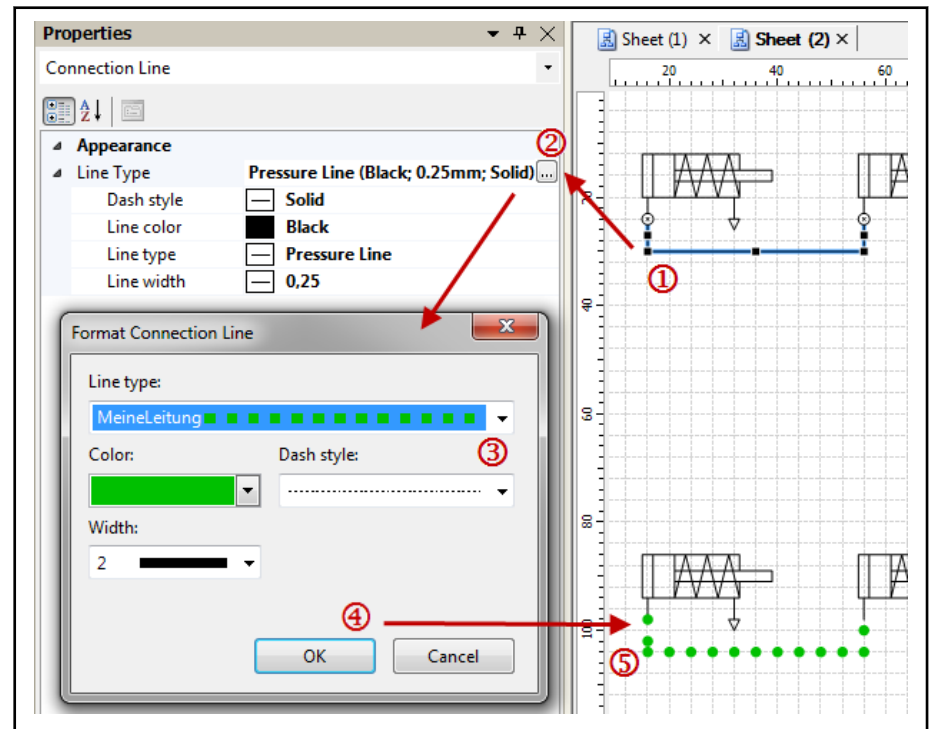


Fig. 5-11: Assigning predefined formattings for a connection line using the properties toolwindow

Instead of using the properties window you can use the toolbar icon **Line Type**.

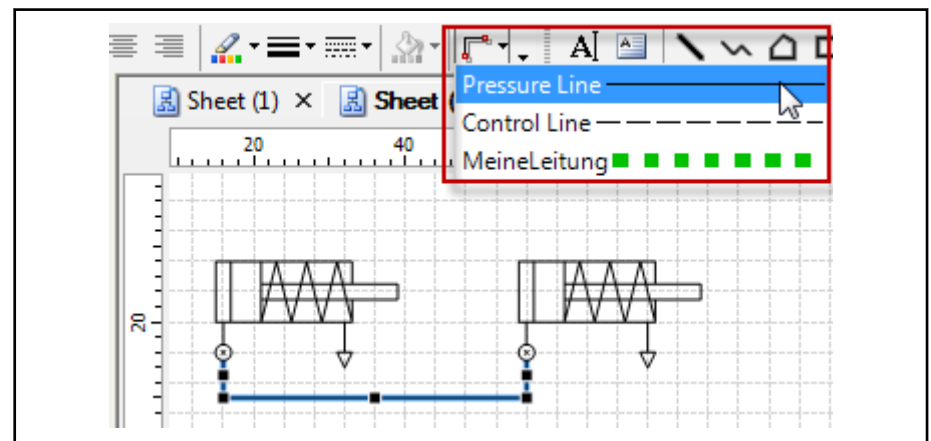


Fig. 5-12: Assigning predefined formattings for a connection line using the toolbar icon

5.3 Modifying the Model

5.3.1 Moving Objects

Objects of the model view can be moved using the mouse and the keyboard. You can move individual objects and several selected objects at the same time. The designation of components, position number, accessory as well as

Model View

the labels of inputs and outputs that have not been connected yet, can be moved, as well.

Mouse operation

1. Mark the objects to be moved.
2. Position the mouse pointer over the marked object until the cursor changes to the arrow cross.
3. Press the left mouse button and keep it pressed until the object has been moved to the new target position; then release the mouse button.



Objects can also be moved using the right mouse button. When releasing the button, you can select in a context menu whether the object is to be moved or copied to this place.



If during moving, you keep the <SHIFT> key pressed, the object can either only be moved on the vertical or the horizontal axis.



If during moving, you keep the <CTRL> key pressed, a copy of the object is created at the new position.

Keyboard operation

1. Mark the objects to be moved.
2. Move the objects by means of the arrow keys.







When moving objects using the keyboard, they are moved in smaller steps if at the same time, you keep the <CTRL> or <SHIFT> key pressed.

During moving, objects are by default aligned to the grid if the option "Align to grid" is activated.

5.3.2 Modifying Objects

Rotating & Mirroring

Via the toolbar, selected objects can be mirrored or rotated in 90° steps:

-  Rotate Right
-  Rotate Left
-  Flip Horizontal
-  Flip Vertical

Apart from the fixedly specified 90° rotation intervals, objects can also be rotated in 15° steps around their center of rotation. If the object does not have a center of rotation, rotation is not possible.

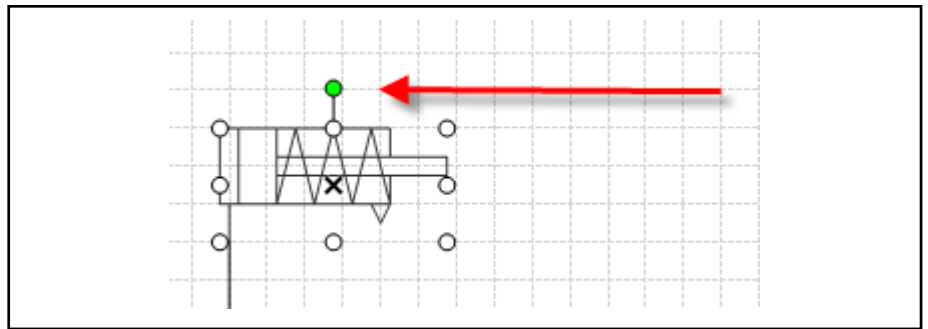


Fig. 5-13: An object is rotated around its center of rotation.

For doing so, the mouse pointer must be positioned over the green center of rotation of the marked object so that it changes to the rotation cursor. Afterwards, the object can be rotated arbitrarily while keeping the mouse button pressed.



If during rotation, you keep the <SHIFT> key pressed, the component can be rotated arbitrarily.

If the object is rotated using the right mouse button, a context menu is offered after releasing the right mouse button. In it, the rotated object can be copied to the mouse pointer position using the **Copy here** menu item; the source object remains unchanged and is not rotated.

Scaling

Free scaling

Using the mouse, objects can be scaled via their handles. The handles become visible by selecting the object. If an object has no handles, it cannot be scaled.

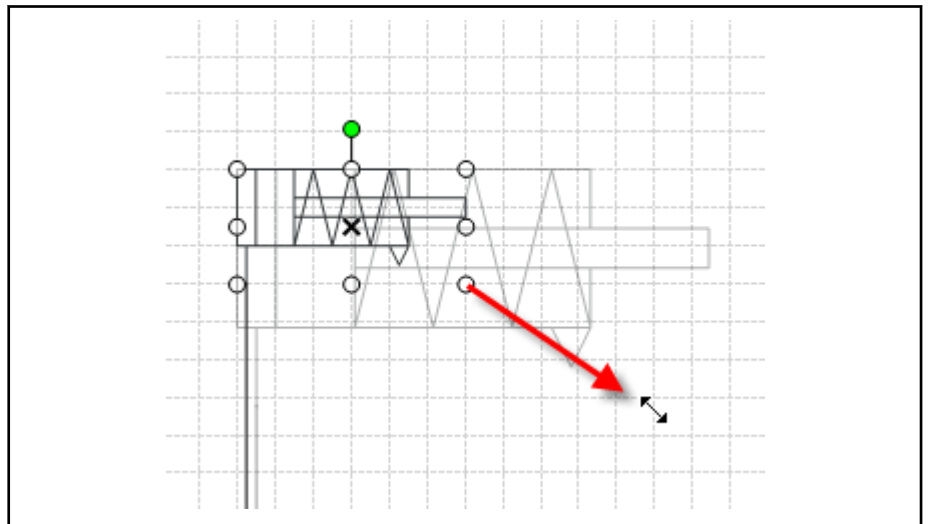


Fig. 5-14: Scaling an object

For scaling, the mouse pointer must be positioned over a handle and afterwards, the left mouse button must be kept pressed. Now, the object can be scaled to the desired size using the mouse. If the desired size is reached, the mouse button can be released.

Model View






Scaling is also possible for several marked objects at the same time.

If during scaling, you keep the <SHIFT> key pressed, only proportional scaling is possible, in which the side ratios are maintained.

If the object is scaled using the right mouse button, a context menu is offered after releasing the right mouse button. In it, the scaled object can be copied to the mouse pointer position using the **Copy here** menu item; the source object remains unchanged and is not scaled.

Size adjustment

The size of objects can be adjusted to the size of other objects. For this purpose, at least two objects must be selected whereas the object with the reference size must be selected last. Via the toolbar, the height, width or the combination of both of the objects marked first can be adjusted to the reference object:

-  Adjust Height
-  Adjust Width
-  Adjust Size

5.3.3 Modifying Connection Lines

The course of a connection line can be changed arbitrarily. For this purpose, you must firstly select the connection line by means of a mouse click. Depending on length and course, the marked connection line will then show its modification points.

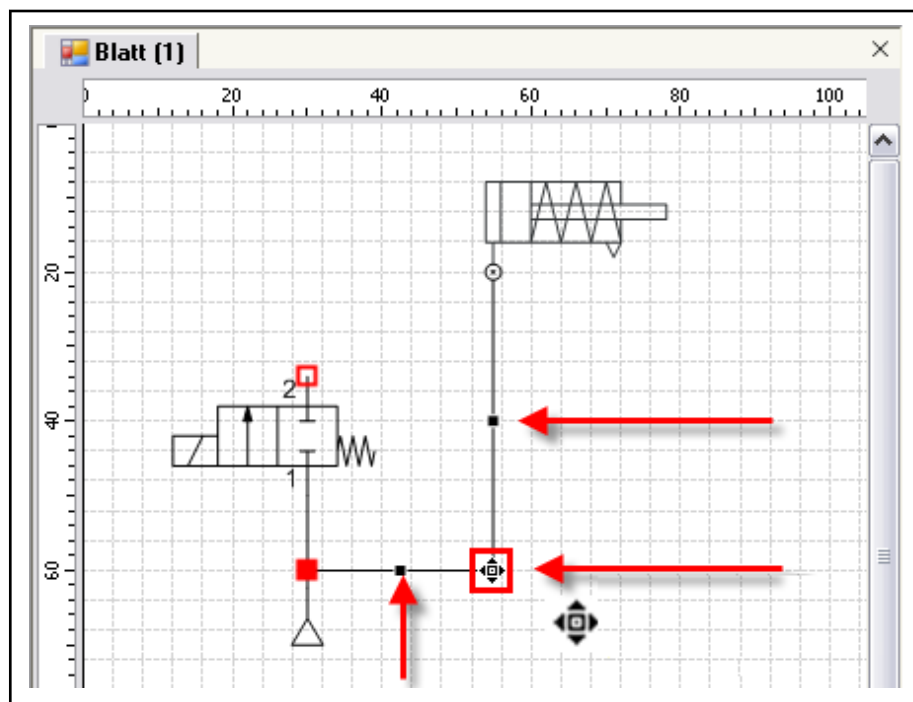


Fig. 5-15: Selected connection line with modification points and the modification cursor.

If the mouse pointer is positioned over one of the modification points, it changes to the movement cursor. The movement cursor informs the user by

means of its arrows into which direction the modification point can be moved. In the screenshot above, the modification points can be arbitrarily moved in horizontal and vertical direction.

By clicking with the left mouse button and keeping it pressed, modification of the connection is initiated. A gray connection line shows the future course of the connection line as soon as the mouse button is released.




A connection line can be newly created by executing the **Establish New Connection** context menu item.

A connection line can be divided into small sections by means of the **Insert Segment** context menu function.

5.3.4 Aligning Objects

Grid

The positioning of objects in the model view is simplified by the grid. The grid is activated by default, the grid space is half the grating width. The grid can be switched on and off using the  toolbar.


With activated grid, objects can only be positioned according to the grid space; free positioning at pixel level is only possible by moving objects using the keyboard.

Guides

Guides simplify the alignment of objects at pixel level. If an object is moved to an guides, it "gets stuck" at it with the left or right side in case of a vertical guides or with the top or bottom side in case of a horizontal guides.

Guides can be shown or hidden by means of the context menu item **Show/Hide ► Show/Hide Guides**.

Creation

For the creation of auxiliary lines, it is imperative that the ruler is visible. It can be activated via the context menu item **Show/Hide ► Show/Hide Ruler** or by means of the  toolbar.

1. Position the mouse pointer on the ruler. For a horizontal auxiliary line on the horizontal ruler, for a vertical one on the vertical ruler.
2. Press the mouse button and keep it pressed.
3. Drag the mouse pointer to the model view. The auxiliary line follows the current cursor position.
4. Release the mouse button in order to draw the auxiliary line at the current cursor position.

Model View

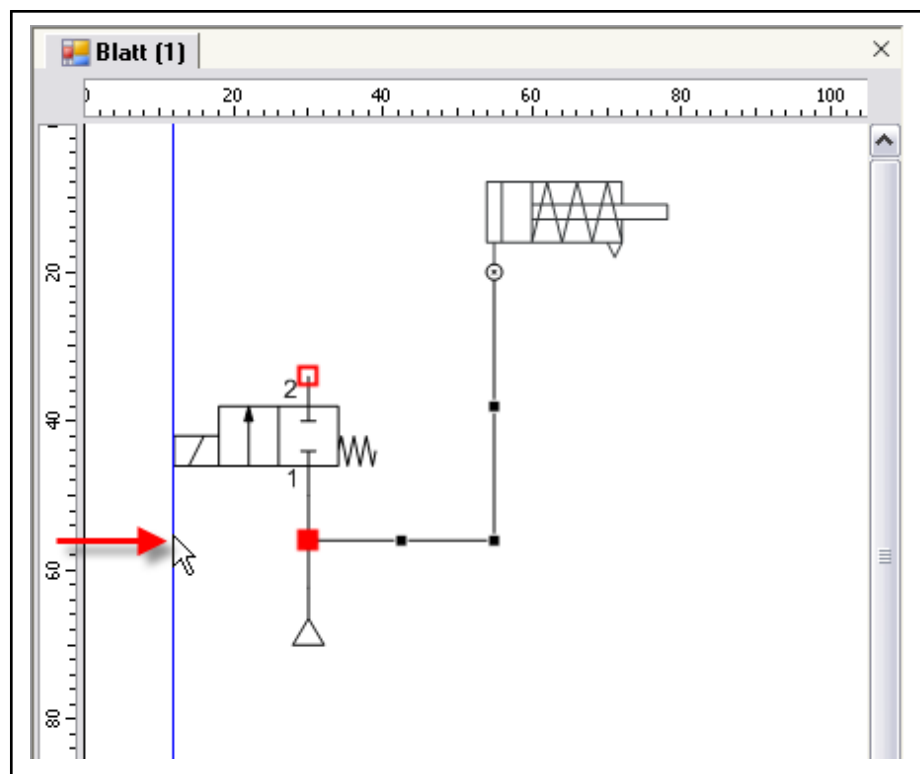


Fig. 5-16: Creating a vertical auxiliary line (blue) using the vertical ruler.

Movement

1. Position the mouse pointer on a free area of the auxiliary line until the cursor changes to the movement cursor.
2. Press the mouse button and keep it pressed.
3. Move the auxiliary line to the new position using the mouse.
4. Release the mouse button.

Deletion

An auxiliary line can be deleted by moving it to the ruler or deleting it after selection using the key.






Several auxiliary lines can be moved or deleted simultaneously if they are selected together using the <SHIFT> key.




Align to Objects

If the align to objects option is active, objects are aligned to the edges of other objects if while being moved, they come close to them.

The align to objects option can be activated or deactivated via the  toolbar or the context menu item **Alignment ► To objects**.

If 2 or more objects are marked, they can be aligned together using the last marked object. In this connection, the following options are available:





-  Top alignment
-  Vertical center alignment
-  Bottom alignment

-  Left alignment
-  Horizontal center alignment
-  Right alignment

The alignment functions can be accessed in the toolbar or via the context menu of one of the marked objects.

Order










If two or more objects take the same place in the model view, the order of the objects can be changed so that the desired object is in top position. For determining the order of an object, the latter must be selected first. Afterwards, the order can be changed using the following icons from the toolbar or the context menu **Order** of the object:

-  Bring object to the back
-  Bring object to the fore
-  Bring object one level back
-  Bring object one level fore

5.4 Drawing Objects

5.4.1 General

Apart from components and connection lines, simple drawing objects can be positioned on the sheet. For drawing, the following elements in the toolbar are available:

-  Line
-  Polyline
-  Polygon
-  Rectangle
-  Ellipse
-  Ellipse arc
-  Ellipse sector
-  Free text
-  Text box

Like all other objects of the model view, these objects can be marked, moved, deleted, duplicated and scaled.


By clicking on the icon in the toolbar, creation of the drawing object is started.

The creation can be completed at any time using the <RETURN> key or the **Finish Creation** context menu. When creating a polyline or a polygon, the shortcut <ALT> + <RETURN> (or the context menu item **Finish Creation and Add Point** and/or a double click) provides for the finishing incl. the current point to be placed; without <ALT>, the latter would be rejected.

Model View

The creation can be canceled at any time using the <ESC> key or the **Cancel Creation** context menu item of the model view.

In contrast to the components, drawing objects can be formatted via the toolbar:

-  Font color
-  Line color
-  Fill color)
-  Dash style
-  Line width

Selected drawing objects can be formatted using the properties toolwindow:

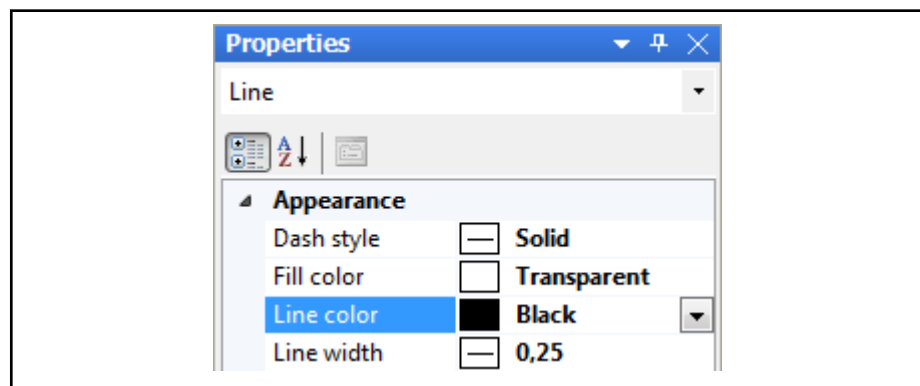


Fig. 5-17: Selected drawing objects can be formatted using the properties toolwindow

Another formatting possibility is the **Format** dialog that is opened via the context menu of the marked drawing object. If you want to set the formatting as standard for all new drawing objects of same type, check the checkbox **Standard for new objects**. If text is formatted, the dialog offers additional pushbuttons for formatting the text.

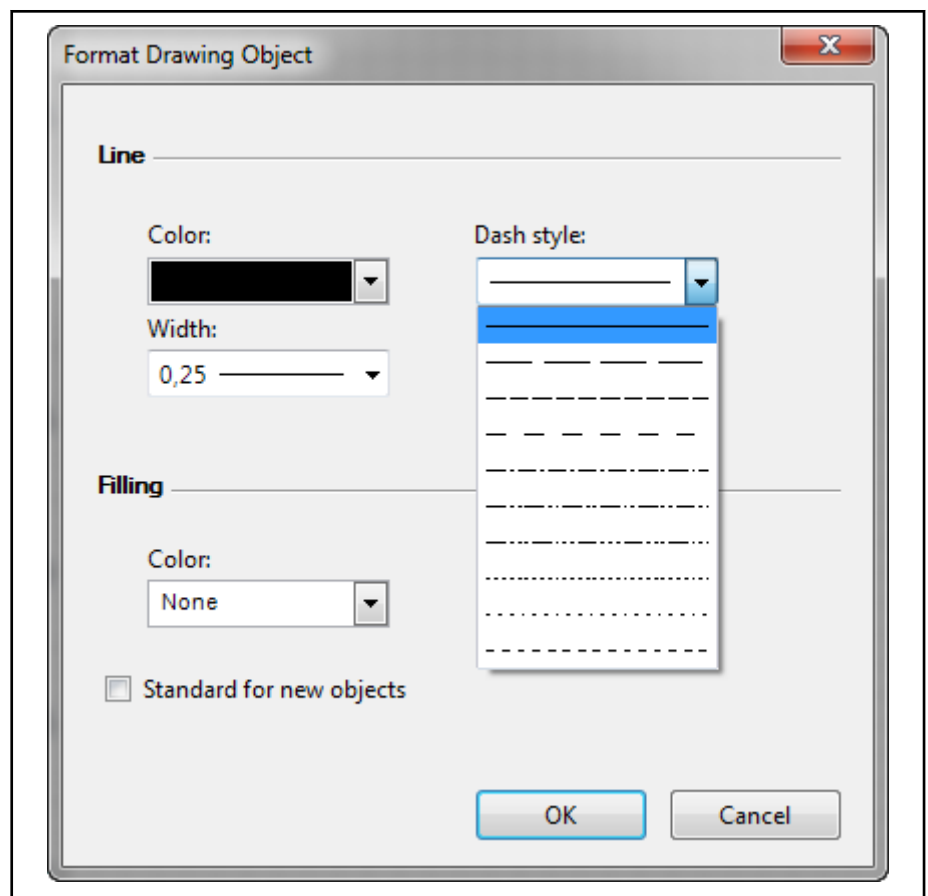


Fig. 5-18: Formatting the selected drawing object via the context menu command **Format...**

Alternatively, the formatting pre-settings can be determined separately for each drawing object via the main menu item **Tools ► Options...** in the option dialog and there in the area **Format Drawing Objects**.

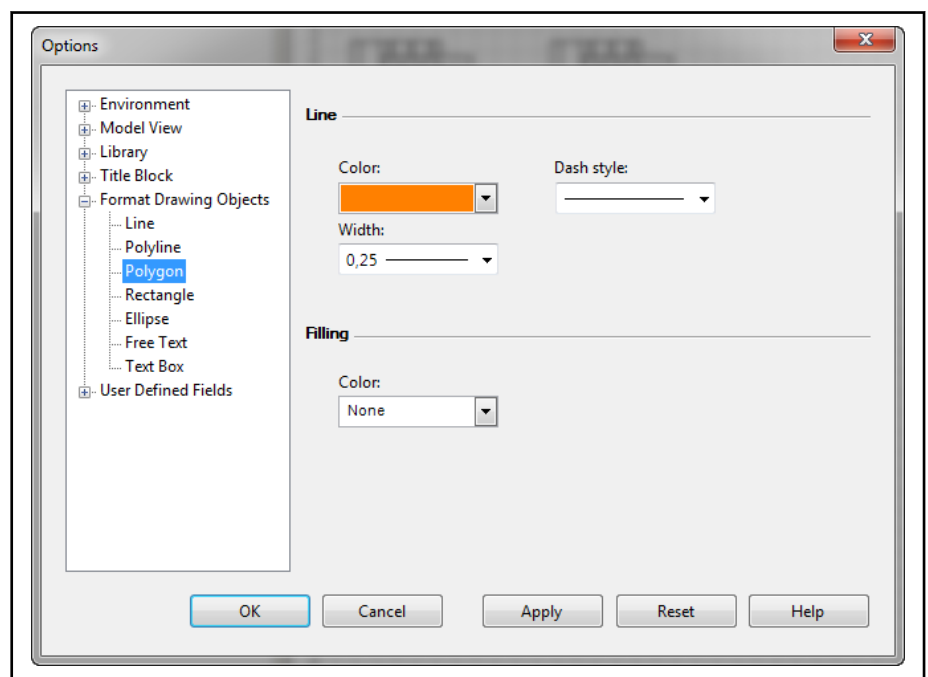


Fig. 5-19: You can set the drawing objects formatting in the options dialog.

Model View

5.4.2 Line

The line is defined by 2 points. Using the left mouse button, click once at the first and once at the second point. Between the first and the second click, the line is shown as preview. Alternatively, you can also keep the mouse button pressed while dragging the line; when you finally release it, the line will be drawn.



A line does not have the typical marking points like an rectangle has for example. A marked line has one handle at each of its ends.

If during creation of the line, you keep the SHIFT key pressed, the line slope is set to 45° steps.

5.4.3 Polyline

A polyline is defined by 3 or more points. The points are set one after the other with the left mouse button. The creation of the polyline can be completed by means of a double-click or the **Finish Creation** context menu.



If during creation of the line segment, you keep the <SHIFT> key pressed, the line slope is set to 45° steps.

5.4.4 Polygon

A polygon is defined by 3 or more points. The points are set one after the other with the left mouse button. The "smallest" polygon is a triangle. The creation of the polygon can be completed by means of a double-click or the **Finish Creation** context menu.



If during setting of the polygon points, you keep the <SHIFT> key pressed, the slope of the polygon sides is set to 45° steps.

5.4.5 Rectangle

A rectangle is a polygon consisting of 4 points in which all angles are exactly 90° and the opposite sides are parallel to each other.

When drawing a rectangle, it is sufficient to determine the two points of a diagonal. The rectangle is automatically drawn so that the sides are parallel to the edges of the sheet. If the rectangle is to be positioned in a rotated form, this has to be achieved by a subsequent rotation.



If during creation of the rectangle, you keep the <SHIFT> key pressed, a square will be drawn.

5.4.6 Ellipse

Similar to the rectangle, the ellipse is defined by setting two points and is to be understood as "compressed" circle. During creation, the ellipse is designed so that the two focal points of the ellipse are located on a line parallel to the horizontal. If the ellipse is to be positioned in a rotated form, this has to be achieved by a subsequent rotation.



If during creation of the ellipse, you keep the <SHIFT> key pressed, a circle will be drawn.

5.4.7 Ellipse Arc

The ellipse arc is similar to an ellipse with the difference, that the ellipse arc is interrupted between the 3 and 6 o'clock position. To change the ellipse arc, select him and choose the context menu point **Edit**. The starting point of the ellipse arc is now marked with a square, the end with an arrow.

Click the square or arrow and hold down the mouse key while moving the mouse to move the point. Release the mouse key to save the changes. To interrupt the editing, press the <ESC> key.



If you move the mouse pointer towards the inner area of the ellipse arc during editing, the ellipse arc changes to an ellipse sector and vice versa.

5.4.8 Ellipse Sector

The ellipse sector is an ellipse arc with start and end point connected by lines with the center of the ellipse. See Ellipse sector for further details.

5.4.9 Free Text

In order to create a free text, it is sufficient to determine the starting point of the free text. From there, the entered text is written to the right.

The size of the free text is adjusted to the content. There is no automatic line break as there are no edges - a new line must be created manually using the Return key.

In the "Format text" dialog that is called via the **Format** context menu of the text box or the toolbar, the size, font type and type face as well as the color of the free text can be changed. The new settings take effect for the whole text in the free text.

Model View

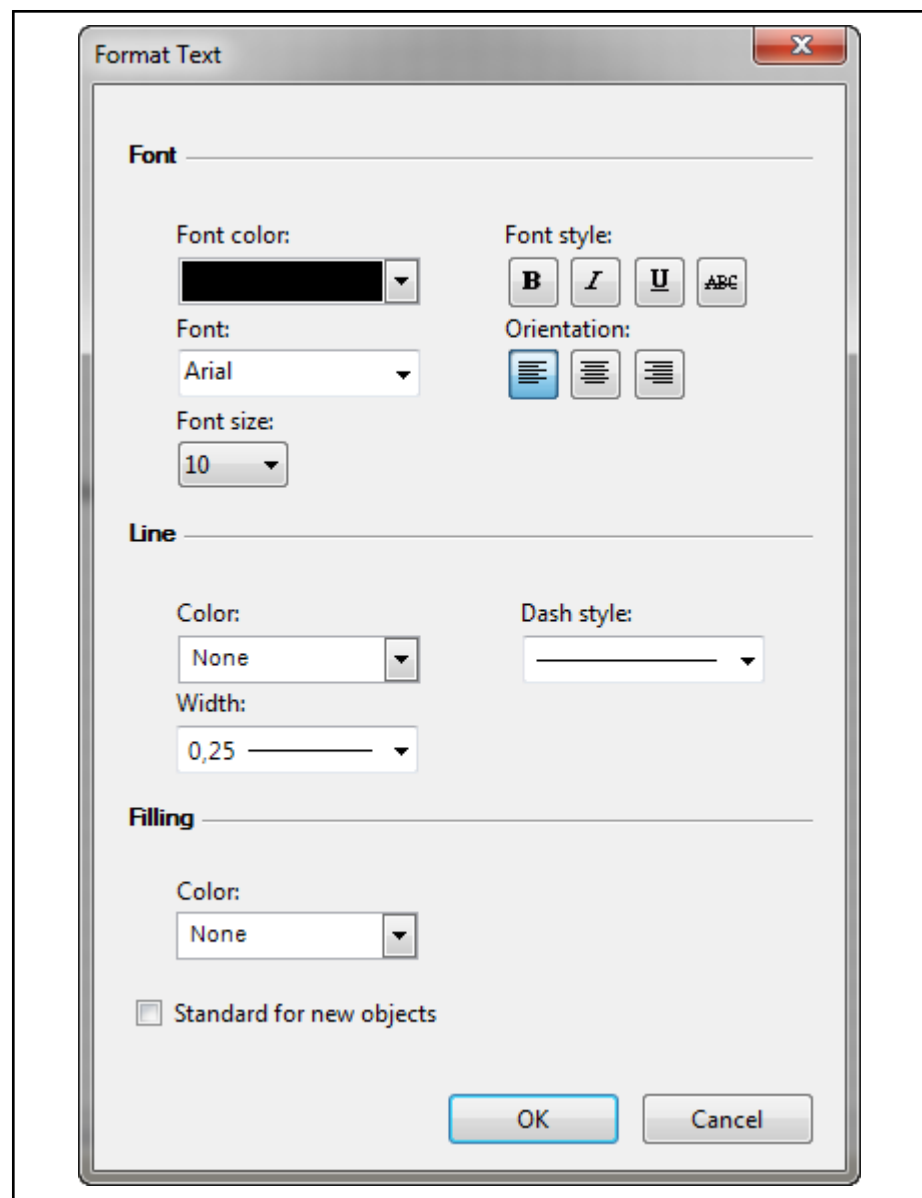


Fig. 5-20: The text properties can be set in the "Format text" dialog

In the dialog, the new settings can be defined as standard for all new text objects.

The individual formatting possibilities are also accessible separately via the toolbar.

5.4.10 Text box

The difference between the text box and the free text is that the size can be determined irrespective of the content by specifying the size of the field during creation of the text field accordingly or adjusting it subsequently. Thus, an "extensive" text may be cut off.

5.4.11 Editing Drawing Objects

The drawing objects line, polyline, and polygon can be adjusted subsequently by moving the points defining them, adding new points or removing points.

There are three possibilities for putting a drawing object into editing mode:

- Marking the object with a double-click
- Marking the object and selecting **Edit** from the context menu

For this purpose, the object must be marked once again after marking. Thus, the handles disappear and the points defining the object become visible. These points can now be moved or deleted, if applicable, or you can add new points.

Adding & moving points

The handling of points is explained using a simple line as example:

1. Mark the line by clicking it with the mouse.
2. Put the marked line into the editing mode by another mouse click and position the mouse pointer at that point of the line at which a new point is to be added. The mouse pointer changes to precision selection if a new point can be added. By means of a mouse click or the context menu **Add Point**, the new point is created.
3. Position the mouse pointer over the point so that the mouse pointer changes to the movement cursor. For moving the point, press the left mouse button and keep it pressed.
4. Move the mouse pointer to the new target position of the point and release the mouse button

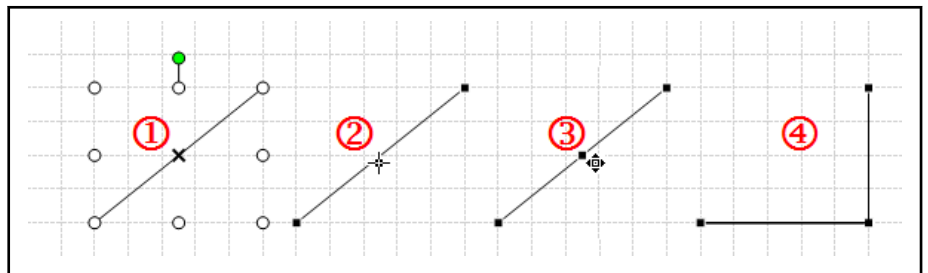


Fig. 5-21: By adding and moving a point, a simple line becomes a polyline



If when moving the point, you keep the <SHIFT> key pressed, the point can only be positioned so that the changed line section can only have 45° steps.

If in the preceding example, editing is completed after point 3, the newly set point that is exactly on the line is removed again as the description of the line by the two end points is accurate enough.

Delete point

Individual points of the drawing objects polyline and polygon can be deleted. You can maximally delete all points but 2 defining one line.

For deleting a point, the object is put into editing mode, the cursor is positioned over the point to be deleted and the **Delete point** context menu item is selected. Alternatively, you can position the mouse on the point to be deleted while keeping the <CTRL> key pressed. Over the point, the cursor changes to an "X". The point is then deleted by means of a mouse click.



If a polygon is reduced to 2 points and later provided with more points again, this will automatically result in a polygon (closed form) again and no polyline.

Closing & opening paths

Model View

Using the context menu function **Close Path**, a polyline (open form) becomes a polygon (closed form) by drawing a connection line between the first and the last point set.

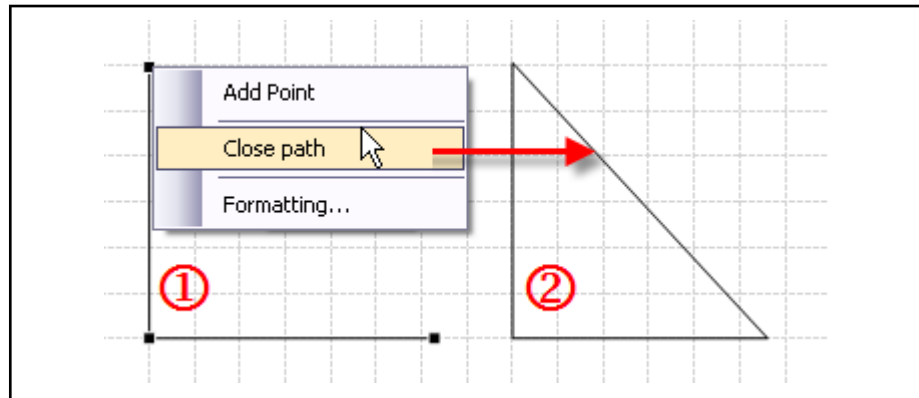


Fig. 5-22: Using the close path function, polylines become a polygon

Using the context menu function **Open Path**, the line between the first and the last point set is removed.

5.4.12 Insert Graphic

You can insert graphics to the model view using four ways:

- pasting a graphic copied to the clipboard using the shortcut <STRG> +<V>
- pasting a graphic copied to the clipboard using the main menu command **Edit ► Paste**
- pasting a graphic copied to the clipboard using the model view context menu command **Paste**
- selecting a graphics file from your file system using the main menu command **Insert ► Graphic...**

You can scale, rotate, mirror, bring to front or send to back a graphic as you are used to with normal drawing objects. You also can add external shortcuts to graphics.

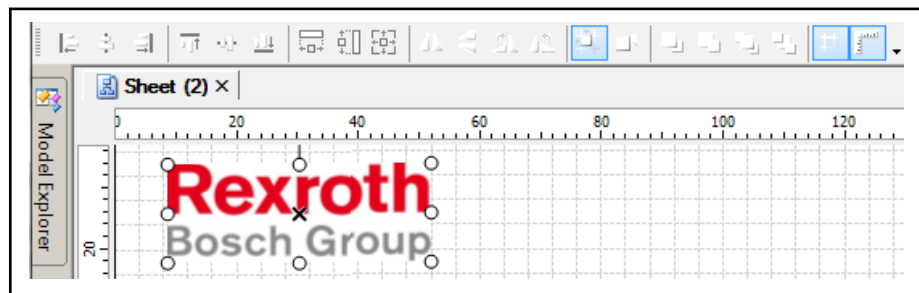


Fig. 5-23: Pasted graphics can be scaled, rotated, mirrored and brought to front and sent to back.

Keep in mind that adding many and / or large graphics will increase your project file size and therefore loading and saving time increases.

5.5 Properties Dialog

5.5.1 General

The properties dialog shows the properties of the selected objects in a table. Depending on the object type, different properties are shown and different editing possibilities are offered.

The screenshot shows the 'Properties' dialog box for a 'Cylinder single acting, retracted (1)'. The dialog is organized into several sections: Appearance, Hyperlink, Layout, Position, Size, and Parts List. Each section contains a table of properties and their values. The 'Position' section is currently selected and highlighted.

Cylinder single acting, retracted (1)	
Appearance	
Symbol Designation	Cylinder single acting, retracted (1)
Hyperlink	
Address	
Display Text	
Layout	
Position	
X	67; 46
Y	67
Y	46
Size	
Width	24, 12
Height	24
Height	12
Parts List	
Designation	KHZ-SA-020-0010-0
Identification Code	
Material Number	0822406321
Position Number	10
Symbol Name	a9

Position
Component center coordinates relative to sheet point of origin.

Fig. 5-24: The properties dialog shows the properties of an object and allows for the editing of the properties.

The dialog is accessible via the main menu item **View ► Properties** or the context menu item **Properties** of an object.

By selecting an object, the properties are presented, depending on the object type. If two or more objects are selected, the intersection of the joint properties is shown. Editing is effected by clicking into the cell with the mouse and changing the value.



The desired object can also be directly selected in the properties dialog, by selecting it using the selection list directly under the dialog title bar.

5.5.2 Properties of Components

The properties dialog of a component shows the following properties:

- Designation - designation of the component
- Hyperlink Address - hyperlink of the component
- Hyperlink Display Text - text to display instead of hyperlink
- Identification code - is shown in the model view
- Designation - relevant for parts list
- Material number - relevant for parts list
- Item number - relevant for parts list

Model View

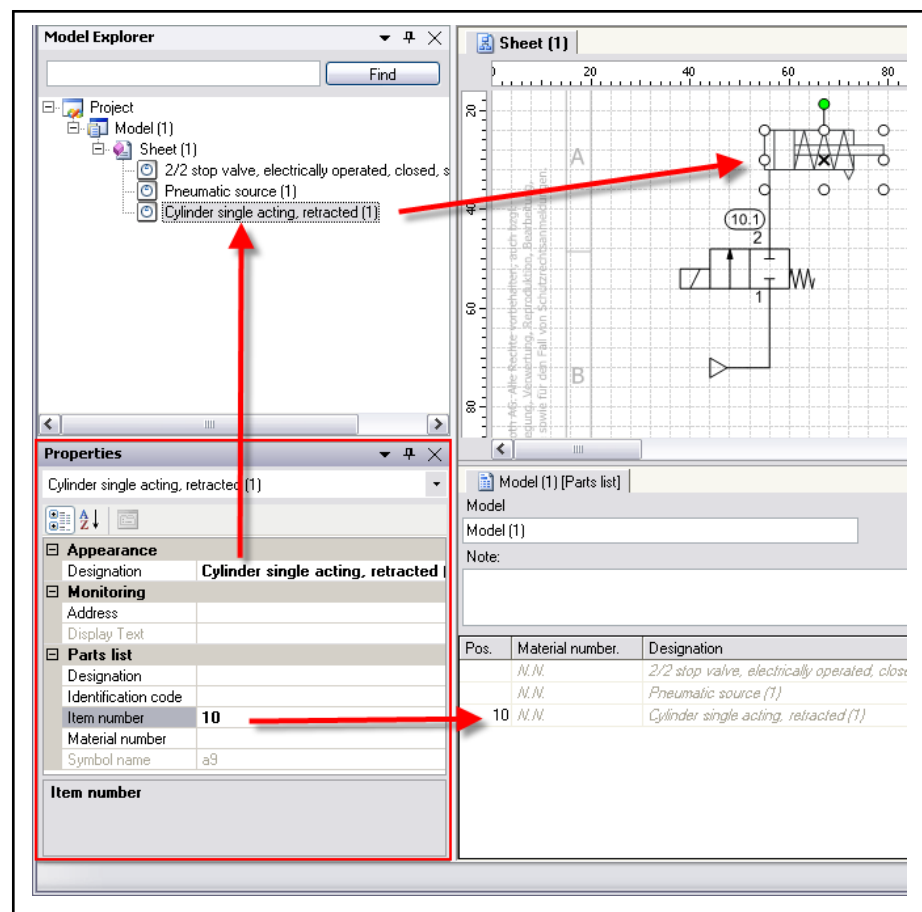


Fig. 5-25: The properties of a component

The properties can be edited directly in the dialog. The material number can be selected via a drop-down box.

5.5.3 Properties of Drawing Objects

Drawing objects show the following properties in the properties dialog:

- Fill Color
- Line Color
- Line Width
- Hyperlink Address
- Hyperlink Display Text
- Location X/Y - position of the center (see ruler)
- Size Width/Height - width and height

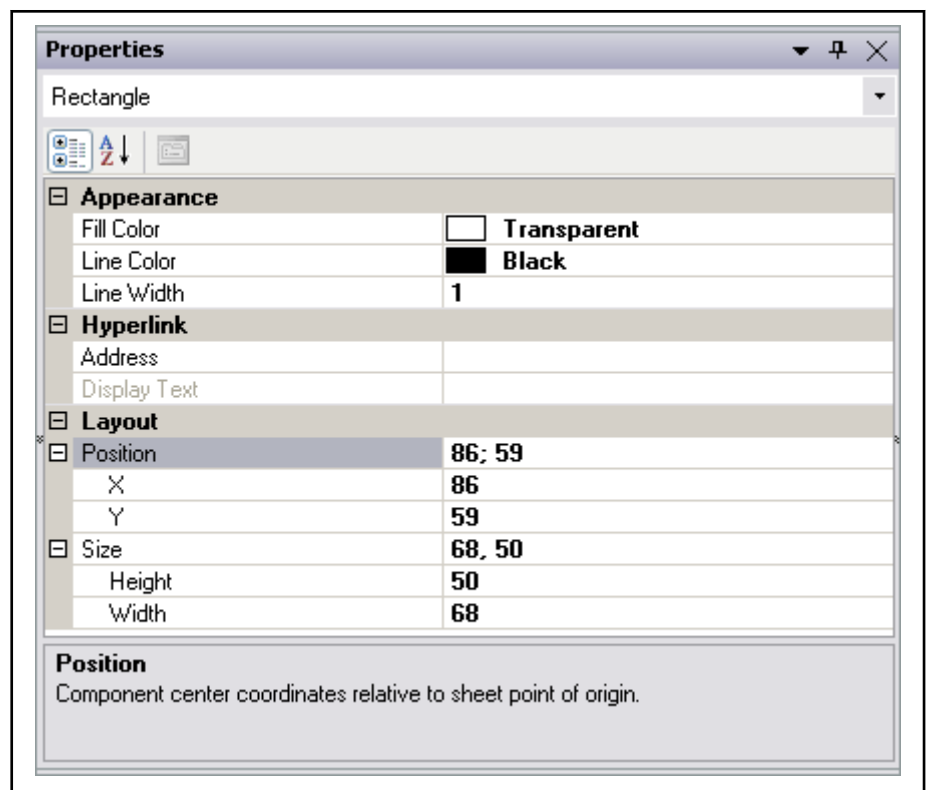


Fig. 5-26: Properties of drawing objects

5.5.4 Properties of Accessories

Text objects show the following properties in the properties dialog:

- Caption - designation
- Hyperlink address - hyperlink
- Material number - material number
- Quantity - quantity
- Short text - short text

Model View

Properties

Accessories Component (2)

☒ **Appearance**
Designation: Accessories Component (2)

☒ **Monitoring**
Address:
Display Text:

☒ **Parts list**
Material number:
Quantity: 1
Short description:

Designation
Component designation

Fig. 5-27: Properties of accessories

5.5.5 Properties of Text Objects

Text objects show the following properties in the properties dialog:

- Background Color
- Border Color
- Border Width
- Font - font type and size
- Font Color
- Text Alignment - Text alignment
- Data text - the text that is to be displaced
- Location X/Y - position of the center (see ruler)
- Size Width/Height - width and height

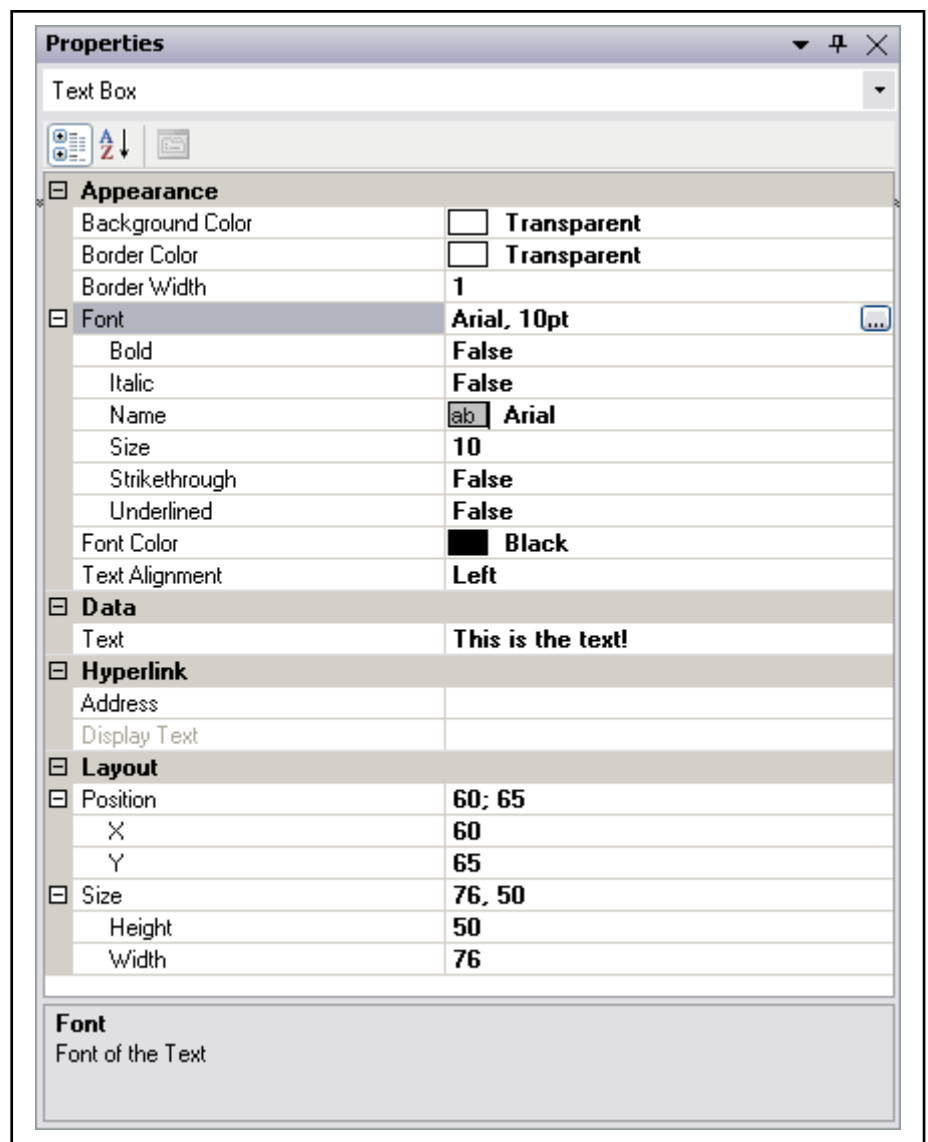


Fig. 5-28: Properties of text objects

5.6 Hyperlink

5.6.1 General

Any component, any accessory and any graphical object can in each case be added a hyperlink. This hyperlink may refer to a file or an Internet page.

⚠ CAUTION

The hyperlink only stores the reference to the external source rather than the external source itself. If you forward the model, it cannot be guaranteed that the recipient can access the external sources, as well. If you want to make sure that the recipient can access all external sources, save them in the same directory as the project file and then forward the whole directory including model and external sources.

Model View

5.6.2 Adding a Hyperlink

For adding or editing a hyperlink, select the context menu item **Hyperlink ► Edit...** of the element from the model view or the model explorer.

The hyperlink dialog opens. In it, you can determine on the left side whether the hyperlink refers to a file or a website by clicking on the corresponding button.

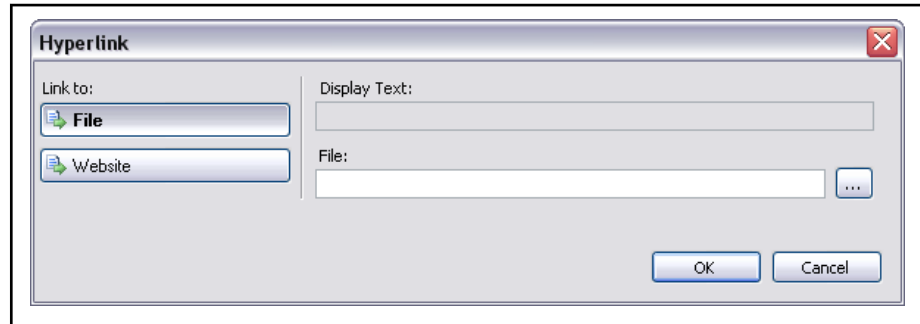


Fig. 5-29: The hyperlink dialog

The "File" or "Address:" field contains the actual link to the external source, either an Internet address like e.g. "http://www.boschrexroth.de" or the link to a file, e.g. "C:\Projekte\tank.doc". Use the button ... to search for the file.

5.6.3 Opening a Hyperlink

The hyperlink is opened via the **Open hyperlink...** context menu item. The context menu item is only available if a hyperlink is stored.

5.6.4 Deleting a Hyperlink

The hyperlink is deleted via the **Delete hyperlink** context menu item.

5.7 Model View Handling

5.7.1 Zoom



Using the zoom factor, the presentation of the model view can be enlarged or reduced. The zoom factor can be set separately for each model view and is 100% by default.


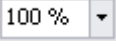





The operating elements relevant for the zoom factor are located:

- in the toolbar
- in the context menu of the model view
- in the bottom right corner of the model view (zoom buttons)



Alternatively, you can change the zoom value at any time by keeping the <CTRL> key pressed and scrolling the mouse wheel.





-  Partial Zoom
 - Click on the icon, the cursor changes to the selection magnifier
 - Drag open an area in the model view
 - The zoom factor is selected so that the selected area fills the model view (up to max. 1200%).
-  Dynamic Zoom

- Click on the icon, the cursor changes to the dynamic magnifier
- In the model view, press the left mouse button and keep it pressed
- If the mouse pointer is moved upwards, the view is enlarged, if it is moved downwards, it is reduced
-  Zoom In - Increases the current zoom value in 25% steps
-  current zoom value and selection possibility pre-defined zoom values
-  Zoom Out - Decreases the current zoom value in 25% steps
-  Original Size - Resetting the zoom value to 100%
-  Window Height - Zoom value is set so that the complete height of the model view is shown
-  Window Width - Zoom value is set so that the complete width of the model view is shown
-  Zooming Whole Page - Zoom value is set so that the complete model view is shown



Context menu

-  Partial Zoom
-  Dynamic Zoom
- Zooming all objects - Zoom value is selected so that all objects of the model view are shown simultaneously


Zoom buttons model view

-  Increases the zoom factor in 25% steps
-  Decreases the zoom factor in 25% steps



If the function " Partial zooming" or " Dynamic zoom" is active, the model view is in zoom mode. In this mode, only the functions from the toolbar relevant for zooming are available in the context menu. In this mode, the model view can be zoomed using the mouse wheel.

5.7.2 Overview

The overview function  at the lower right border of the model view offers an overview in case of complex worksheets.

The current model view is shown as miniature. The currently shown area is visualized by a red rectangle. If the red rectangle is moved by means of the mouse, the shown area in the model view changes, as well.

The overview mode is quit by selecting any other function or pressing the <ESC> key.

Model View

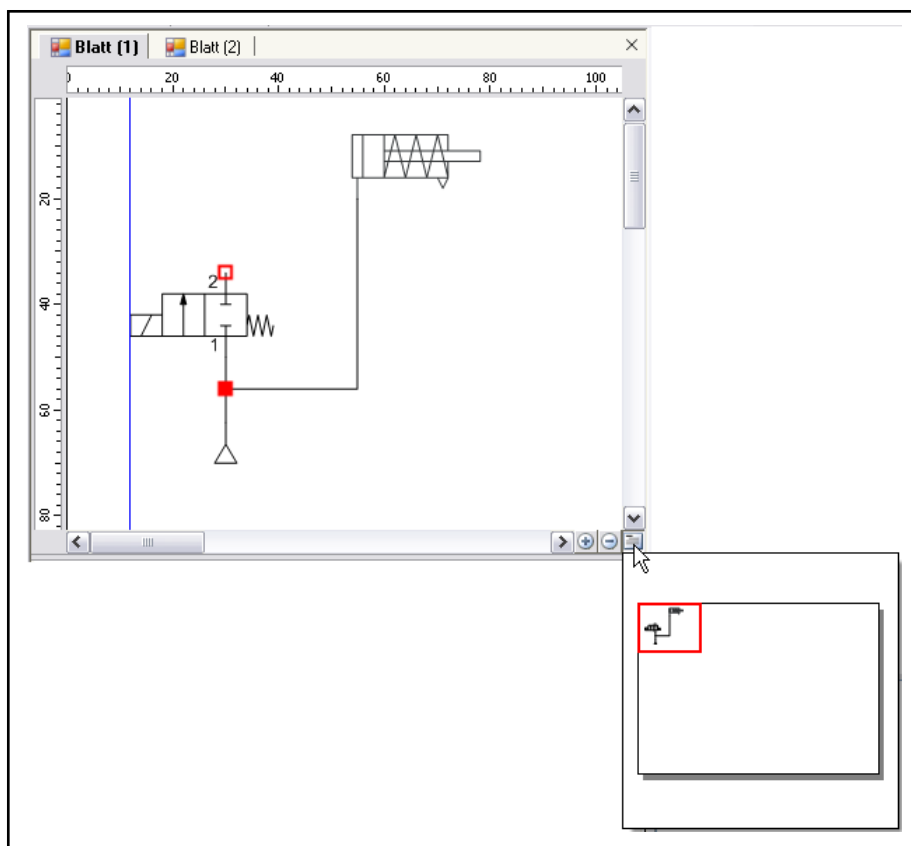


Fig. 5-30: In the overview, the whole model view is shown as miniature graphics. The currently shown area is visualized by a red rectangle. If the red rectangle is moved by means of the mouse, the section of the model view changes, as well.

5.7.3 Alignment

If two or more model views are opened, they can be aligned vertically next to each other or horizontally above each other. The starting point of the action is the context menu of the tab of the model view that is to be re-aligned.

If the model views are to be shown vertically next to each other, the **New Vertical Tab Group** is to be selected, for a horizontal alignment, select **New Horizontal Tab Group**.

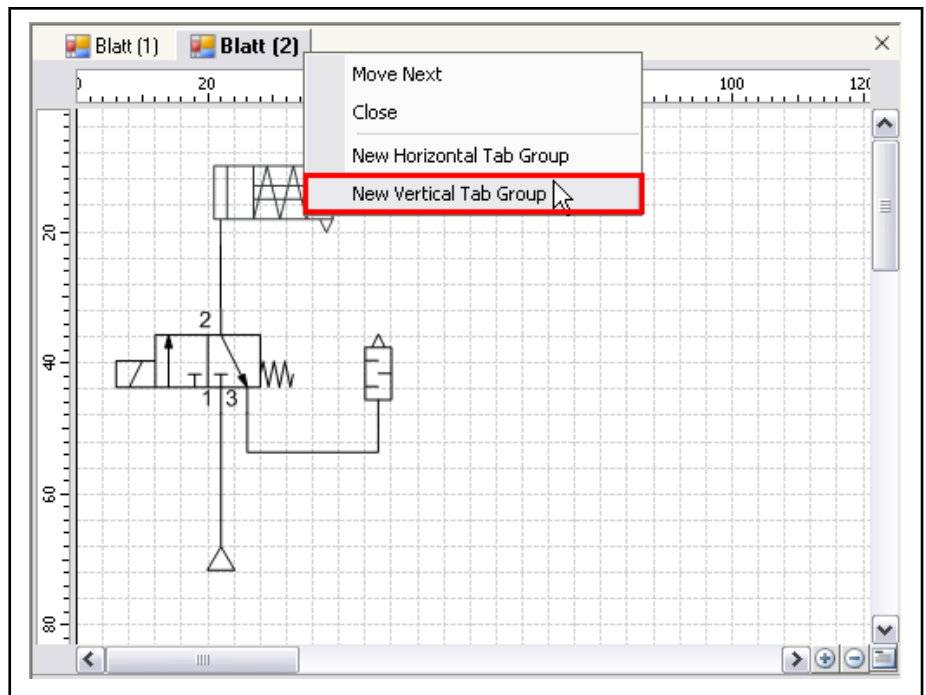


Fig. 5-31: The second model view is to be aligned next to the first model view. After executing the command, the model view is shown next to the first model view.

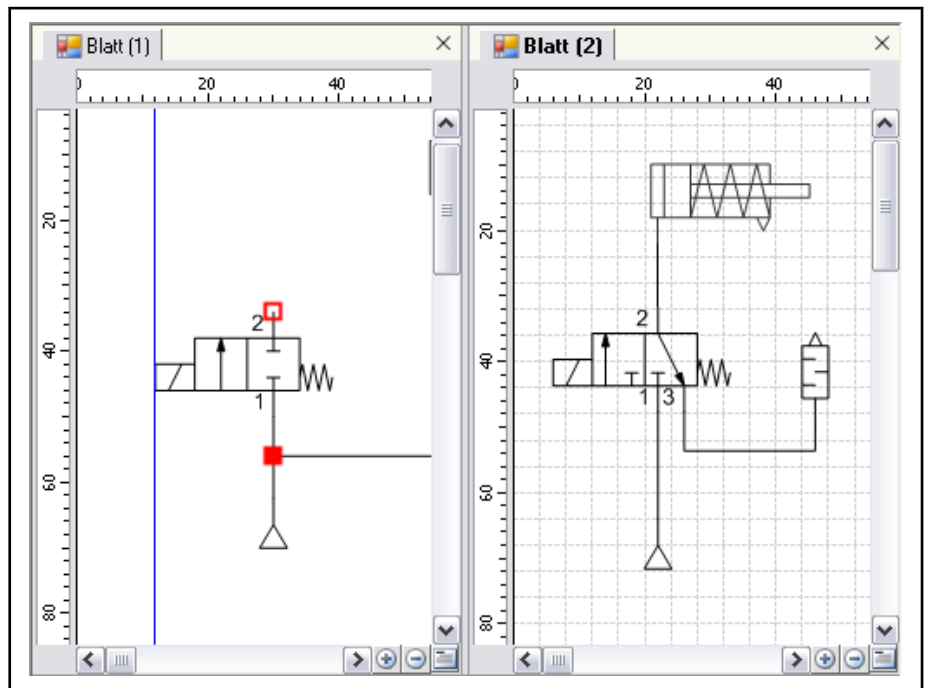


Fig. 5-32: The second worksheet is shown vertically next to the first worksheet. By creating a new vertical or horizontal tab group, a new document window is created. The currently active document window is the one with the active model view, which is marked by the name in the tab written in bold. If now, new model views are opened via the model explorer, they are opened in the document window with the active model view.

Model View

In this way, the document windows can be divided as often as required - the only limiting factor is clarity. The document window that has just been created can, for example, firstly be divided horizontally, and then vertically again.

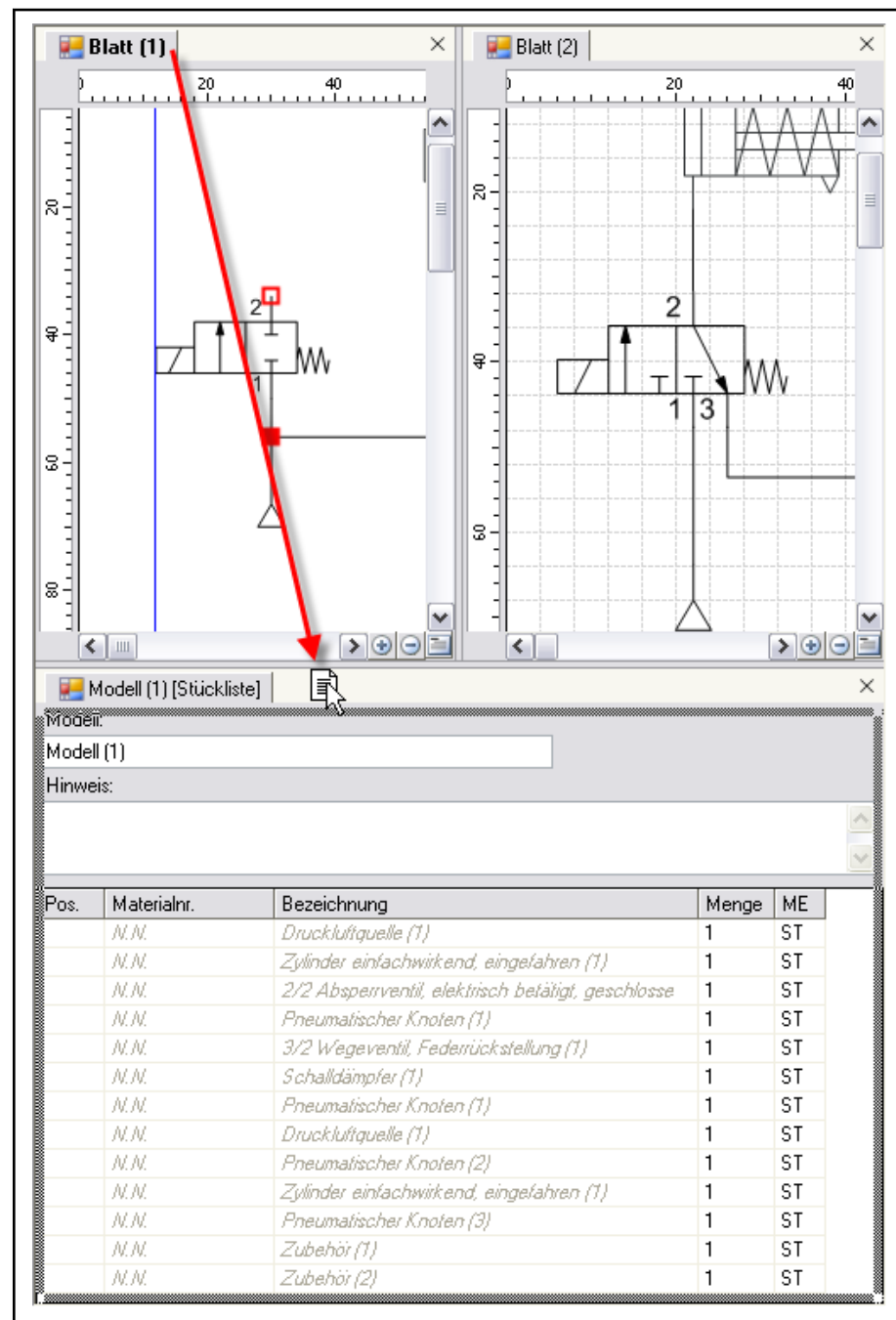


Fig. 5-33: Moving windows...

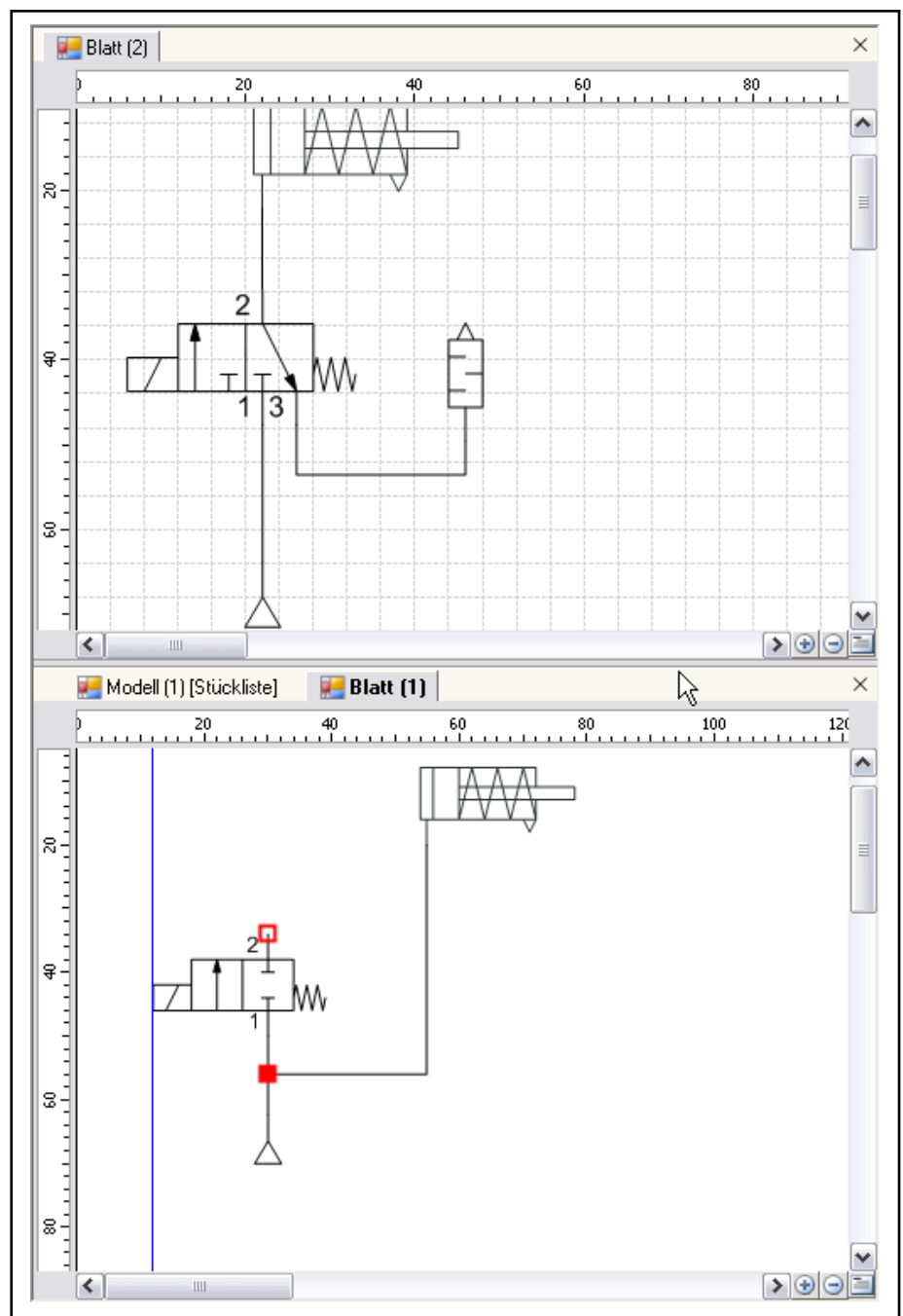


Fig. 5-34: The division of the document windows can be nested arbitrarily. Model views can be moved from one document window into another one by means of Drag&Drop.

Via their tab, the model views of a document window can be moved from one document window into another one by means of Drag&Drop. If the last model view of a document window is moved into another one, the empty document window will be closed.

5.8 Change Sheet Format

You can change the sheet format used by the model view. Open the sheet with a double click in the model explorer and select the main menu command **File ► Setup sheet....** Now the dialog Setup Sheet opens where you can

Model View

choose a preset format or define your own by selecting the user defined sheet format.

A second way to change the sheet format is using the properties toolbox. If the properties toolbox is not displayed, open it via the main menu **View ► Properties**. You then can change the sheet format in the region named Layout.

If you want to define a smaller sheet format so components would not lay anylonger on the sheet, you will be informed and can choose wether to cancel the operation or automatically move the components in the visible area.

⚠ DANGER**Linked Title Block Templates:**

If the sheet is already linked with a title block template, this link will be removed. Filled text elements of the title block will be deleted. After that the application tries to assign a title block with a matching sheet format.

5.9 Printing

To print a sheet first select it by double-clicking it in the model explorer and then performing the main menu command **File ► Print...**

Now the standard Windows printer dialog opens where you can select the printer or configure the printer clicking the button **Properties...**. Click the button **OK** to print the sheet.



If the format of the sheet is larger than the paper format of the printer, the sheet will be automatically scaled to the paper format of the printer. So you can print a DIN A3 sheet on a DIN A4 printer.

6 Title Block

6.1 General

The title block is a standardized element of a technical drawing. It offers fields for information on the creator, the scale, the number of sheets, the date of creation and modification and additional information. The application allows you to provide each worksheet with a title block.

The title block administration allows for the duplication, modification and creation of user-defined title block templates. Using the export and import function, title block templates can be exchanged between different installations and computers.

Changes in a title block template have a direct effect on all sheets that have been assigned this template.

Changes in the contents of editable fields of an assigned title block are not affected by changes in the title block template unless the field is deleted or marked as not editable.

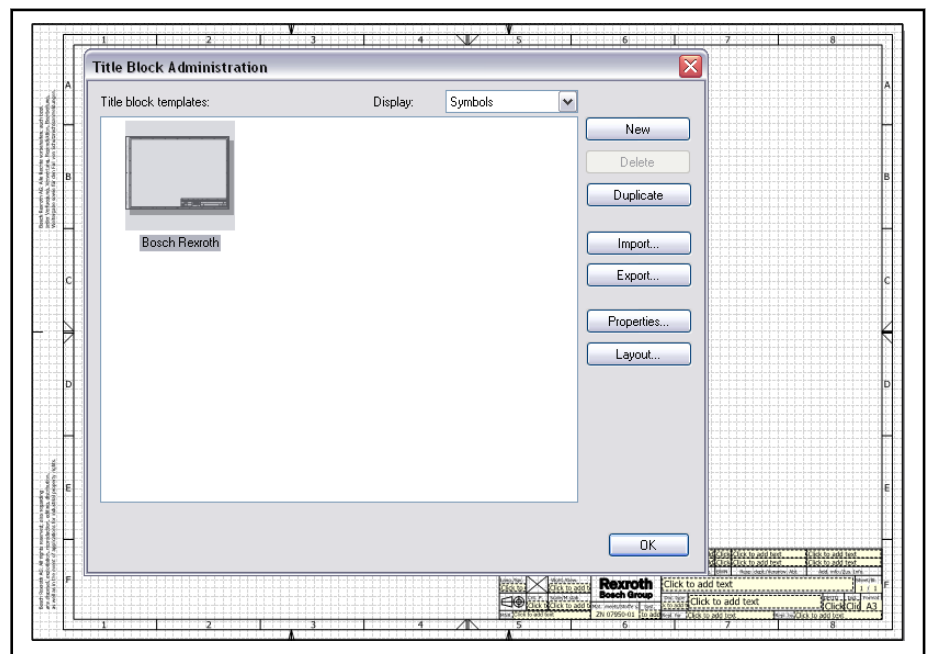


Fig. 6-1: The Title Block Administration allows for the copying, modification and creation as well as the export and import of title block

6.2 Assigning the Title Block

Via the main menu item **Title block ► Assign title block...** or the correspondent context menu item of an opened sheet, the current sheet can be assigned a title block via the dialog "Assign title block".

The dialog shows all title block templates suitable for the present paper size and alignment of the sheet as symbol or in a table. The standard for the sheet is DIN A3 landscape format. For this format, the application provides a title block template.

In order to assign the title block template, select the desired title block template and quit the dialog pressing **OK**.

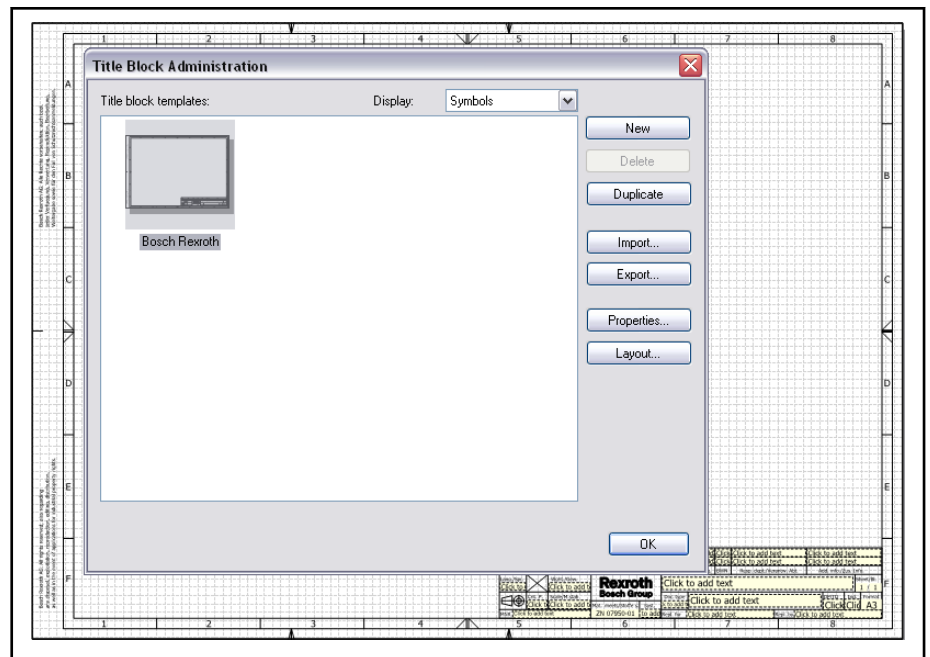


Fig. 6-3: Title Block Administration

6.5.2 Duplicating

Using the button **Duplicate** a copy of the title block selected in the list is made and the name is extended by a preceding "Copy of".

6.5.3 Properties

Using the button **Properties** the properties dialog of the marked template is called. In it, the name as well as the description of the title block template can be edited. In the lower part of the dialog, the sheet format, the width and height as well as the orientation are shown.

6.5.4 Layout

Using the button **Layout...** the title block template is shown in the model view in edit mode. For editing the title block template, close the title block administration using the button **OK**.

In edit mode, you are able to position any drawing object on the title block template and thus, using lines, polylines, polygons, rectangles, ellipses, free text and text fields, create the title block template adjusted to your requirements. Components of the library are not available.

Specialties text fields:

The drawing objects "free text" and "text field" can be enabled via their context menu item **Editable object** for subsequent editing. If the title block template is assigned to a sheet, the text there can be changed (see [chapter 6.4 "Editing the Title Block" on page 84](#)).



Changes in the layout of a title block template have an effect on all assigned title blocks. If, for example, you delete a text field, it will be deleted in all assigned title block.

6.5.5 Creating a New Template

Using the button **New** a new title block template is created.

Title Block

In the dialog, the "name", the "description", the "sheet format" as well as the "orientation" are determined.

If a user-defined sheet format is selected, the width and height can be determined individually in mm steps.

Using the button **OK** the new template is transferred to the title block administration and there, using the button **Layout** it can be designed individually. The Cancel button cancels the creation of the template.

Fig. 6-4: Dialog for creating a new title block template

6.5.6 Deleting a Template

Using the button **Delete** the template marked in the title block administration will be deleted.

⚠ CAUTION

The template will be deleted immediately without confirmation prompt!

6.5.7 Import

To import a title block, click the button **Import...** and choose the titleblock file with the file extension ***.titleblock** to import.



You can import title blocks been created with previous versions of the application. If you don't have the title block file, open the old application, export the title block as file and import it with the actual version.

6.5.8 Export

To export a title block, click the button **Export...** and choose a folder and file name to save your title block file.

7 Parts List

7.1 General

The parts list shows the components and accessories of a model that have been used in the form of a list. The parts list is automatically created from the model data.

The parts list can be provided with an information text and a title and be printed, exported or copied to the clipboard. The import of a parts list results in the automatic creation of a new sheet in the model.

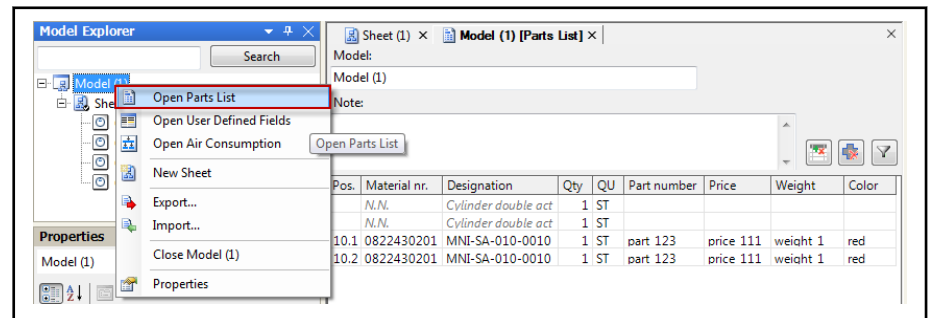


Fig. 7-1: The parts list shows the components and accessories of a model that have been used in the form of a list

The parts list displays the user defined fields. The fields, their order and the way similar components are listed can be adapted to the users needs.

7.2 Open

If a model is open, the parts list can be opened via the main menu item **View ► Open Parts List**.

Alternatively, the parts list can be opened via the context menu item **Open Parts List** of the model explorer. The context menu item is available for every object except for the project node.



If 2 or more models are opened at the same time, the main menu item **View ► Parts List** will always open the parts list of the model of which an object has been marked in the model explorer.

7.3 Adding and Removing Elements

The parts list represents the components and accessories available in the model. In order to add an element to the parts list or to remove it from there, the element must be added or deleted via the model explorer or the model view. In this connection, see [chapter 5.2 "Set-up of a Model" on page 49](#) and [chapter 5.3 "Modifying the Model" on page 57](#).

7.4 Changing the Item Number

The item number of the elements shown in the parts list cannot be changed via the parts list. The change can only be effected via the properties dialog and only for components - not for accessories. The properties dialog can be opened via the context menu item **Properties** of a component from the model explorer or the model view. For more information, please refer to [chapter 5.5 "Properties Dialog" on page 70](#).

7.5 Naming and Information Text

By default, the parts list contains the name of the model and an empty information text. These two properties can be adjusted to your requirements by editing the fields "Model:" and "Information:" and are output if the list is printed and exported.

7.6 Copying the Parts List to the Clipboard

The parts list with model designation and information text can be copied to the clipboard via the context menu item **Copy** or the shortcut <CTRL>+<C> and is thus available for pasting in other applications, e.g. text processing.



When pasting the list make sure that a font type with fixed character length, e.g. Courier, is selected in order to maintain the structure of the table.

7.7 Exporting Parts Lists

The parts list can be exported via the context menu item **Export** or the main menu item **File ► Export**.

Following export formats are available:

- Microsoft Excel (*.xls)
- Comma Separated Format (*.csv)
- MS DOS Text (*.txt)
- Adobe PDF (*.pdf) (Only exports the default fields of the parts list, also available via the context menu item **Publish as PDF...**)

The file name is pre-assigned with the parts list name.

After you have determined the file name and the file type, the export is initiated using the **Save** button.



If you want to edit the exported file in an external program and afterwards import it again, make sure that the format lines starting with # are not changed as otherwise, an import will not be possible.



If you don't have Microsoft Excel, you can view the *.xls files with the free **Microsoft Excel Viewer** or edit them with the free tool **Calc** of the free office software **OpenOffice**.

7.8 Importing Parts Lists

Via the context menu item **Import** or the main menu item **File ► Import**, you can import parts lists in "*.csv" and "*.txt" format that have been exported earlier or parts lists generated with BRIFO "*.bom".

Via the "File type" selection field, firstly select the desired import format, then search the file and start the import using the pushbutton **Open**.

By the import, a new sheet is generated. All elements of the import file are assigned to this sheet. Components of the library are automatically aligned on the model view. All accessories are assigned to the accessory folder of the new sheet.

If during the import, errors occur, they are notified via information dialogs.

7.9 Print Parts List

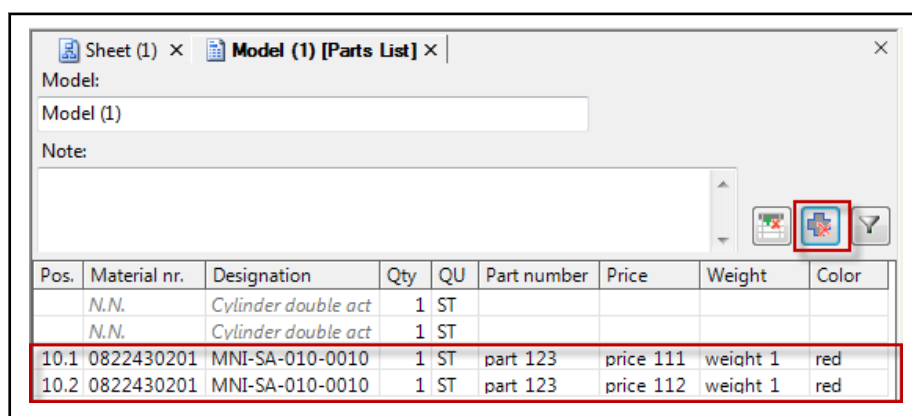
The parts list can be printed via the context menu item **Print** or the main menu item **File ► Print**. After executing the command, the standard print dialog opens from which the print-out is started by means of the **OK** button.

Using the context menu item **Print Preview...** or the main menu item **File ► Print Preview...**, a preview of the print-out is shown. You can also start printing from the page view dialog.

Paper format and margins can be configured in the **Page Setup** dialog, available via the main menu command **File ► Printer Settings....**



7.10 Cumulated Parts List

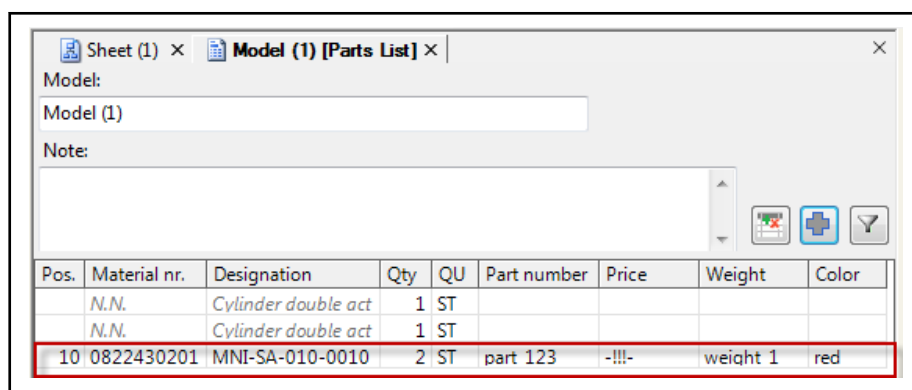
The information displayed in the parts list can be displayed cumulative. When the display is not cumulative, components with the same material number and designation are shown cumulative and not as single entry. In the Quantity column the number of components is totaled. Accessories are not shown cumulative.



Pos.	Material nr.	Designation	Qty	QU	Part number	Price	Weight	Color
	N.N.	Cylinder double act	1	ST				
	N.N.	Cylinder double act	1	ST				
10.1	0822430201	MNI-SA-010-0010	1	ST	part 123	price 111	weight 1	red
10.2	0822430201	MNI-SA-010-0010	1	ST	part 123	price 112	weight 1	red

Fig. 7-2: In normal mode each component is shown as single entry

The cumulative view is displayed pressing the button . The normal view is displayed pressing the button .



Pos.	Material nr.	Designation	Qty	QU	Part number	Price	Weight	Color
	N.N.	Cylinder double act	1	ST				
	N.N.	Cylinder double act	1	ST				
10	0822430201	MNI-SA-010-0010	2	ST	part 123	-!!!-	weight 1	red

Fig. 7-3: In cumulative view mode components with the same material number and designation are shown totaled.

If you change the designation of a cumulative shown component using the properties window, the designation of all components belonging to this cumulative group are changed.

Parts List



In cumulative view mode a column can show the value "-!!!-". This happens if the components have different data for this field, especially if you use user defined fields.

7.11 Filtering Parts List

The visibility of entries in the parts list can be configured and so the parts list can be filtered. Only entries with a checked visible flag in the column "Visible" are shown and exported in the filtered view.

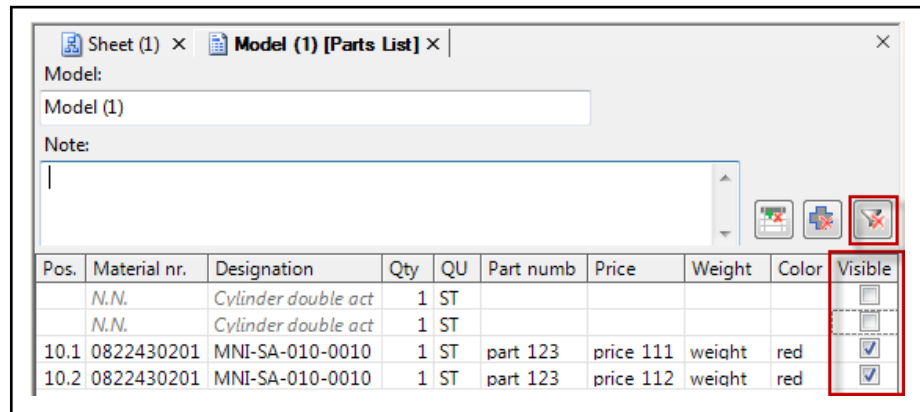


Fig. 7-4: Entries without the checked visible flag will not be shown in the filtered view

The view is filtered clicking the button and not filtered clicking the button .

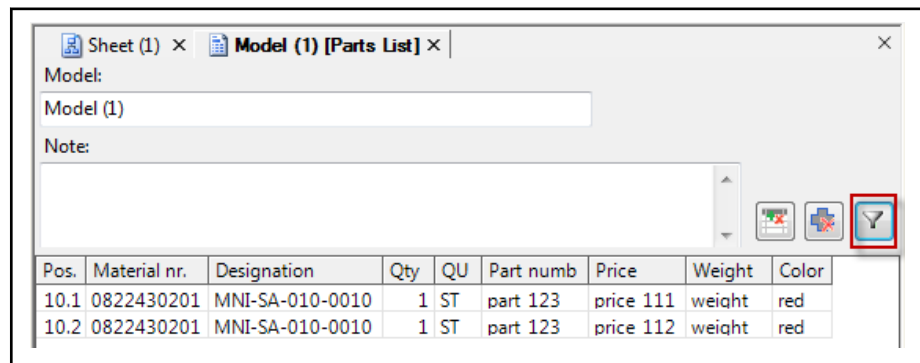


Fig. 7-5: To leave the filtered view click the highlighted button

7.12 Column Configuration

In the **Column Configuration** dialog you can configure the columns and the order of the parts list. The dialog is opened using the context menu command **Column Configuration...** or by clicking the button highlighted in the screenshot below.

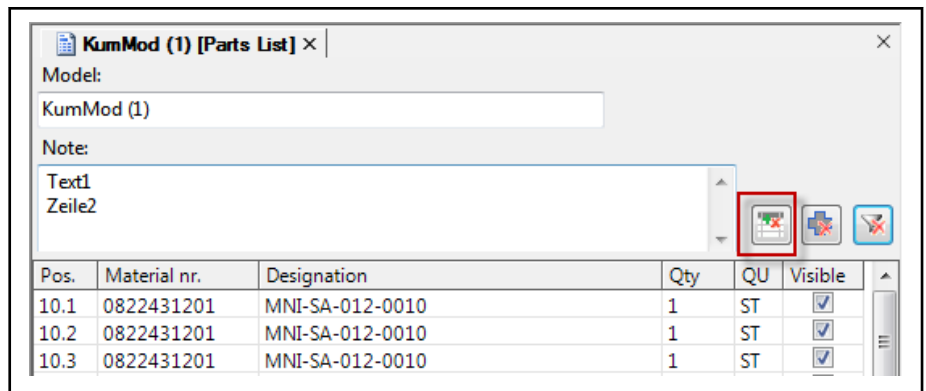


Fig. 7-6: Clicking this button opens the Column Configuration dialog

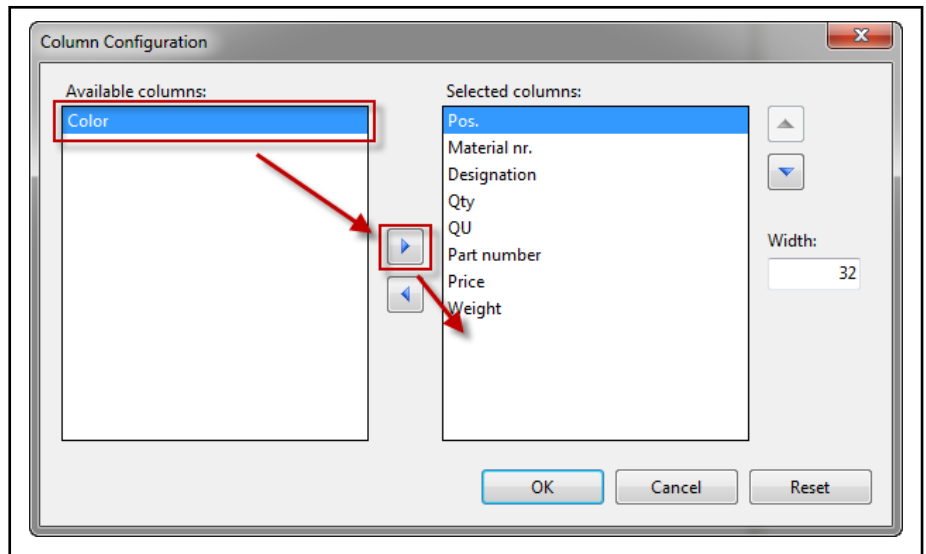




Fig. 7-7: In the **Column Configuration** dialog you can configure the columns and the order of the parts list

The column order can be set by selecting a column and moving it up and down using the buttons  and . The column width can be set in the field "Width:".

By double-clicking an entry, this entry will be moved to the other side. By holding down the <Strg> key and selecting entries, you can bring them to the other side in the order of their selection by pressing the buttons for left and right.



By pressing the button **Reset** button in the Column Configuration dialog, you can reset the column configuration to factory defaults.

8 User Defined Fields

8.1 General

User defined fields are used to store user defined content to a component. They can be named individual and shown in the parts list. So the user can store pricing information, weight or material numbers. User defined fields are saved in the model so other users work with them if you send them the model.

The user can add up to 30 user defined fields. Fields added in the Options dialog will be assigned automatic if you create a new model. Fields added to the model will only be available in this model.

Each model component can have a individual content for the user defined field. If the model is saved or exported and transferred, all fields are available for other users.



User defined field only store text. If you define a field "price" and enter a price, this field will be exported as text. If you want to sum up data from user defined fields, use the excel export of the parts list ([chapter 7.7 "Exporting Parts Lists" on page 88](#)), open the file, format the column as number and sum it up.

8.2 Pre-Assignment for New Models

If the same set of user defined fields shall be added to new models, add this field via the option dialog. The option dialog is opened via the main menu command **Tools ► Options....** Then click on **User Defined Fields** on the left. Now you can edit user defined fields by clicking the grid cells on the right and entering the field designation.

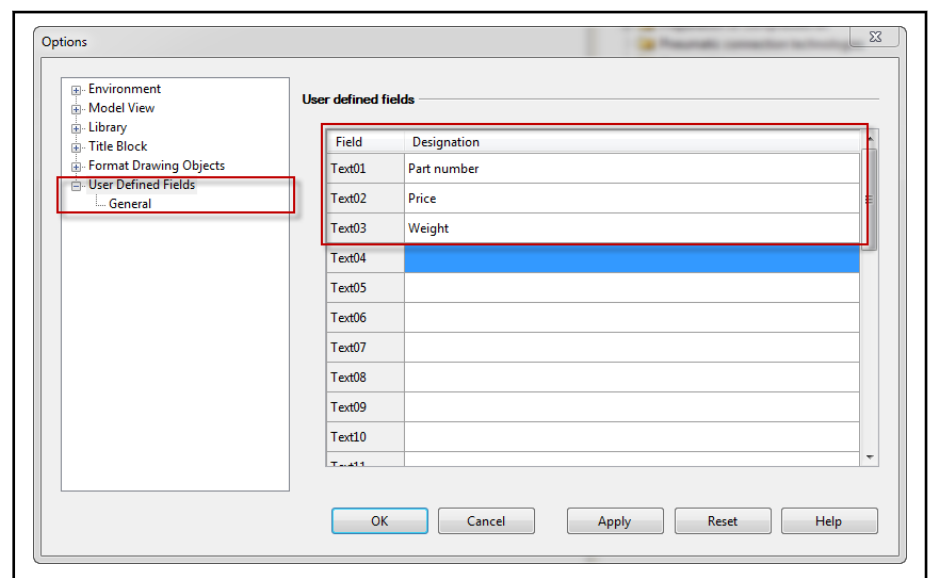


Fig. 8-1: Using the Options dialog user defined fields can be edited that will be assigned to new models.

Leave the dialog by clicking the button **OK**.

User Defined Fields

8.3 Add User Defined Fields

If you want to add a user defined field to a model, use the context menu command **Open User Defined Fields...** available at the model node in the model explorer.

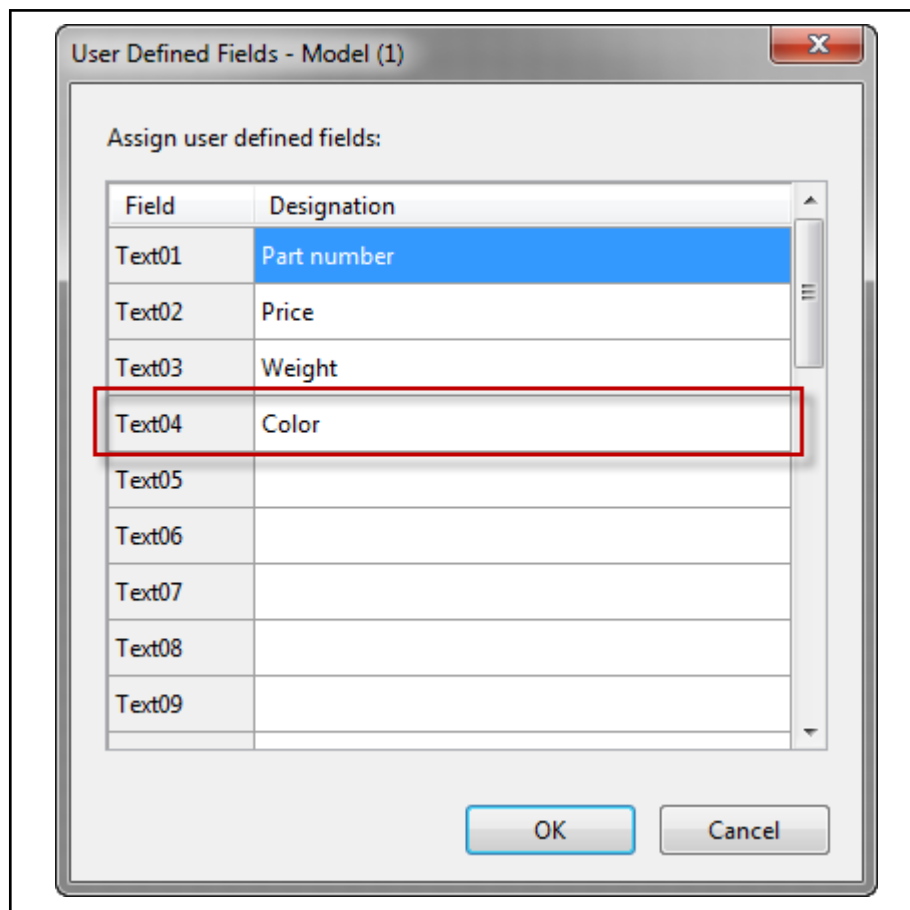


Fig. 8-2: In the User Defined Fields dialog you can add user defined fields that are only valid for this model

You can add user defined fields in this dialog if you have not assigned already 30 fields. This fields will only exist in this model.

8.4 Edit or Remove User Defined Fields

If you want to edit or remove user defined fields from a model, you can do this using the same dialog you used to add user defined fields. Open the dialog using the context menu command **Open User Defined Fields...** available at the model node in the model explorer.

To edit a field, edit the field designation. This change applies immediately to the model if you leave the dialog using the **OK** button. The data stored in the fields will not be changed.

To delete a field, delete the field designation. This change applies immediately to the model if you leave the dialog using the **OK** button. As long as the model is open, the data stored in this fields will not be deleted, but will not be shown anymore. If you assign a new field designation, the data stored in this fields will be shown again. If you save the model, all data stored in user defined fields without a designation will not be saved and if you load this model again, the data is not available anymore.

8.5 Enter Data in User Defined Fields

To enter data in user defined fields, you must select the component in the model view or the model explorer. If the properties dialog is not visible, show him using the component context menu command **Properties** or the main menu command **View ► Properties**.

You will find the area **Fields** in the area **User Data**, marked with number 1 in following screenshot. If you can't see the area Fields, open the area User Data by clicking the small triangle beside User Data.

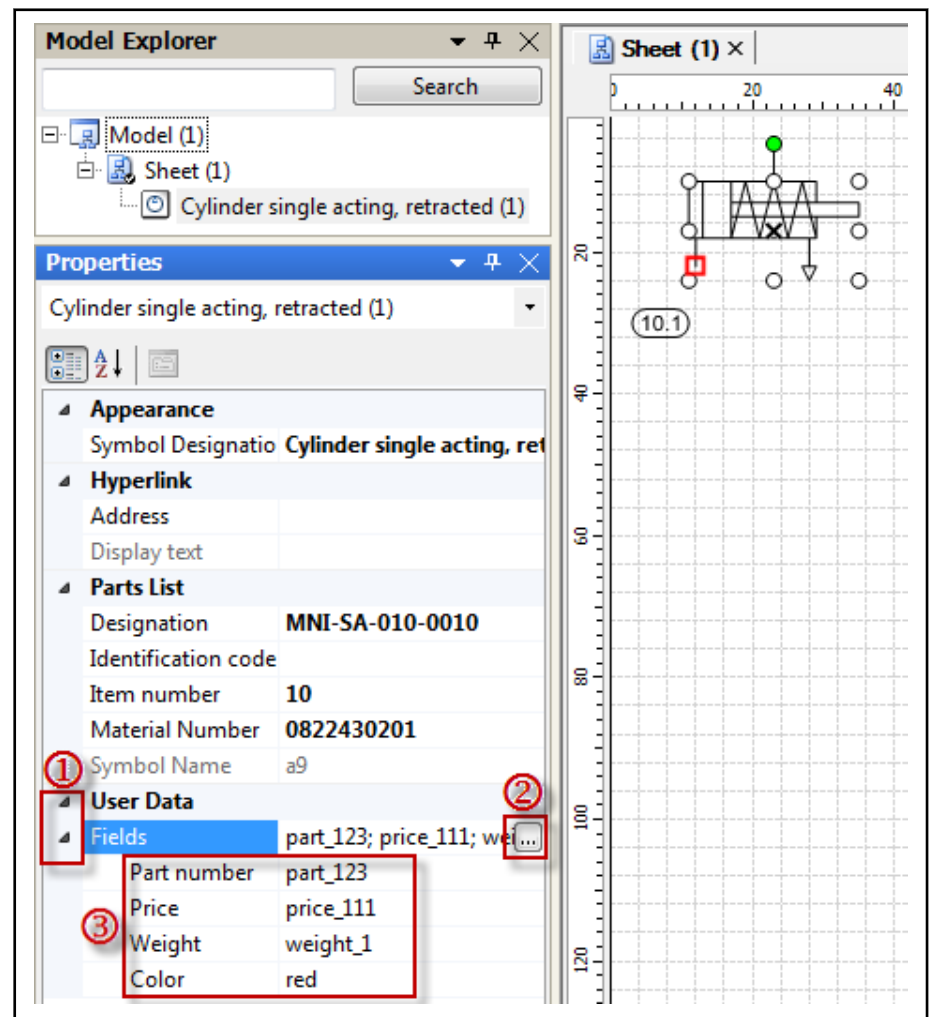


Fig. 8-3: User Defined Fields are filled with data in the Properties Dialog if the component is selected

If you click the field **Fields** once, the small button ... appears at the end of the field, marked with the number 2 in the screenshot above. If you click this button a dialog opens where you can edit data to the user defined fields.

If you have opened the area **Fields**, all user defined fields and their content will be display below. Now you can edit the user defined field data by clicking the user defined field and entering data. Changes are applied if you press <Enter> and discarded if you press <Esc>.

8.6 Parts List

Data stored in the user defined fields can be displayed in the parts list and can be exported there.

User Defined Fields

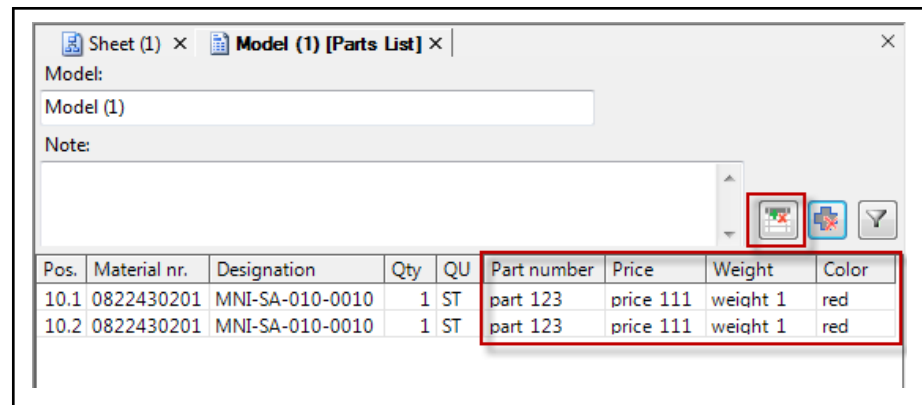


Fig. 8-4: Die Daten der benutzerdefinierten Felder stehen der Stückliste zur Verfügung und können dort angezeigt und exportiert werden.

If the user defined fields are not shown, you can configure the displayed columns by clicking the configuration button highlighted in the screenshot above. For more informations regarding column configuration refer to [chapter 7.12 "Column Configuration" on page 90](#), for details regarding the parts list to [chapter 7 "Parts List" on page 87](#).

9 Accessory Handling

9.1 General

Via the library component accessory, any number of accessories - e.g. screws, screw connections, nameplates, base plates, etc. - can be added to a model, sheet or component. The accessories are listed in the parts list and in the model explorer, however not shown in the model view.

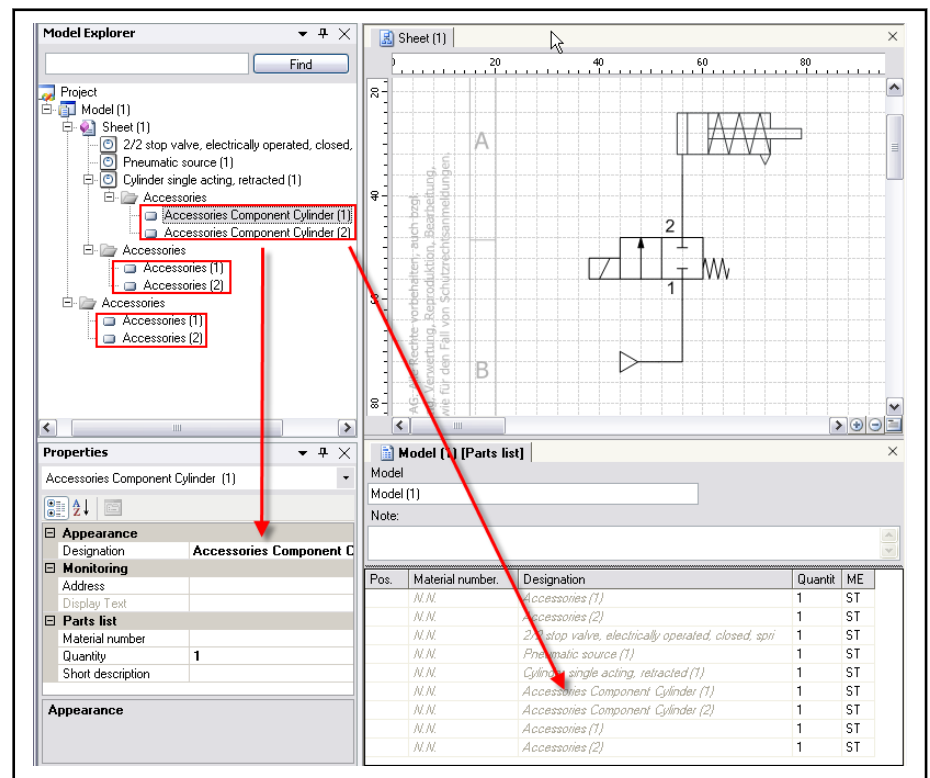


Fig. 9-1: Accessories can be assigned to the model, the sheet or the component. They are listed in the parts list and in the model explorer, however not shown in the model view.

If a component or sheet is removed, all related accessories will be removed, as well.

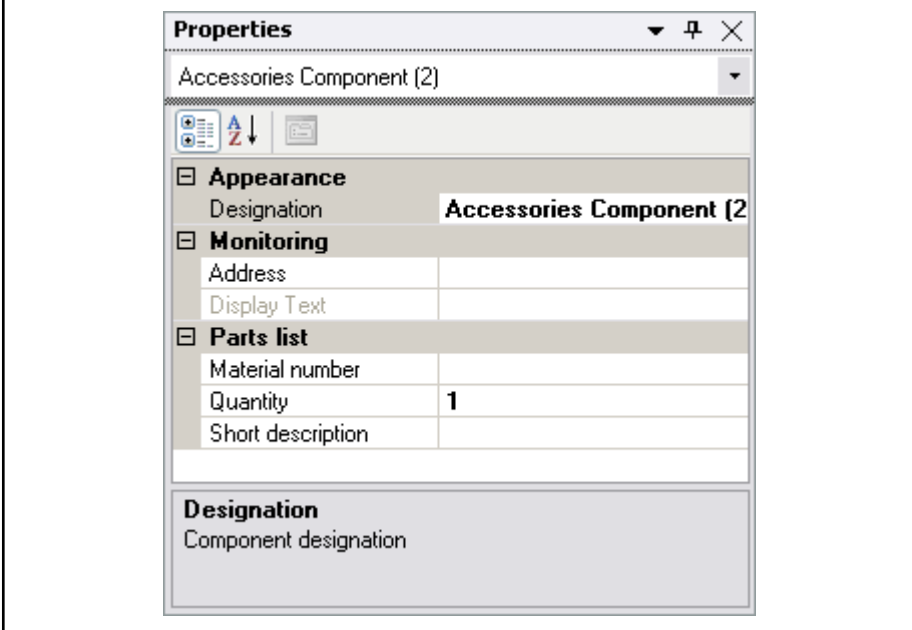
9.2 Adding Accessories

The accessory is added from the library by means of Drag&Drop. The accessory can be added at the following points:

- Model view:
 - Component
 - Sheet
- Model explorer:
 - Component
 - Sheet
 - Model

9.3 Configuring Accessories

Any accessory can be configured via the properties dialog. In this way, name, material number, short text and quantity of the accessory can be determined. For this purpose, the accessory must be selected via the model explorer or the selection list of the properties dialog. If the properties dialog is not opened, yet, it can be opened via the **Properties** context menu item of the accessory.



The screenshot shows a 'Properties' dialog box with a title bar containing a dropdown arrow, a pin icon, and a close button. The main content area is divided into several sections:

- Accessories Component (2)**: A dropdown menu at the top.
- Appearance**: A section with a 'Designation' field containing the text 'Accessories Component (2)'.
- Monitoring**: A section with 'Address' and 'Display Text' fields.
- Parts list**: A section with 'Material number', 'Quantity' (set to '1'), and 'Short description' fields.
- Designation**: A section with a 'Component designation' field.

Fig. 9-2: The accessory is configured via the properties dialog.

For more information on the properties dialog, please refer to [chapter 5.5 "Properties Dialog"](#) on page 70.

9.4 Searching Accessories

Configuration of the accessories - particularly the correct determination of the material number - can be simplified by means of the accessory search. The accessory search searches the supplied list of accessories for material number or designation. The search result can be accepted as new configuration of the accessory and further processed.

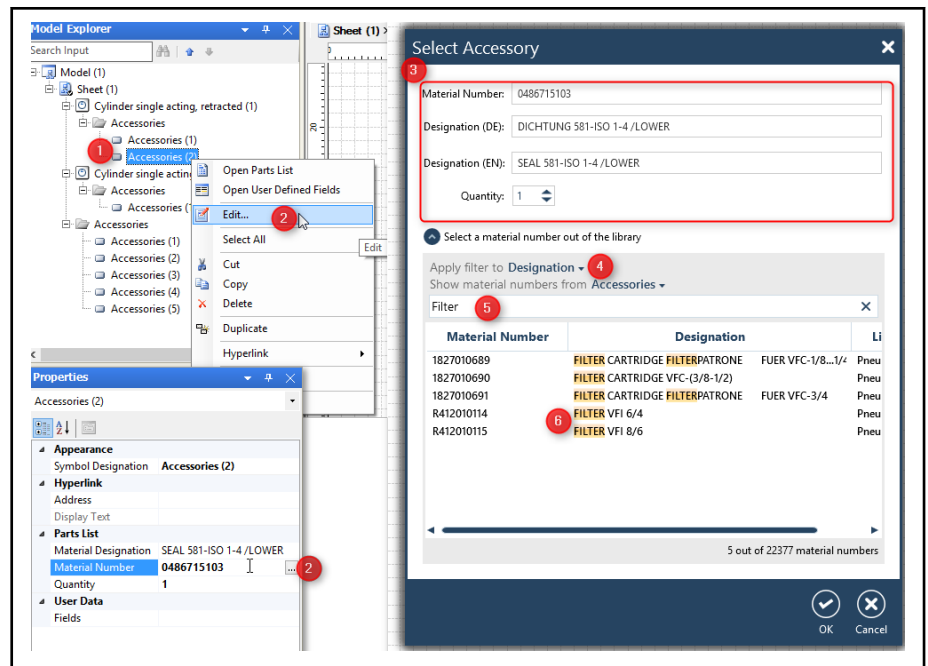


Fig. 9-3: Search for accessory

1. Select component
2. In Properties toolwindow, click into field "Material Designation" or "Material Number" and on button Or use the **Edit...** context menu entry of the component.
3. You can either edit material number, designation and quantity in area 3 or ...
4. You can search for a new accessory. First select the search criteria
5. Enter the search term
6. Select a search result and edit designation and quantity in area 3. Click on **OK**.

Click on **Cancel** to cancel the operation.



The accessory search dialog can also be opened via the context menu item **Edit** of the accessory in the model explorer.

9.5 Presentation of the Accessory in the Parts List

In order to show the accessories in the parts list, no interaction on the part of the user is necessary. Like normal components, the accessories are automatically shown in the parts list. In contrast to components, accessories are not automatically shown as summation in order to ensure assign ability to the corresponding components, sheets and models. Components are only summed up if they have the same accessories.

Display of the accessories in case of components:

In the list view, these accessories are shown directly under the component to which they have been added. The accessories are, however, not assigned an item number.

Display of the accessories in case of sheets:

The accessories of all sheets of a model are listed in the list view at the end of the list without item number and assignment to the sheet.

Accessory Handling

Display of the accessories of the model:
These accessories are shown at the beginning of the list without item number.

Pos.	Material number.	Designation	Quantit	ME
	N.N.	Accessories (1)	1	ST
	N.N.	Accessories (2)	1	ST
	N.N.	2/2 stop valve, electrically operated, closed, spri	1	ST
	N.N.	Pneumatic source (1)	1	ST
	N.N.	Cylinder single acting, retracted (1)	1	ST
	N.N.	Accessories (1)	1	ST
	N.N.	Accessories (2)	1	ST
	N.N.	Accessories (1)	1	ST
	N.N.	Accessories (2)	1	ST

Fig. 9-4: Presentation of the accessory in the parts list

9.6 Exporting and Importing Accessories

Accessories cannot be exported or imported separately. If, however, a component, a sheet or a model is exported, all related accessories will be exported, as well. In a subsequent import, the accessories will be imported, as well.

9.7 Deleting Accessories

Accessories can be deleted separately via the model explorer. For this purpose, mark the accessory to be deleted and press the key or select the **Delete** context menu item of the accessory and confirm the following confirmation prompt with **OK**.
If a component, a sheet or the whole model is deleted, all subordinate accessories will be automatically deleted, as well.

10 Option Dialog

10.1 General

In the option dialog, certain program options can be set. These include the user interface language, the layout of the different areas of the application, the behavior of models and the formatting pre-settings for drawing objects.

You can select the individual areas via the tree view on the left side. Using the button **Accept** the settings of the selected area are saved and applied. Via **Reset** the settings for the selected area are reset to works settings. If the button **Cancel** is pressed, all changes that have not been accepted, yet, will be rejected and the dialog will be closed. **OK** saves all changes and closes the dialog.

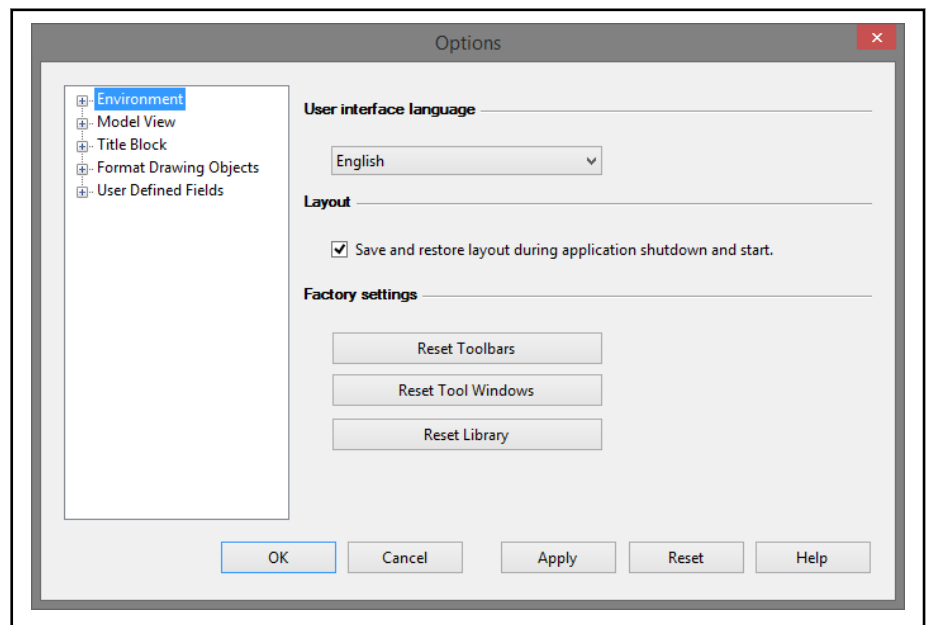


Fig. 10-1: Settings for language, formats and im- and exports are done in the options dialog

Option Dialog

10.2 Environment/General Area

Fig. 10-2: Area Environment/General

Following settings can be made in this area:

- User interface language - changes need a application restart
- Save and restore layout during application shutdown and start - saves and restores window and tool window size and layout
- Reset Toolbars - resets toolbar layout to factory settings
- Reset Tool Windows - resets tool windows to factory settings
- Reset Library - resets Symbol Library to factory settings. **Attention - this will delete all Libraries that are not shipped and installed together with Scheme Editor setup**

10.3 Model View Area

10.3.1 General/Sheet Format

Fig. 10-3: Area General/Sheet format

Sheet formats are managed in the area general. The selected sheet format in the field sheet format is used as default paper format for new sheets.

Defining a new sheet format:

- click button **Manage Sheet Formats...**
- click button **New...**
- enter a designation and the width and height in mm for the new sheet format. Confirm inputs clicking the button **OK**
- You have defined a new sheet format. Leave the dialog by clicking **OK**

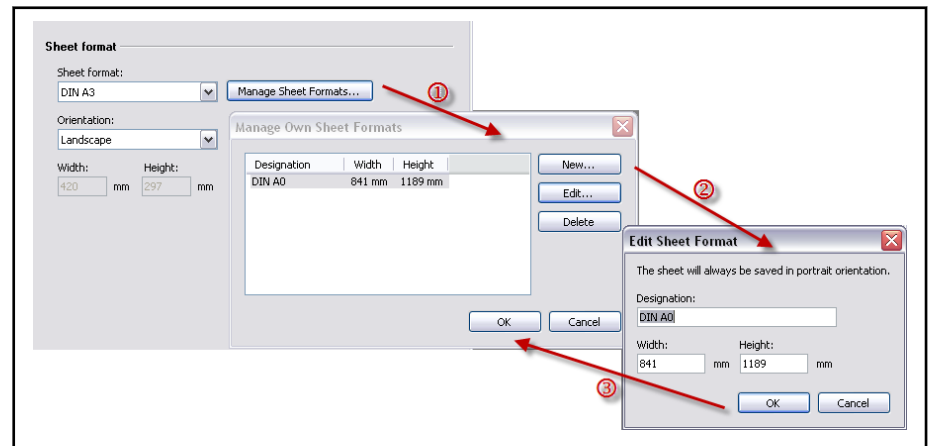


Fig. 10-4: Defining a new sheet format

To determine what sheet format is used for a sheet, double-click the sheet in the model explorer so it is opened and selected. In main menu, select command **File ► Setup Sheet...** Now the dialog Setup Sheet opens where you can see and set the sheet format.



If you transfer a model with an own user defined sheet format to another user, the sheet height and width is stored in the model, the sheet name is not stored in the model and will be displayed as user defined.

10.3.2 DWG/DXF Import Area

In the DWG import area, settings can be made that are considered when importing DWG files to the model view.

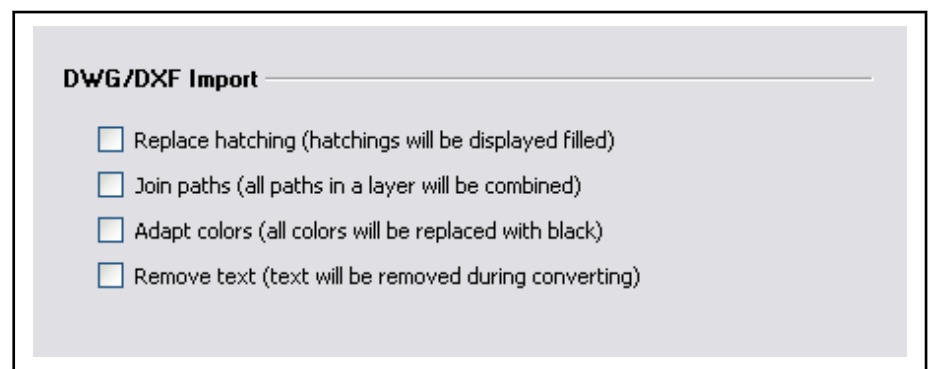


Fig. 10-5: DWG/DXF Import

10.3.3 DWG/DXF Export Area

In the DWG/DXF export area, settings can be made that are considered when exporting DWG/DXF files.

Option Dialog

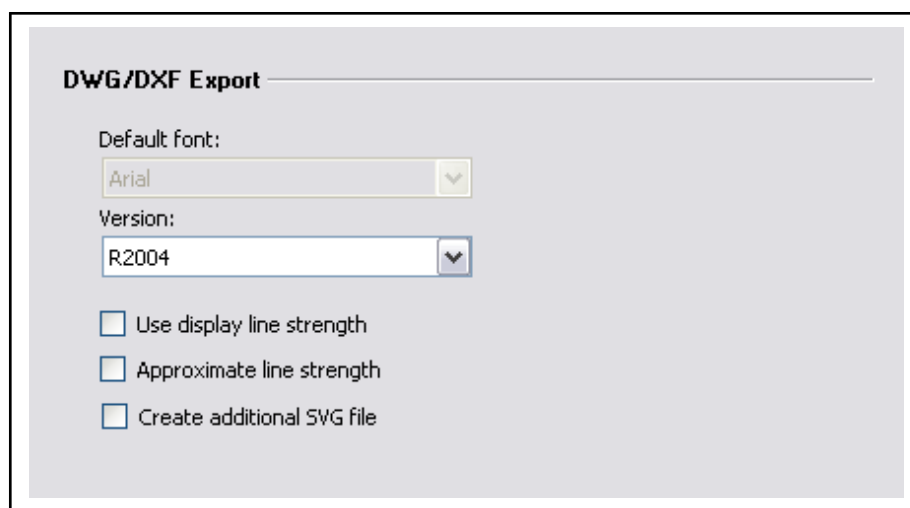


Fig. 10-6: DWG/DXF Export

10.3.4 Line Types

If a line type is assigned to a connection line, all line type format settings are transferred to the connection line.

You can create, edit and delete line types in the line types dialog and you can define the format settings for standard connection lines.

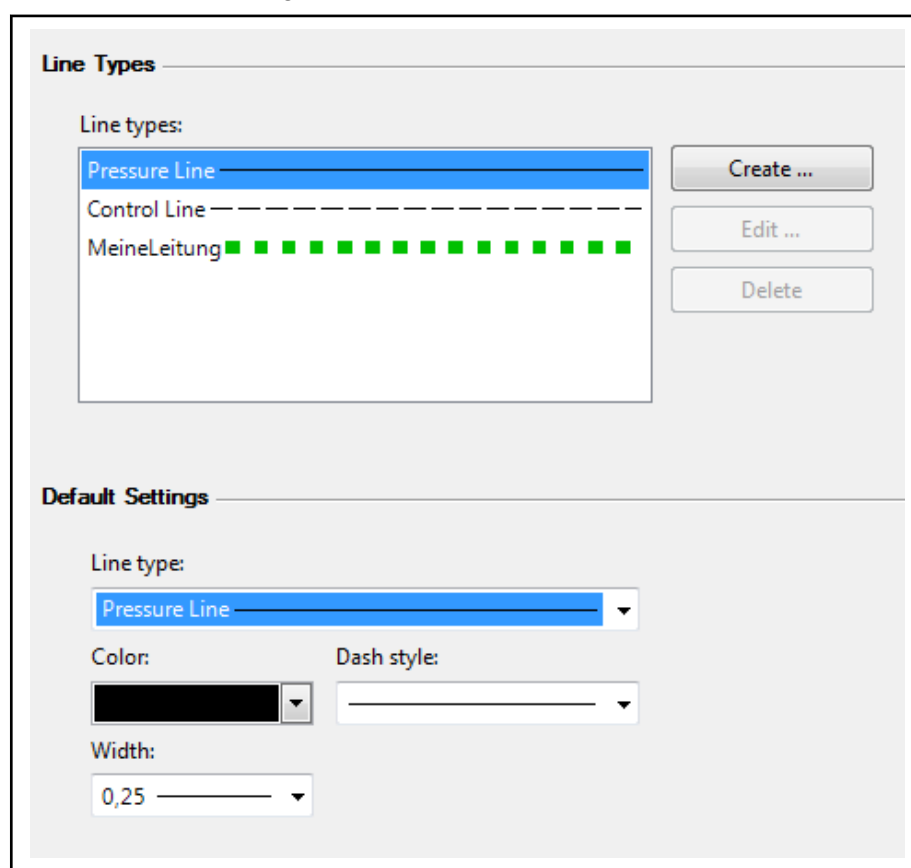


Fig. 10-7: Line types options

Click the **Create...** button to create a new line type. Enter a new name for the line type and choose color, dash style and width and control the format settings in the preview windows. The line type is created if you click the **OK** button.

The format settings for a new connection line are defined in the **Default Settings** area of the dialog. First choose a line type to get basic format settings and then change color, dash style and width to your needs - the original line type is not changed by this settings.

10.4 Title Block Area

It is determined via the "Automatically assign a title block template to a new sheet" checkbox that a newly created sheet is automatically assigned a title block template.

Each sheet size and orientation can be assigned an own title block template. The assignment is performed via the "Link title block template" dialog that is called via the **Add...** button.

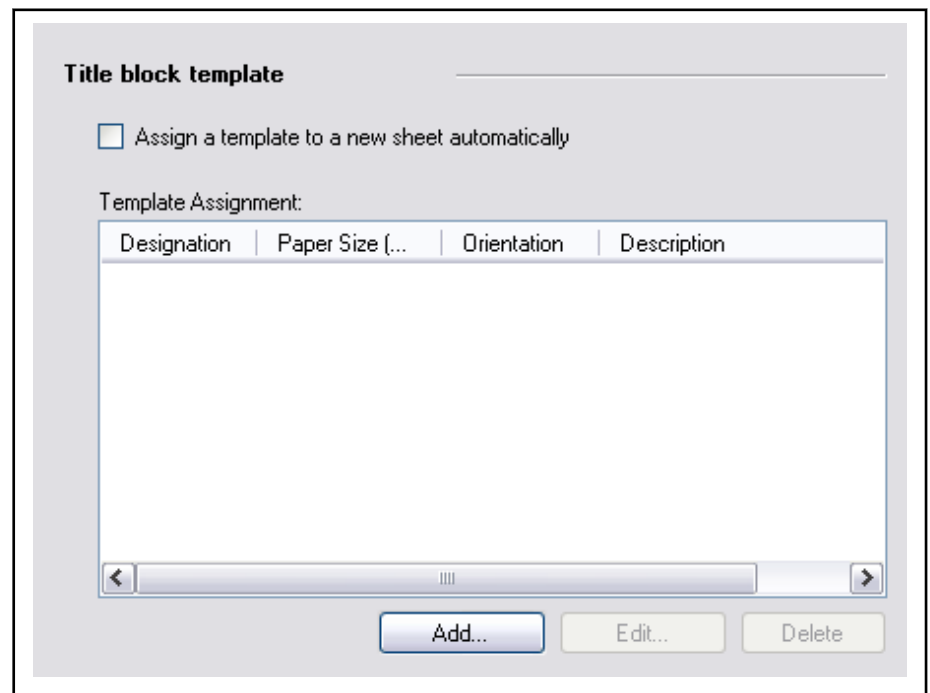


Fig. 10-8: Automatic assignment of a title block template for a new sheet

The dialog allows for the search for existing title block templates using the properties "description", "width" and "height" as well as "orientation".

By selecting the description user-defined, you can specify user-defined parameters in the fields width and height.

The list of the title block templates shows all hits. By means of the "Presentation" selection box, you can change between a list view with details or a symbol view with title block preview.

Option Dialog

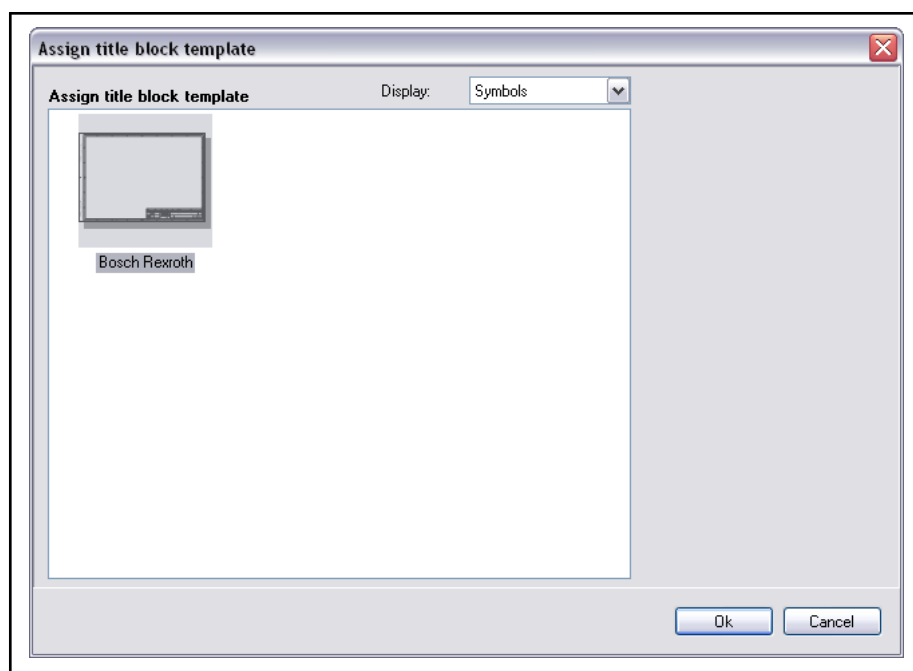


Fig. 10-9: Linking title block templates

Select the desired title block template and confirm the dialog with **OK** in order to complete the assignment.



For more information regarding the title block topic please refer to [chapter 6 "Title Block" on page 83](#).

10.5 Option Dialog

In the formatting area, the pre-setting of the drawing objects can be made::

- Color
- Width
- Dash style
- Filling Color (not available for lines)

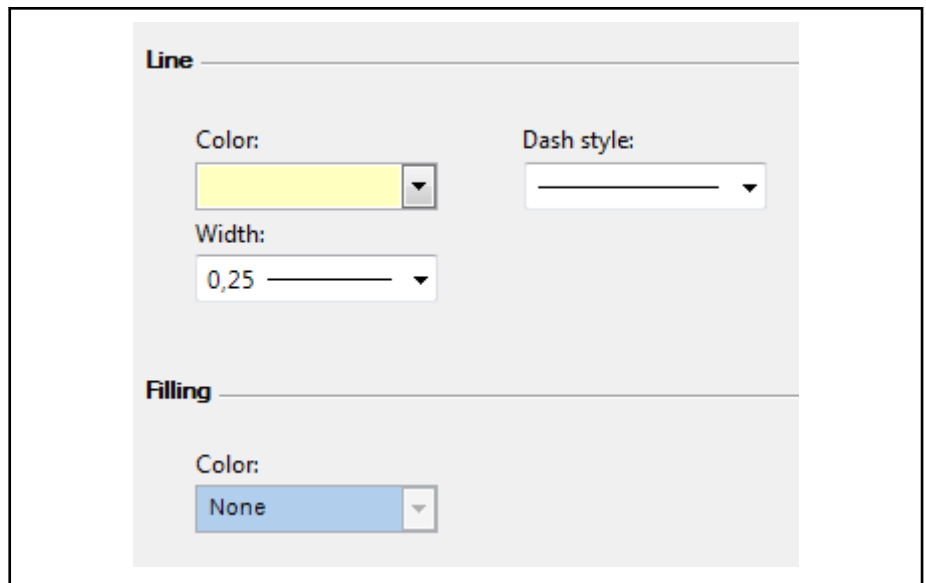


Fig. 10-10: Formatting settings for line, polyline, polygon, rectangle and ellipse

For the drawing objects free text and text field, there are the following, additional setting possibilities:

- Font
- Font color
- Font style
- Font size
- Orientation
- Color, dash style and width of the border line
- Fill color of the border line area

Option Dialog

The dialog is divided into three sections: Font, Line, and Filling.

Font

- Font color: [Color selection box]
- Font: [Arial] (dropdown)
- Font size: [10] (dropdown)
- Font style: [B] [I] [U] [ABC] (checkboxes)
- Orientation: [Horizontal] [Vertical] [Vertical (rotated)] (radio buttons)

Line

- Color: [None] (dropdown)
- Width: [0,25] (dropdown)
- Dash style: [Solid] (dropdown)

Filling

- Color: [None] (dropdown)

Fig. 10-11: Formatting settings for text field and free text

10.6 User Defined Fields Area

The option dialog for user defined fields allows the definition of user defined fields that will be assigned to new fields. For further informations see [chapter 8 "User Defined Fields"](#) on page 93.

The dialog has a left sidebar with a tree view containing: Environment, Model View, Library, Title Block, Format Drawing Objects, User Defined Fields (selected), and General. The main area is titled "User defined fields" and contains a table with 11 rows. The first three rows are pre-filled with data, and the rest are empty. At the bottom are buttons for OK, Cancel, Apply, Reset, and Help.

Field	Designation
Text01	Part number
Text02	Price
Text03	Weight
Text04	
Text05	
Text06	
Text07	
Text08	
Text09	
Text10	
Text11	

Fig. 10-12: The option dialog for user defined fields allows the definition of user defined fields that will be assigned to new fields

11 Information Dialog

11.1 General

The information dialog can be called via the main menu item **Help ► About Scheme Editor**.

In the upper area of the dialog, the **product version** as well as the version of the technical components is shown.

Using the button **System Information** will open the dialog with system information which is helpful in case you contact our support.

Clicking the link **Open Source Software** will open a dialog showing all open source components used in the Scheme Editor.

If you need further information or want to contact our support, click on the mail link.

The lower area contains the **copyright information**.



Fig. 11-1: The information dialog shows version number, contact addresses and the copyright information

11.2 System Information

The **System information** buttons opens the system information dialog showing detailed information about the system and the application. In case of problems with the application, it serves problem reporting purposes. After clicking on the button, extensive system information is first of all gathered - a

Information Dialog

progress bar provides information on the progress. In the dialog, the system information can be pasted in a new e-mail by means of the **Send e-mail...** button; this e-mail can be processed individually and afterwards sent to the support for problem solution.

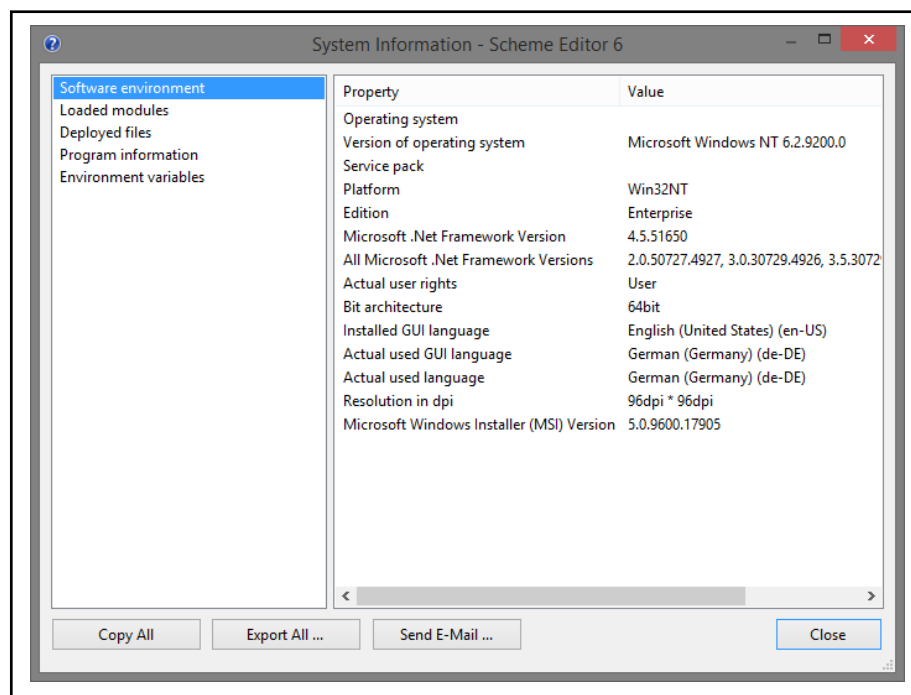


Fig. 11-2: The system information dialog gathers any and all relevant system information required for the problem solution.

The **Copy all** button copies the whole information to the clipboard, the **Export all...** button allows for the export of the system information to a file.

12 Symbol Modeling Tool

12.1 General

The Symbol Modeling Tool is installed together with the Scheme Editor. It is used to edit and create symbols for the Scheme Editor.

Symbols can be exported from Scheme Editor and opened and edited with the Symbol Modeling Tool. After that the symbols can be imported into the Scheme Editor.

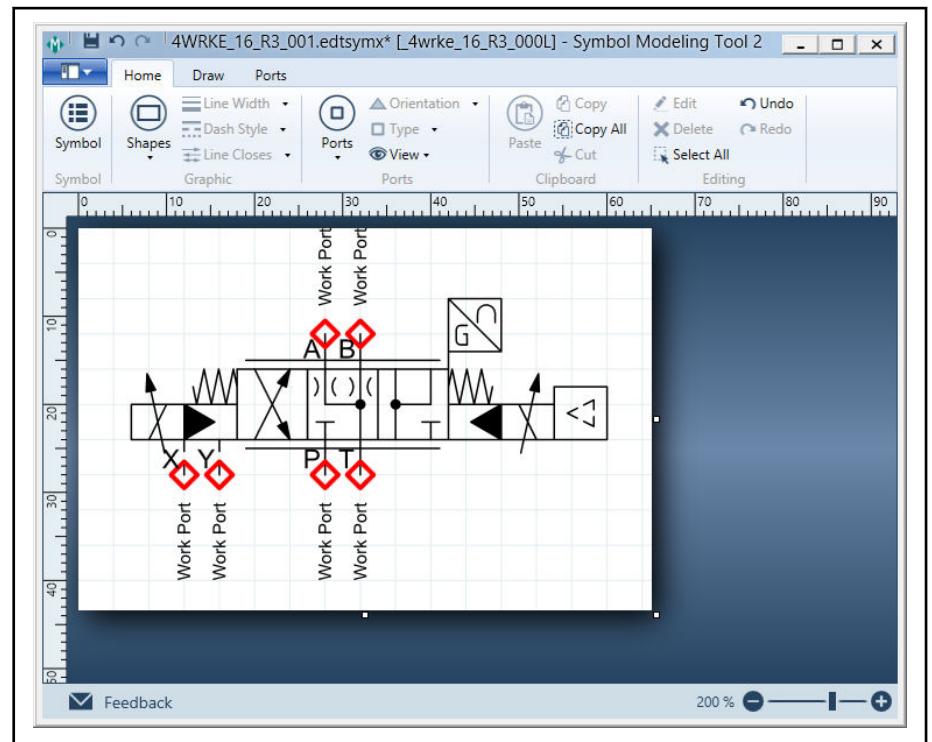


Fig. 12-1: The Symbol Modeling Tool is used to create and edit symbols for the Scheme Editor

The Symbol Modeling Tool supports DWG, DXF and SVG import. This enables you to quickly convert existing drawings in Scheme Editor symbols.

12.2 Create New Symbol

To create a new symbol, just start the Symbol Modeling Tool or click on the left button in the main menu and select **New**.

Draw your new symbol using the existing drawing elements and formatting options. You find all this in the **Draw** ribbon.

Symbol Modeling Tool

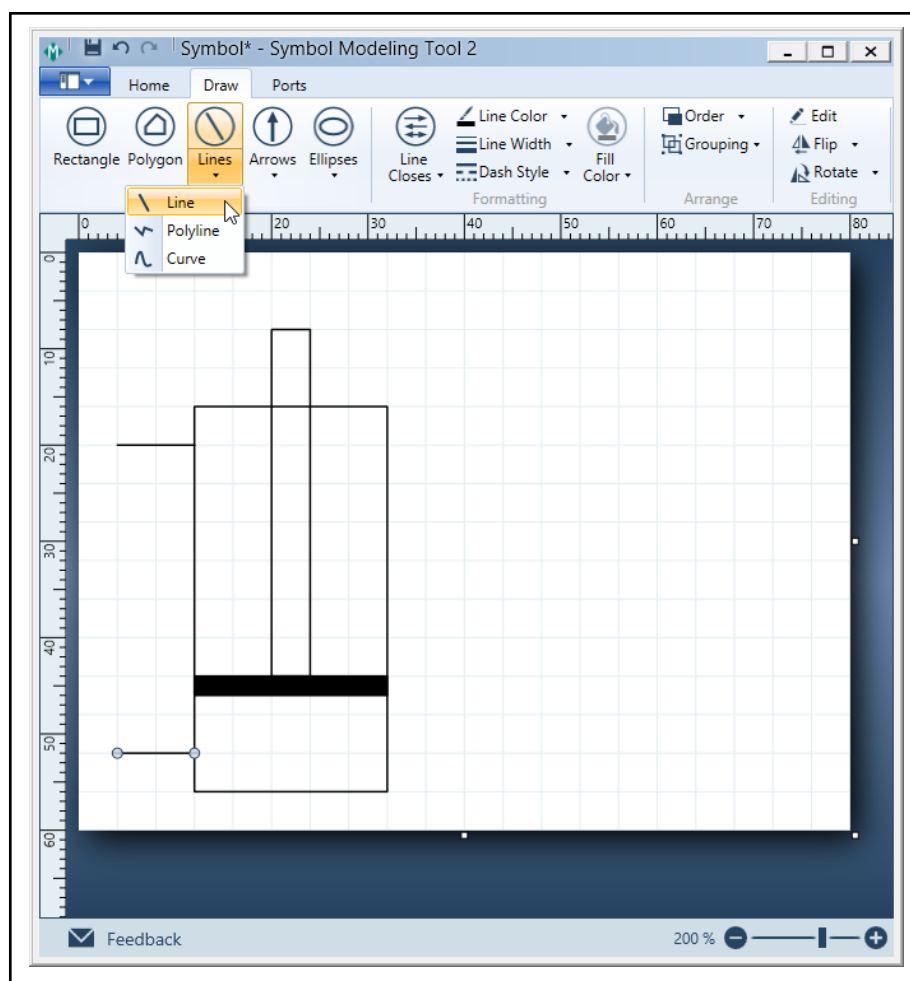


Fig. 12-2: New symbols can be drawn with the Symbol Modeling Tool

After that add the connection ports and edit their designation and orientation using the ribbon **Ports**.

Select the proper connection port and place it at the symbol. Pay attention that the connection ports lay on the grid to avoid bucklings in the connection line.

The port orientation defines the direction of the port designation and the direction of the connection line in Scheme Editor.

The port index designation and position can be also edited.

Symbol Modeling Tool

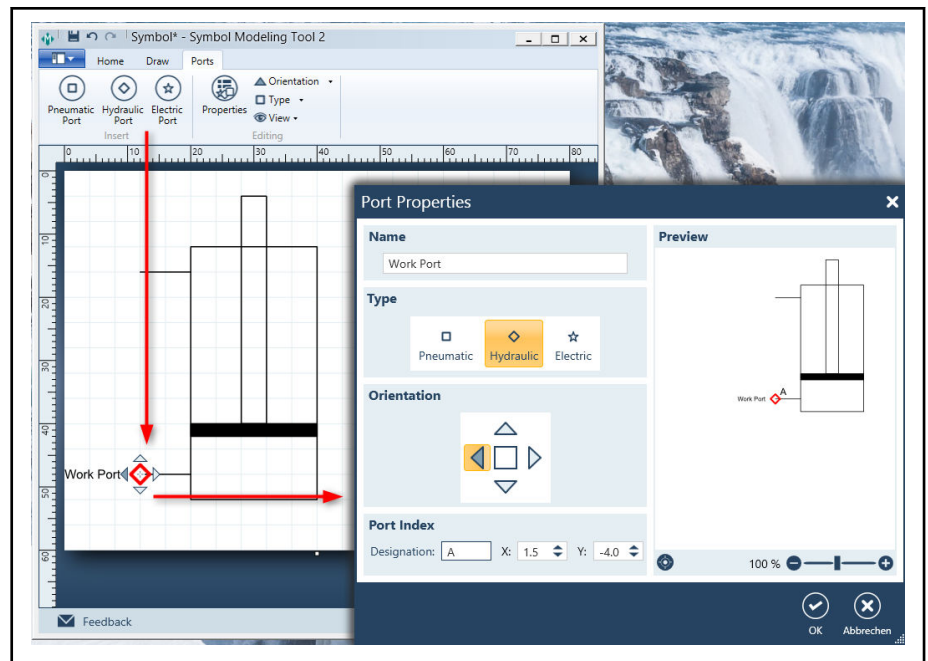


Fig. 12-3: Connection Ports are defined using the ribbon **Ports**

Before you save the symbol, you must define the symbol properties:

- Symbol designation for DE and EN - search criteria and display name in the library
- Symbol name - technical name / ID of the symbol, search criteria
- Material number - edit material numbers using additional dialog, select default material number if you want that this number is used every time you Drag & Drop this symbol to your model

Identification code

Hyperlink

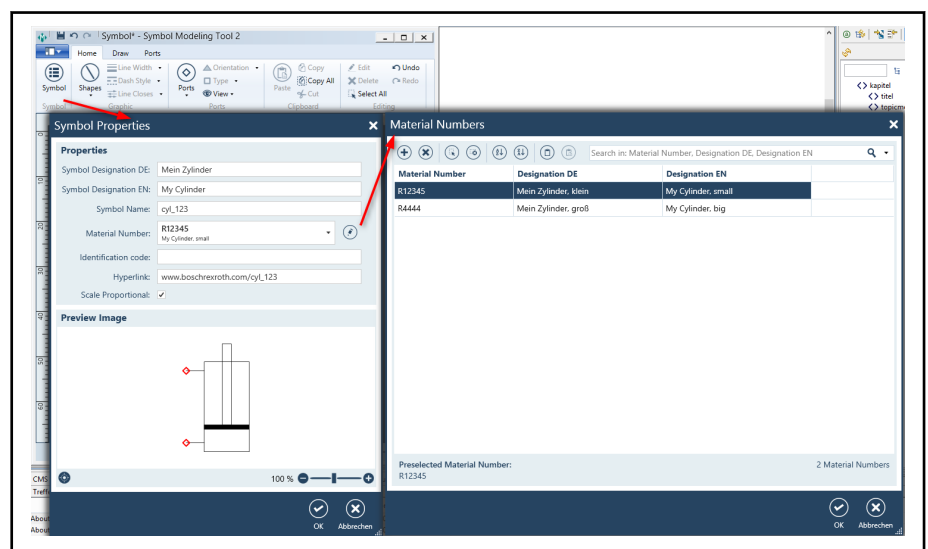


Fig. 12-4: Edit symbol properties and material numbers

After that you can save your symbol and import it in Scheme Editor.

12.3 Import DWG, DXF and SVG

A symbol can also be generated by importing an existing drawing in DWG, DXF or SVG format.

To import an existing drawing, use the main menu command **File ► Import** and select the desired file format

The drawing will be imported and selected. Now set the line width for all elements to **0,2**.

In the next step you need to scale the object using its drawing points so that the connection will fit on the grid. You can fine tune the position using **<Ctrl> + <Arrow Keys>**. Use the view zooming function to check the exact position.

Symbol Modeling Tool

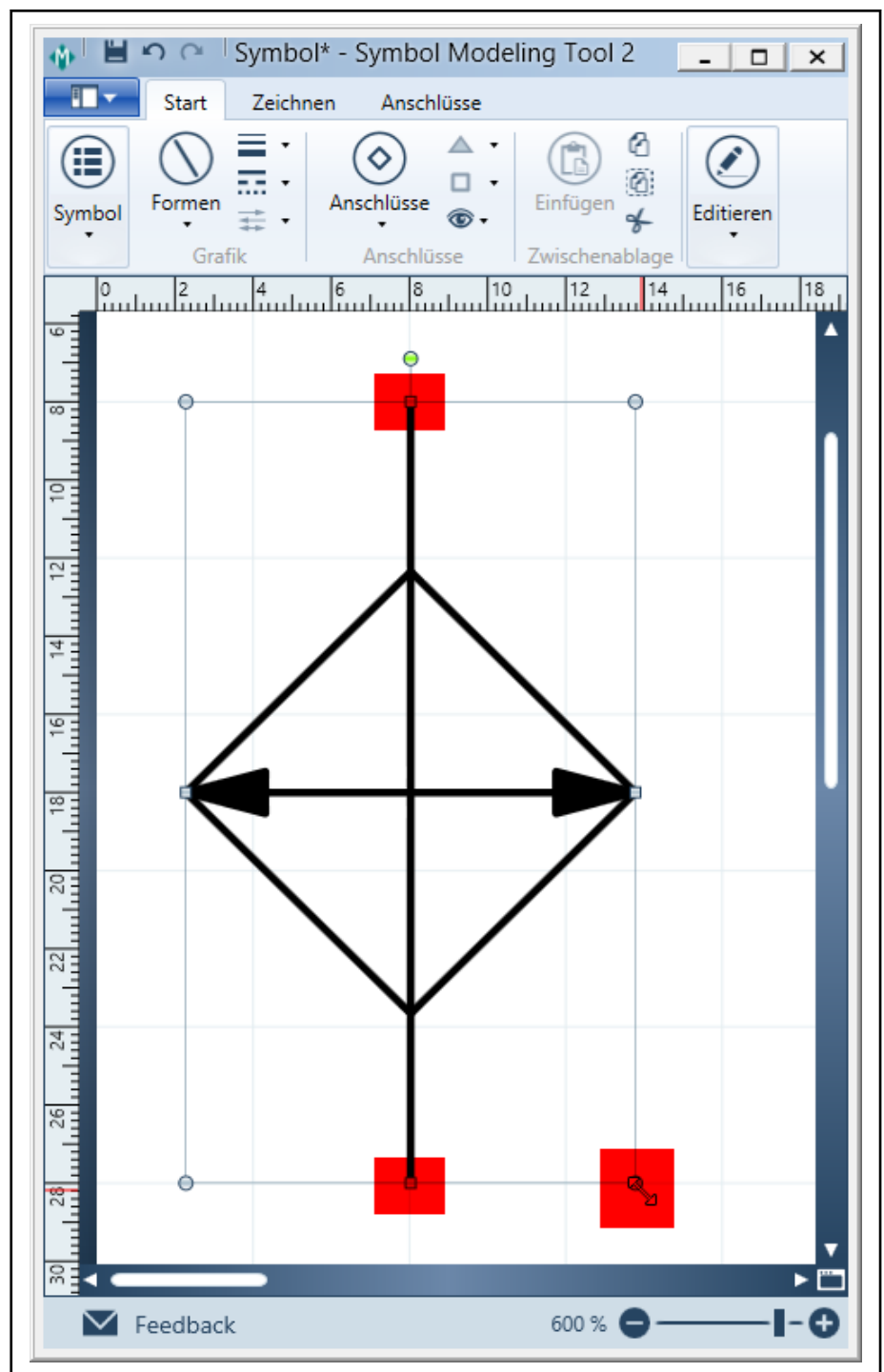


Fig. 12-5: Scale and place the drawing so the connection points will fit to the grid

Now add the ports and edit the symbol properties before you save the symbol and import it in Scheme Editor.

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Notes

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