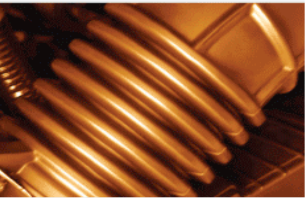


MEDUSA⁴

VERSION 5.1

Parts Library

GUIDE



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Fritz-Peters-Str. 26 - 30
D - 47447 Moers

Germany

CAD Schroer GmbH
Fritz-Peters-Str. 26-30
47447 Moers

Tel. +49 2841 91 84 - 0
Fax +49 2841 91 84 - 44
e-mail: info@cad-schroer.de
www.cad-schroer.de

France

CAD Schroer France SAS
17, Rue du Docteur Lebel
94300 Vincennes

Tel. +33 1 41 94 51 40
Fax +33 1 43 77 17 68
e-mail: info@cad-schroer.fr
www.cad-schroer.fr

Switzerland

CAD Schroer AG
Bettlistr. 35
8600 Dübendorf

Tel. +41 44 802 89 - 80
Fax +41 44 802 89 - 88
e-mail: info@cad-schroer.ch
www.cad-schroer.ch

United Kingdom

CAD Schroer UK Ltd
2nd Floor, Godwin House
Castle Park
Cambridge, CB3 0RA

Tel. +44 1223 460 408
Fax +44 1223 460 409
e-mail: info@cad-schroer.co.uk
www.cad-schroer.co.uk

USA

CAD Schroer US, Inc.
34 Rand Place
Pittsford, NY 14534

Tel: +1 866-SCHROER (866-724-7637)
Fax: +1 866-724-1701
e-mail: info@cad-schroer.com
www.cad-schroer.com

TABLE OF CONTENTS

General Information	5
Activation of the Standard Parts Packages	5
Flexible License - Activation of user-defined Standards Packages	6
Operating	7
Activate Parts Library	8
Dialog	9
Buttons	10
Settings	11
Catalogue and Part Selection	12
Part Definition.	13
Part as Design Object	15
Searching for Parts	16
Put a Part into Drawing	17
Replace a Part in Drawing	20
Explode Part.	21
User Attributes	23

GENERAL INFORMATION

The parts library of MEDUSA is available in different packages. A package of 50 parts is included in each MEDUSA ADVANCED license. MEDParts is also available in packages of 100, 125, 150, 200 or 250 DIN/EN/ISO standard parts. Furthermore packages of 75, 100, 125 or 150 parts with user-defined content (flexible package/license) are available.

Activation of the Standard Parts Packages

For activating certain parts in your installation, you have to create the file *uservars.bat* in your user project or in the directory *master_project* before starting MEDUSA. In this file the following variable has to be defined:

```
set MEDPARTS_DEFAULT_LICENSE=<package>i<part>i...i<part>
```

<package>

is an integer value defining the parts library package. Available package numbers are 50, 100, 125, 150, 200 and 250.

<part>

are special standard parts which are not included in any package. At this time the following entries are possible: *din2510*, *en10241* and *en10242*.

Packages and parts are separated by a semicolon. Example:

```
set MEDPARTS_DEFAULT_LICENSE=250;din2510;en10241
```

For using the parts of the packages and the special standard parts, besides the definition in the *uservars.bat* you need certain entries in the license key file, one entry for activating the parts library generally, one entry for the package and one entry for each special standard parts definition. For the example above the license file has to contain the following entries:

```
feature med2d_parts ...
feature med2d_parts_250 ...
feature med2d_parts_din2510 ...
feature med2d_parts_en10241 ...
--(The dots ... represent further license specific entries)
```

Flexible License - Activation of user-defined Standards Packages

The mechanism for flexible license in MEDParts allows each customer to assemble user-defined packages of standards. The count of parts will be defined in the keyfile. Following key features are available:

```
med2d_parts_flex_75  
med2d_parts_flex_100  
med2d_parts_flex_125  
med2d_parts_flex_150
```

MEDParts FLEX is activated with the following environment variable (e.g. in the *uservars.bat*):

```
set medparts_default_license=flex_100
```

In this example the license `med2d_parts_flex_100` is obtained. For the other possible licenses (75, 125, 150) replace the number at the end appropriately.

Please note: If the license `med2d_parts_flex_xxx` cannot be obtained, the use of MEDParts will be prevented.

If the environment variable `MEDPARTS_DEFAULT_LICENSE` is not set or the keyfile contains information for the old MEDParts license mechanism, the old mechanism grips.

Besides the keyfile a data file *medpartsflex.dat* is necessary, which contains the information about customer ID, license version, number of parts and activated parts.

You receive the file *medpartsflex.dat* together with your keyfile. Please copy these files into the directory *med\license* in your user project or into the directory *med\license* of any MEDUSA product. The location of *medpartsflex.dat* can also be defined by an environment variable (e.g. in the *uservars.bat*):

```
set medparts_flex_path=<path>\medpartsflex.dat
```

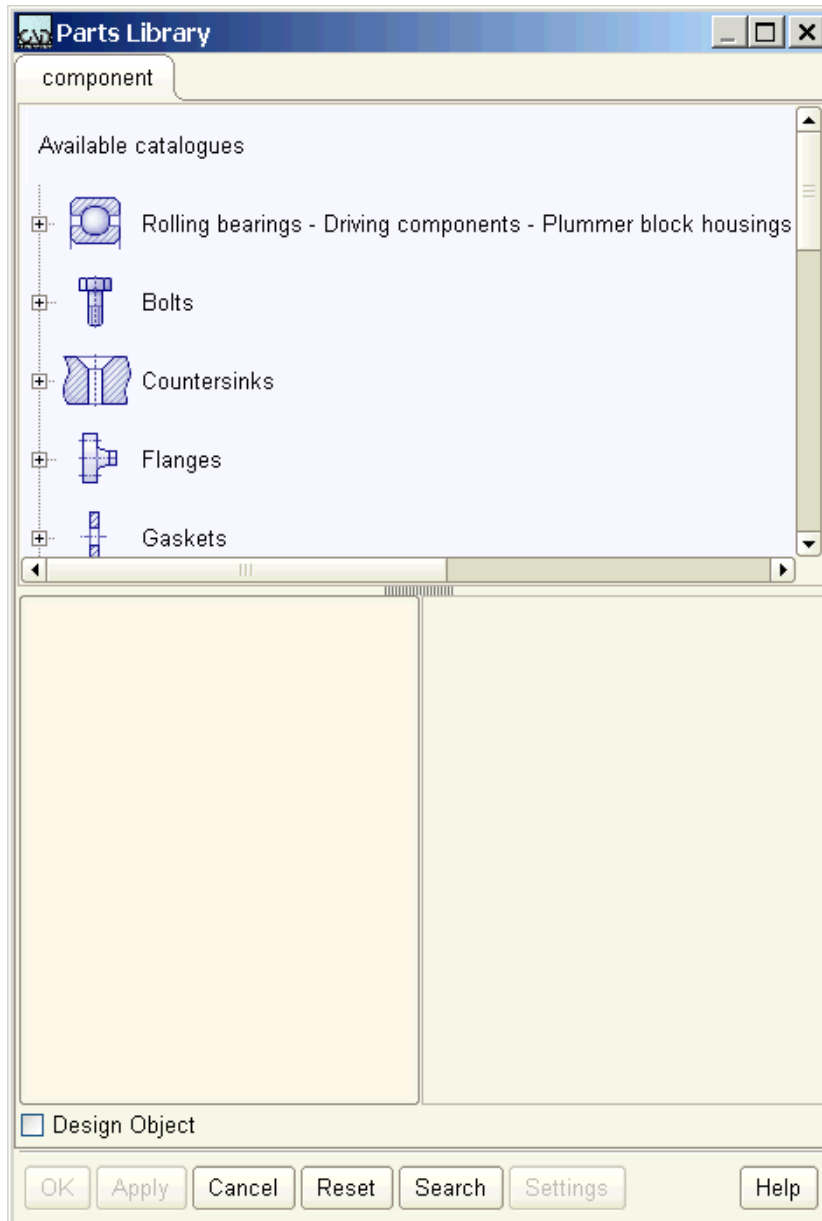
OPERATING

- Activate Parts Library 8
- Dialog 9
- Buttons 10
- Settings 11
- Catalogue and Part Selection 12
- Part Definition 13
- Part as Design Object 15
- Searching for Parts 16
- Put a Part into Drawing 17
- Replace a Part in Drawing 20
- Explode Part 21
- User Attributes 23

Dialog

After you having started the Parts Library the following dialog opens:

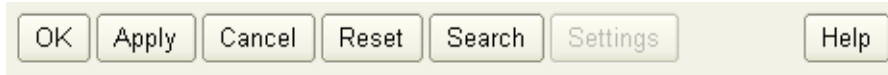
Figure 3 Dialog Parts Library



On the following pages the functions are explained step by step using a bearing as example. The buttons are described in [“Buttons” on page 10](#).

Buttons

Figure 4 Buttons



- OK
confirms all entries. All dimensions and parameters are accepted and the part can be positioned inside the sheet. The dialog *Parts Library* closes.
- Apply
confirms all entries. All dimensions and parameters are accepted and the part can be positioned inside the sheet.
- Cancel
closes the *Parts Library*.
- Reset
sets all values and parameters back to default values.
- Search
opens a dialog for searching parts. Details are given in [“Searching for Parts” on page 16](#).
- Settings
opens a dialog to set up styles for different elements of a standard part. Details are given in [“Settings” on page 11](#).
- Help
opens the online help for the *Parts Library*.

Settings

The Parts Library dialog provides settings for defining how elements of a part will be displayed.

Please note: The button `Settings` on the Parts Library dialog is only active in Administration mode

After choosing the button `Settings` the following dialog is displayed.

Figure 5 Dialog Parts Library Settings



Center Lines

style for center lines.

Special hidden lines

style for special hidden lines.

Usual hidden lines

style for usual hidden lines.

Thick Geometry lines

style for thick geometry lines.

Thin Geometry lines

style for thin geometry lines.

Apply

uses the settings and all parts which will be placed in the following are displayed using the current style definitions.

For changing a style definition *click left* on an arrow on the right of a text field and select the entry `more` to open the style tree. Select a style in the tree and choose `Use Style` from the popup menu to use it. For details on the style tree see the *Drafting Guide*, chapter *Dashboard*, section *Style Tree*.

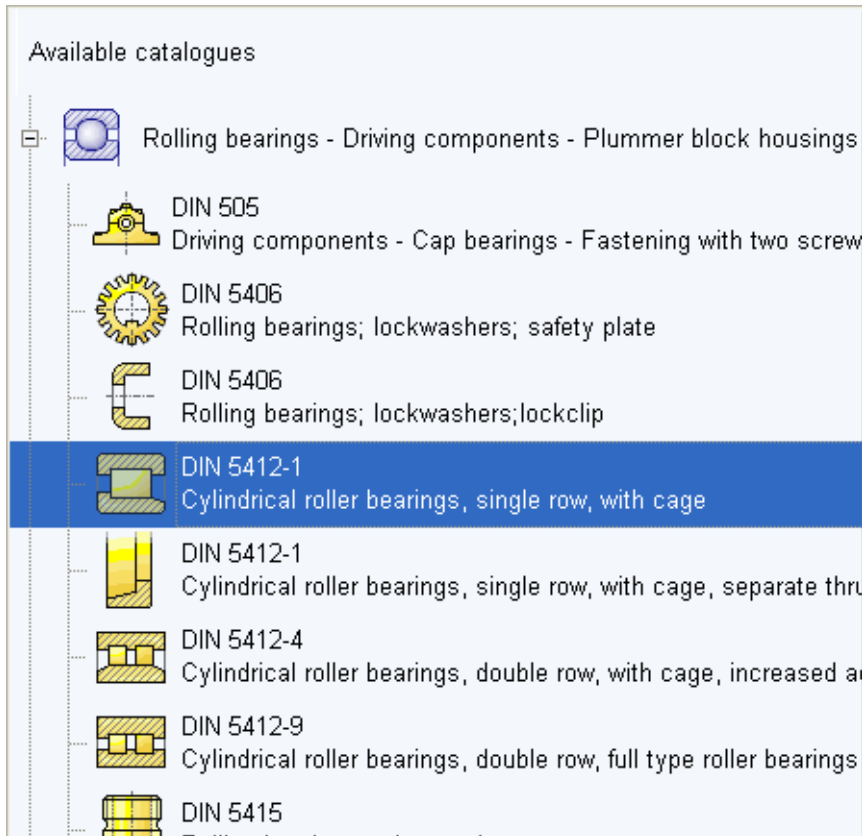
This dialog complies with the settings in the file `medparts\m2d\src\defaults.dat`, entry `mbx_styles` which uses internal style names while the dialog provides the names used for the graphical user interface.

Catalogue and Part Selection

The parts library provides several catalogues. If you *click left* on the plus sign before an icon, the catalogue opens and all the parts of this catalogue are listed.

The following figure shows some parts of the catalogue Rolling bearings.

Figure 6 Dialog Parts Library Catalogue Rolling bearings



Each part is displayed with an icon, an abbreviation and a short description, which supports a fast selection. If you *click left* on a line, the appropriate part is displayed inside the preview window and you start can defining the desired part.

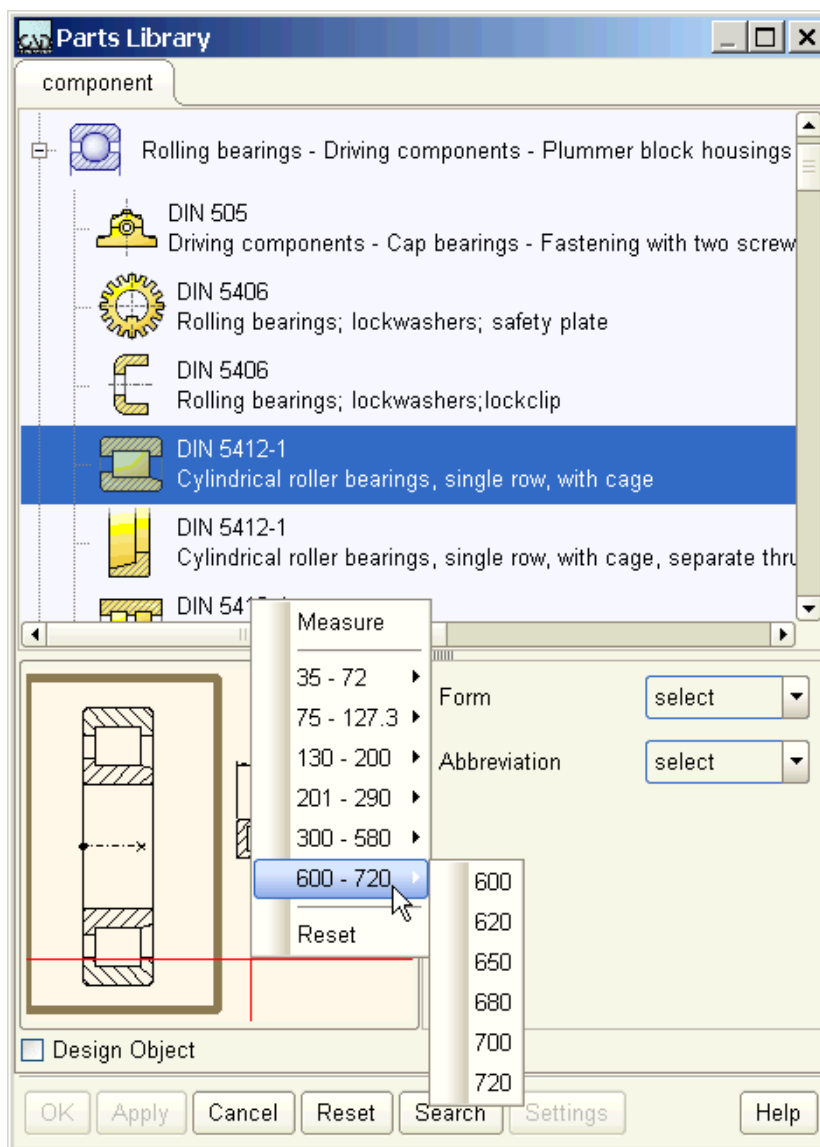
You also can search parts inside all available catalogues. Details are given in [“Searching for Parts” on page 16.](#)

Part Definition

In the **preview window** the currently selected part is displayed. The **dimensions** of the selected part are defined inside the preview window. By *clicking right* on a variable for a dimension (e.g. d_i) a popup menu opens which provides the valid values for the part. Also the entries Measure and Reset are presented.

The example in the figure below shows the variables d_i and d_a which is the inner and outer diameter. If you have defined values, the preview window is updated displaying the dimensions. The **load point** (diamond) and the **direction point** (cross) are flagged, if they are defined for the part.

Figure 7 Dialog Parts Library selection list for a dimension



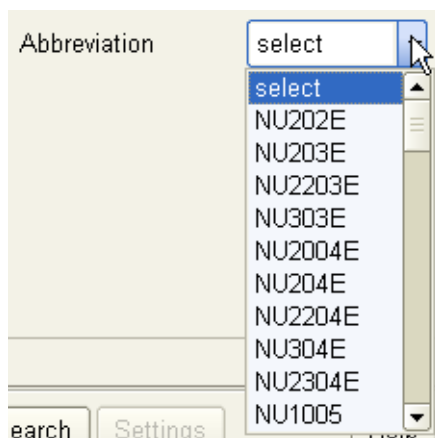
If you choose *Measure*, the dialog closes and you can define the value by probing on the sheet. The value which is used finally will be rounded up or down to the next valid value for the part.

The value for a dimension is displayed inside the preview window after selection from the list or probing. If a value is defined, it can happen that other dimensions and parameters are set automatically. This depends on the appropriate part.

The entry *Reset* restores all input values and sets values back to its variable names.

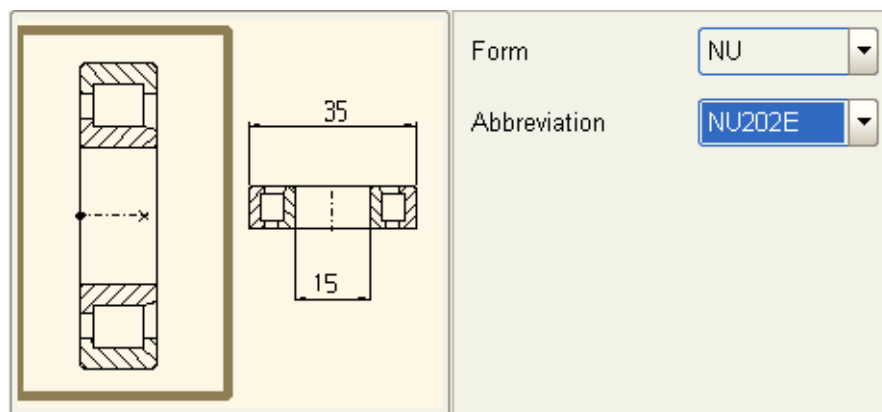
On the right hand side of the preview window more parameter are given for the part. The amount and the type of these parameters depend on the current part. For example, if you choose the entry *Abbreviation*, a selection list opens giving all abbreviations of the part.

Figure 8 Dialog Parts Library Abbreviation selection list



If you choose an abbreviation inside the list, all input fields are filled with values according to the chosen abbreviation. In the following figure the abbreviation *NU202* was chosen for part DIN 5412-1 and with this all parameters and dimensions were set.

Figure 9 Dialog Parts Library after selecting an abbreviation



In some parts the layers 90 and 91 are used. On layer 90 you find hidden contours (e.g. for piping parts) and on layer 91 there are additional informations for drilling profiles. The geometries on these layers can be controlled with the Layer Manager (see *Drafting User Guide, chapter "Layer"*).

Part as Design Object

Most of the parts can be placed as design objects. With this all the advantages and tools for design objects can be used on a part.

Please note: Parts as design objects are always instances and no definitions, because parts which are design objects may be not changed on the sheet in order to correspond to the part in the library.

In the bottom of the Parts Library dialog the option *Design Object* can be set. If a part cannot be placed as a design object, the option is disabled.

If you *click left* on the option *Design Object*, a check mark appears inside the small box and the loaded part is considered as an object and not as a group.

The following figure shows the structure tree displaying a part as group and as a design object.

Figure 10 Structure Tree with Groups and Design Objects



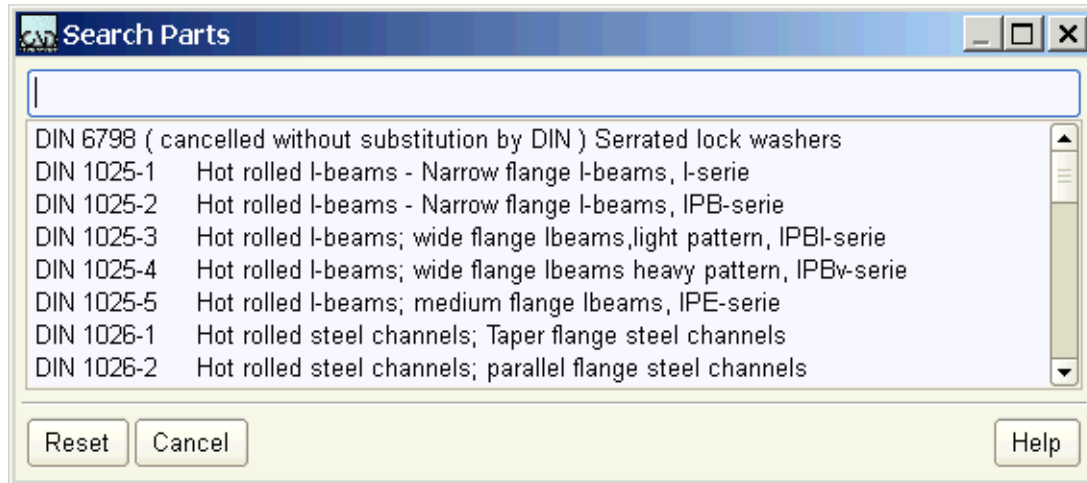
For details on design objects see the *Design Objects Guide*.

Searching for Parts

The dialog **Parts Library** offers an easy and fast way in searching parts:

1. Choose the button **Search** to open the following dialog:

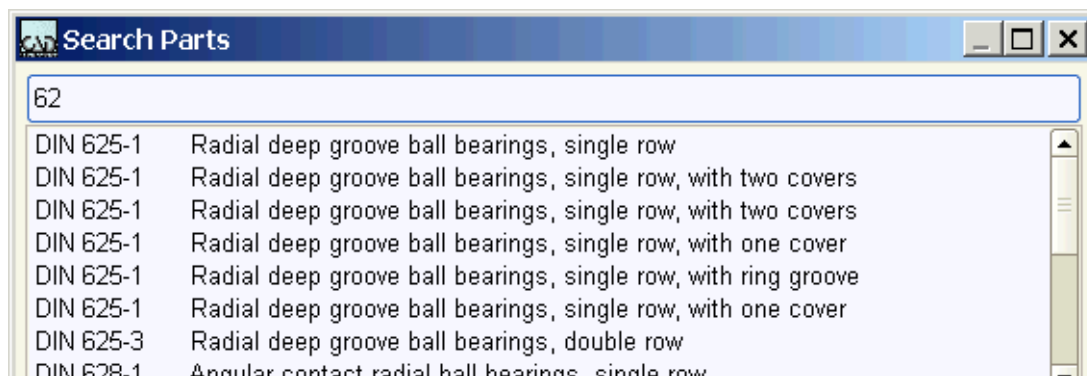
Figure 11 Dialog Search Parts



All parts are available inside the list. By typing or removing characters you can define the amount of parts displayed in the list.

2. Type in some characters inside the edit field.
After each insertion or deletion of a character the list is updated.

Figure 12 Dialog Search Parts, display of certain parts



3. *Click left* on the part you want to insert into the drawing.
The dialog **Parts Library** will be updated and the chosen part will be displayed.

The button **Reset** deletes the characters inside the edit field and the list displays all available parts.

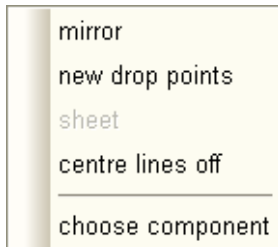
Cancel closes the dialog.

Put a Part into Drawing

Placing a part consists of the steps **defining drop point** and **defining direction point**.

After you have chosen and defined a part, you can place it in the sheet. While placing the following popup menu is available:

Figure 13 Part Placement Popup Menu 1



mirror

mirrors the part at a virtual horizontal axis through the load point

new drop points

This entry allows to define a new drop point.

If you chose this entry, first you place the part temporary. After this you define the new drop point and a new orientation point by probing on the sheet. Afterwards the part is attached to the mouse cursor again.

current OF sheet

This option defines in which context the part will be loaded related to existing groups. The part can be loaded on sheet or on the current level (inside a group structure).

centre lines off/on

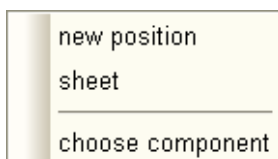
controls whether centre lines of a part are displayed on the sheet or not.

choose component

cancels the current placement and opens the dialog *Parts Library* (if it was closed before) for choosing another part.

Once the drop point is placed, **orientation construction lines** appear, whose angle is 45 degrees to each other. Now you have to place a **direction point** which defines the position of the part related to the drop point. Also for this a popup menu is available:

Figure 14 Part Placement Popup Menu 2



new position

cancels the placement of the load point and you can place the part at an other position.

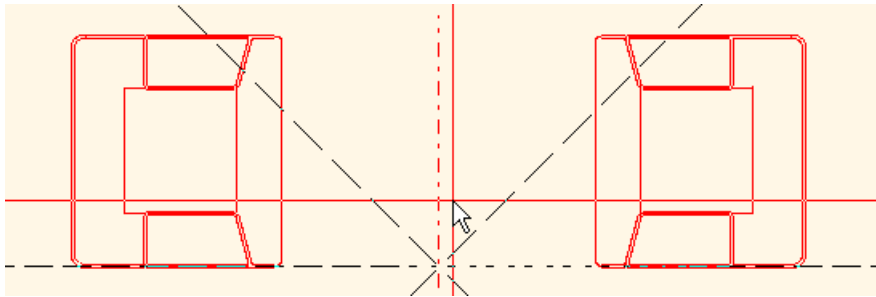
current OR sheet

This option defines in which context the part will be loaded related to existing groups. The part can be loaded on sheet or on the current level (inside a group structure).

choose component

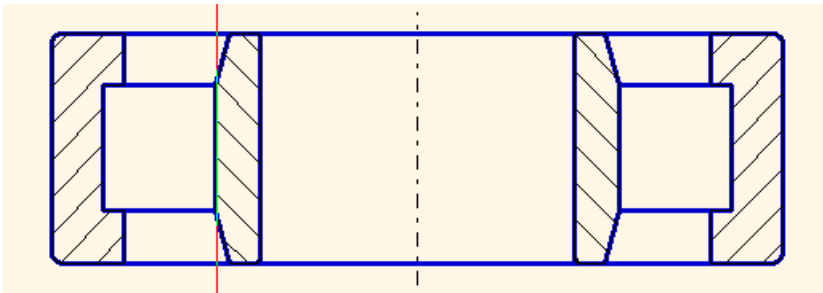
cancels the current placement and opens the dialog Parts Library (if it was closed before) for choosing another part.

Figure 15 Example for placement before defining the direction point



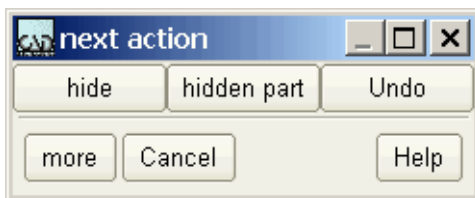
Once the direction point is placed the chosen part is displayed on the sheet. The orientation construction lines will be deleted automatically. The part looks like following figure:

Figure 16 Example for a placed part



After placing a part, a dialog opens with following options:

Figure 17 Dialog next action 1

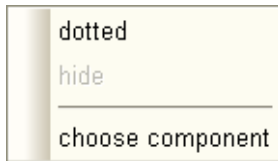


hide

Components which shall be under the loaded part are displayed hidden. After choosing this option the components which shall be hidden have to be selected by clicking the *middle mouse button*.

Afterwards activate the following popup menu by clicking the *right mouse button*.

Figure 18 Part Placement: Popup Menu 3

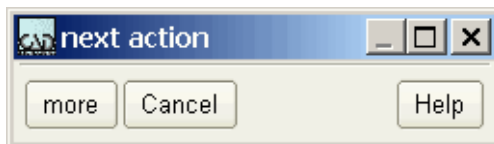


- dotted **OR** invisible
defines how hidden edges are displayed. If `dotted` is displayed, hidden edges are invisible. If `invisible` is displayed, hidden edges are `dotted`.
- hide
executes hiding.
- choose component
cancels the current placement and opens the dialog `Parts Library` (if it was closed before) for choosing another part.

hidden part

The loaded part will be displayed hidden. Following dialog opens:

Figure 19 Dialog next action 2



- more
opens the dialog `Parts Library` (if it was closed before) for loading a further part.
- Cancel
finishes loading.

(dialog `next action 1`, Figure 17):

Undo

The last loaded component is removed from the sheet.

more

opens the dialog `Parts Library` (if it was closed before) for loading a further part.

Cancel

finishes loading and quits the dialog `next action 1`.

Replace a Part in Drawing

Any part from the parts library on the sheet which still is a group or design object can be replaced by another part of the library. But you also can replace its settings only.

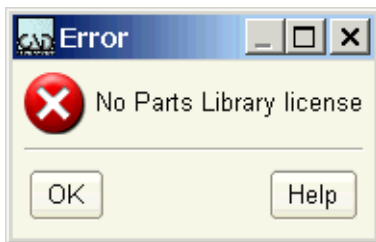
1. Edit a part on the sheet by doing one of the following actions:

- *Double click* on a part.
- *Click left* on a part and choose *Edit* from the popup menu.

The *Parts Library* dialog opens as shown in [Figure 3, “Dialog Parts Library” on page 9](#) showing the selected part and its settings. For editing the *Apply* button is a *Replace* button.

If you have no license for the parts library the following message is given:

Figure 20 **Error message if no license**

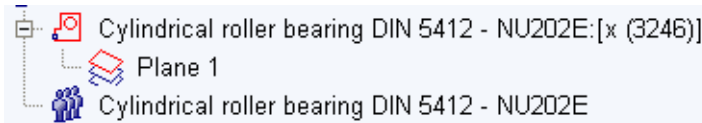


2. Change the settings for the current part or choose another part and set its parameters. For details on setting parameters see [“Part Definition” on page 13](#).
3. Choose the button *Replace* to apply your changes.
The display of the part on the sheet changes showing the (new) part and its settings.
The *Parts Library* dialog is closed.

Explode Part

If you want to edit a part, for example, to change the crosshatching, you can explode it as long as it is a group or a design object. The following figure shows parts as groups and design objects as it is displayed inside the structure tree. You see that single elements are not shown and therefore cannot be edited.

Figure 21 Example for parts, structure tree



For exploding parts do the following steps:


1. Choose the tool **Explode**  from the tooltray **Creation Tools**.
Already selected elements are deselected. Now you can only select part groups or design objects.
2. Select a part on the sheet (not in the structure tree!).
 - a. Selecting one part is done by a *left click* on the part.
 - b. Selecting several parts is done:
 - by pressing the *left mouse button*, dragging the mouse and release the *left mouse button* when all desired parts are completely or partially inside the selection frame, or
 - by *clicking left* on the first part and *middle* on any further part (select or deselect) or
 - using the **Shift** key on your keyboard and the *left mouse button* for additive selection.
3. Open the popup menu and choose **Explode**.

Figure 22 Explode Popup Menu

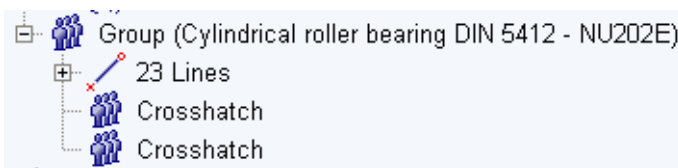


The selected parts are exploded immediately.

In the structure tree you can see now every single element of the part.

- a. If you exploded a parts-group into its single elements, each element can be directly edited and changed.

Figure 23 Example for an exploded Parts-Group, Structure Tree



- b. If you exploded parts as components of Design Objects, they are changed into definitions first.

Figure 24 Example for an exploded Parts-Design Object, Structure Tree



In order to be able to edit and modify the definition, you have to select it and set it into edit mode (*right mouse button* > general popup menu > Edit).

For details on Design Objects refer to the *Design Objects Guide*.

Please note: Exploded parts cannot be changed back into the part as existing in the parts library.

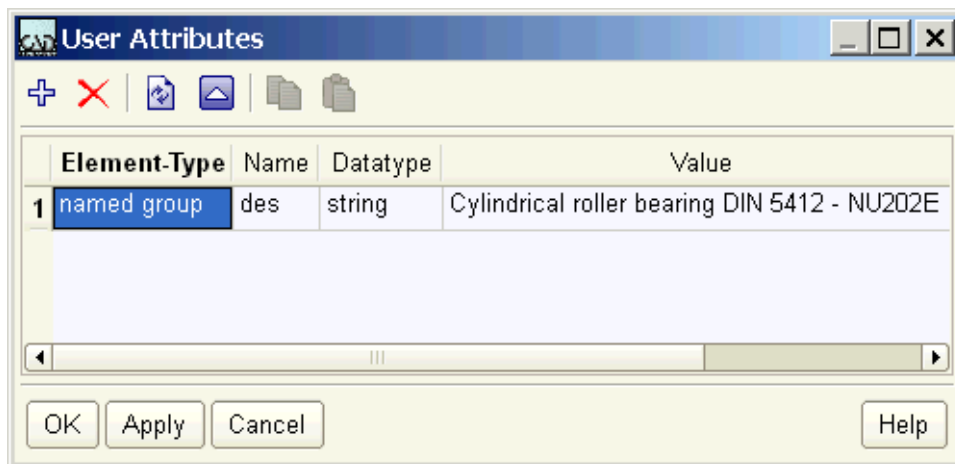
User Attributes

Every part automatically gets a user attribute which reflects the description of the part as it is used, for example, inside a parts list for ordering parts.

Each user attribute can be displayed and edited.

1. Choose the User Attribute tool  from the Utilities menu.
The User Attributes dialog appears and displays a table.

Figure 25 The User Attributes Dialog



2. Move the mouse cursor over an entry inside the table.
The columns Name and Value are filled with the data of the attribute.
3. Click left into the text field whose contents shall be changed.
4. Change the Value to your needs, for example by adding the strength category for a screw.
5. If you finished changing user attributes, click on the button Apply.
The changes are applied to the selected part.

Please note: You also can call the User Attribute dialog with the button Query and edit user attributes  in the status area.

The **buttons** in the dialog User Attributes (from left to right and top to bottom) are:



Adds a new, empty row to the dialog



Deletes the currently selected row from the dialog



Deletes all data rows from the dialog and reads the attribute data from the current element (e.g. a line) again into the dialog



Changes the current element to his parent. If the element is on sheet level, this switch will be deactivated. It's not possible to reach the sheet level element



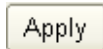
Stores the data of the selected dialog box lines into a cache, e.g for a later copy to other elements



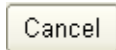
Reads the cached data and merges them into the current dialog data



Writes the dialog data to the current set of elements (one or more element(s) and closes the dialog



Same as OK, but does not close the dialog



Closes the dialog without any changes

Details on user attributes are given inside the *Drafting Guide*, chapter *Utilities*, section *User Attributes*.