CAD PROJEKT K&A

Operation manual

3D Models

CAD Kitchens 8.0, CAD Decor 4.0, CAD Decor PRO 4.0

www.en.cadprojekt.com.pl

INTRODUCTION

The manual describes inserting and editing 3D models into the program. It also contains information about the user base.

We hope that you will find working with our software both pleasant and productive.

Best regards, the CAD Projekt K&A team

The manual provides instructions and keyboard shortcuts for the previous 32-bit version of the program environment. The program now runs in a 64-bit environment. The commands and keyboard shortcuts may have changed as a result. Additionally, the program's interface has been updated.

Table of contents

Interior design elements

1. Introductory remarks

In the program, you can use kitchen accessories provided by the manufacturer of kitchen furniture and available in the databases of other manufacturers, as well as from a variety of interior design databases. To gain access to Interior Accessories (Illustration 2), select the icon **"Interior Elements"** from bar **"Interiors 2”**.

Illustration 1 Toolbar ,,Interiors 2

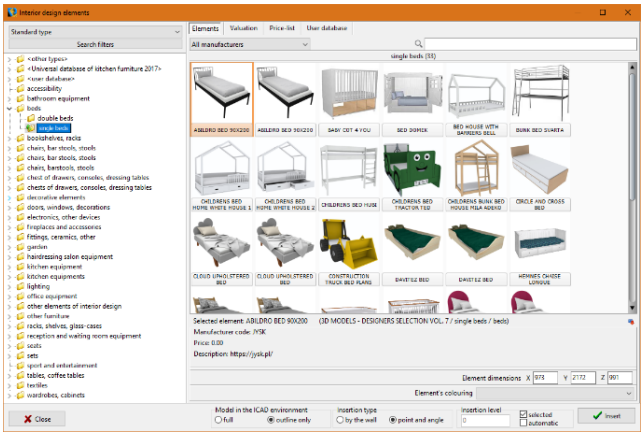


Illustration 2 "Interior Items" window

2. Window Appearance "Interior design elements”

The left part of the window lists the individual bases and the types of items available in them. The user can change the way objects in the bases are sorted by changing the filter settings in the upper left corner of the window (Illustration 3). Use the previews in the center of the window to select specific models.

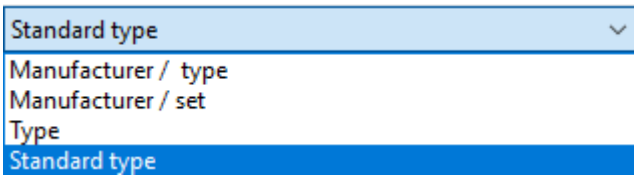


Illustration 3 Selection of sorting type of interior elements

At the bottom of the window are the necessary parameters for determining the method of inserting objects. After selecting an item, basic information about it will be shown (name, manufacturer code, price, description, dimensions).

3. Selecting Interior Design Elements

At the top of the **"Interior design elements"** (Illustration 4) window are the **"Elements"**, **"Valuation"** **"Price-list", "Manufacturer’s details"** and **"User Database**" tabs. In the **"Elements"** tab, objects can be selected for insertion. The user has at his disposal a preview of the model - in the form of a photo and a moving 3D

visualization (the latter activates after holding the mouse cursor on the preview without clicking for several seconds), the manufacturer's code (used in the inventory) and the name, description and price of the product (according to the price list provided by the manufacturer). The **"Manufacturer Data"** tab contains the contact details of the company whose products are currently in use (whose base is currently highlighted in the list on the left side of the window) (Illustration 4).

For a detailed description of the **"Valuation"** and **"Price-list"** tabs, see in point 5 of this instruction and instruction on Pricing in the program, while the "**User Base**" tab is described in a separate instruction.

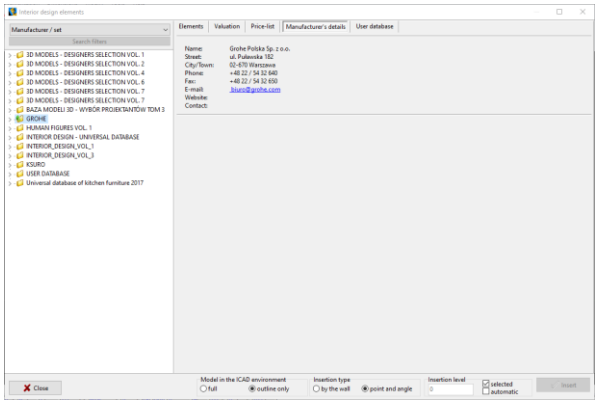


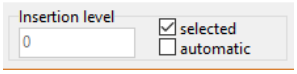
Illustration 4 "Manufacturer Details" tab

4. Inserting interior design elements into a project

4.1. Insertion level

When a user decides to use a model in a project, the first thing to do is to set the **level insertion** (that is, the height at which the base point of the inserted element will appear). This can be done in several ways:

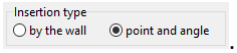
- in the **"insertion level"** field, enter the height at which the element is to be inserted in the design;



- select the item "**selected**"- to indicate the level of insertion of the object when it will be positioned on another object - it may be useful to select the axonometric (oblique) projection, since the insertion will be based on the point in the project indicated by the user's click (this way requires the user to be most precise);
- select the item **"automatic"** - when the insertion level defined as do-thought (the level stored in the database) is to be used. This level is predetermined for certain objects: sinks, hanging toilets, mirrors and others.

4.2. Inserting interior elements into a project

To insert an object at any angle and anywhere in the design (e.g., a table in the middle of a room), in the **"Insertion type"** box, select the **"point and angle"** item. On the other hand, elements that are to be brought closer to the wall (e.g., paintings, bookcases) are more convenient to insert using the "**by the wall"** option. It allows you to hang an object on the selected wall or to butt it against it, while maintaining a predefined insertion level (how this level is determined is described in the previous section). The most favourable view for inserting elements is the top view - in it you can conveniently determine with the cursor the angle of rotation of the object to be inserted, as well as correctly place neighbouring elements. After selecting the level and method of insertion,

you need to click the **"Insert"** button. To exit the window without inserting a new element, you need to select the **"Close"** button in the lower left corner 

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4.3. Element dimensions

Each object in the databases has certain dimensions or scale factor. For their own purposes, the user can freely modify these values. For this purpose, there is an item, located under the object description field in the lower right corner of the **"Interior design elements"** window. Depending on the item, you can modify its size by scaling it or by changing its default dimension 

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5. Valuation of inserted objects and price list

5.1. General information

From the **"Price-list"** tab, the user gains access to the price list of the selected manufacturer, while the **"Valuation"** tab presents only information on the elements used in a given project. Also, selecting the last icon of the bar **"Interiors 2"** **"Interior items valuation"** brings up the **"Interior design elements"** window, opened on the **"Valuation"** tab (Illustration 5).

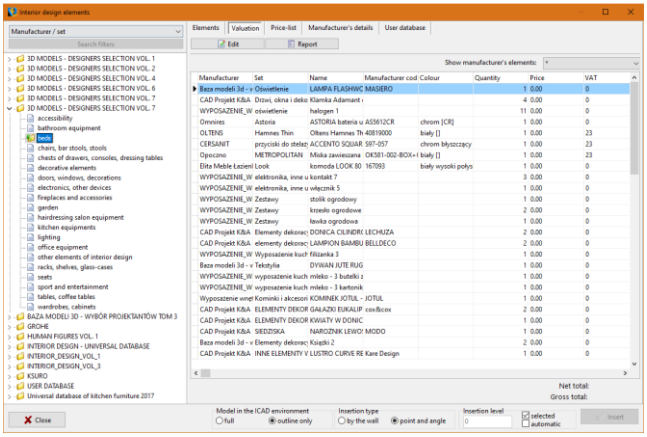


Illustration 5 Valuation of interior design elements

The valuation is continuously updated in the project. Thanks to the report, the user can check and change the prices of individual elements used in the project.

In the **"Valuation"** tab, there are options for editing the price and VAT rate, as well as a function for generating reports of the elements used. The **"Price-list"** tab, on the other hand, features price editing options (individual and global) and **"Converter"**, which allows you to change the currency and automatically convert prices in the database (Illustration 6).

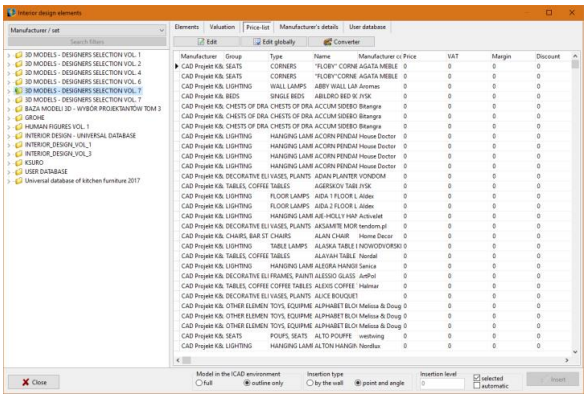


Illustration 6 Price list of the selected manufacturer

5.2. ,,Valuation" tab - editing of valuation items of interior elements

The prices of the items used in the project can be freely modified. To edit the selected object, double-click the left mouse button on the selected item or, after highlighting it, select the **"Edit"** button.

The **"Edit"** window (Illustration 7) will then appear, where you can make changes to the price, the amount of VAT, as well as set the discount and margin for the assigned item set. The lower part of the **"Valuation"** tab shows the gross and net final prices of the equipment inserted in the project.

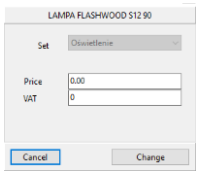


Illustration 7 Price change window

5.3. ,,Valuation" tab - generation of interior elements reports

A summary of the elements used can be presented in the form of a printable report. The statement is generated by selecting the **"Report"** button. After pressing it, a list of available reports will appear (Illustration 8). After selecting the desired item from the list and pressing **the "Next>>" button,** the report of additional items used will be generated (Illustration 9).

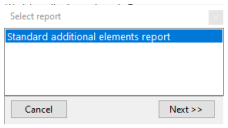


Illustration 8 List of reports

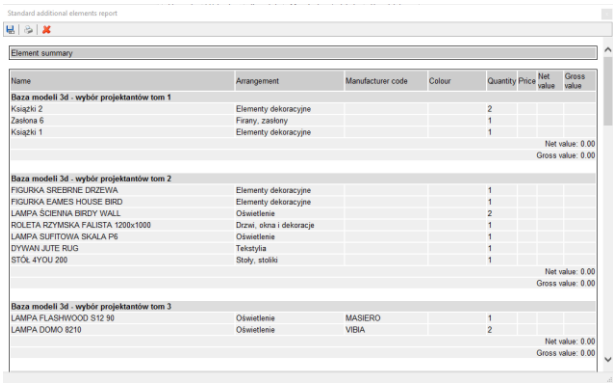


Illustration 9 Standard report of additional elements

5.4. ,,Price-list" tab– editing price list items of interior bases

In the **"Price List"** tab, the user has access to view and edit the prices of all items in the database of the selected manufacturer. Items are added to the price list as soon as they are entered into the database. Individual price list items can be subject to individual or global editing. Changing the data for a single price list item (individual editing) involves selecting it, clicking on the **"Edit"** button, completing or updating the price, VAT, discount or margin, and approving the changes with the **"Add"** button (Illustration 10). It is also possible to globally change the VAT, discount and margin for individual sets and item types. To do this, select the **"Edit globally"** button and in the new window, specify the set or type of items to be edited globally (Illustration 11). Then enter the new value of discount, margin or VAT in the appropriate fields (Illustration 12). Approve the changes made by **"Add"**. The program will make sure that the changes are to be saved in the database.

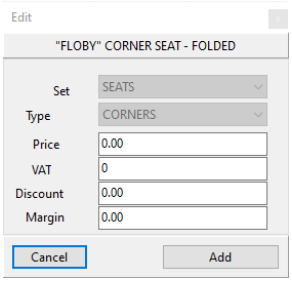


Illustration 10 Edit of one item

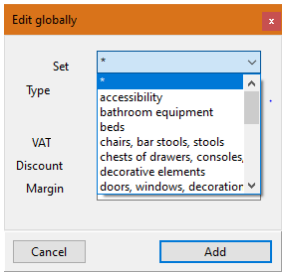


Illustration 11 Global edit- set selection

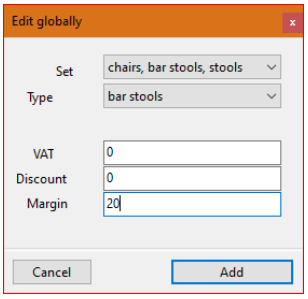


Illustration 12 Global margin change

5.5. ,,Price-list" tab– Converter

Hidden under the **"Converter"** button is a function to quickly recalculate prices across the database to change the currency currently in use (Illustration 13). After changing the conversion rate, the prices in the database will be multiplied by it. The original prices are remembered by the program, so that after changing the conversion rate to a value of 1 they will be restored. After changing the conversion rate, the prices in the database will be multiplied by it. The original prices are remembered by the program, so that after changing the conversion rate to a value of 1 they will be restored.

Some databases may have predefined converters - and so, for example, for a database where prices are given in Euro, the **"Converter"** window when it is first opened will already have the entries: EUR = 1, PLN = 4.45. The information about which currency is currently used will be displayed next to the item price after clicking on the item of a specific model in the form of the inscription (EUR) or (PLN), depending on which converter (and thus which currency) is currently selected.

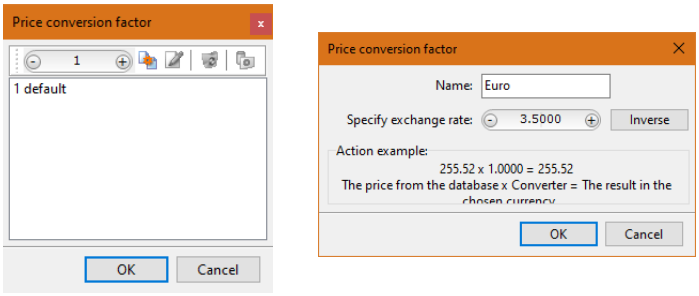


Illustration 13 "Price converter" window and setting the conversion rate for the base with prices given in Euros

Interion Design Elements Selection

1. Introductory remarks

CAD Kitchens, CAD Decor and CAD Decor PRO is programs are equipped with numerous and extensive databases of 3D models of all types of rooms. The objects contained in them should be inserted into the project in the following way:

- after selecting the view in which the insertion will take place (the most convenient is the orthogonal view from above, because in it you can easily determine the angle of rotation of the inserted object using the mouse and arrange adjacent elements), select the icon **"Interior items"**;
- In the **"Interior design elements"** window (Illustration 14), indicate the object and the method of insertion, and then click the **"Insert"** button;
- click in the project at the point where the model is to be placed (if the insertion is in the **"point and angle"** mode, then determine the angle of insertion by moving the mouse around the insertion point - after obtaining the desired position of the model, click again to approve the operation).

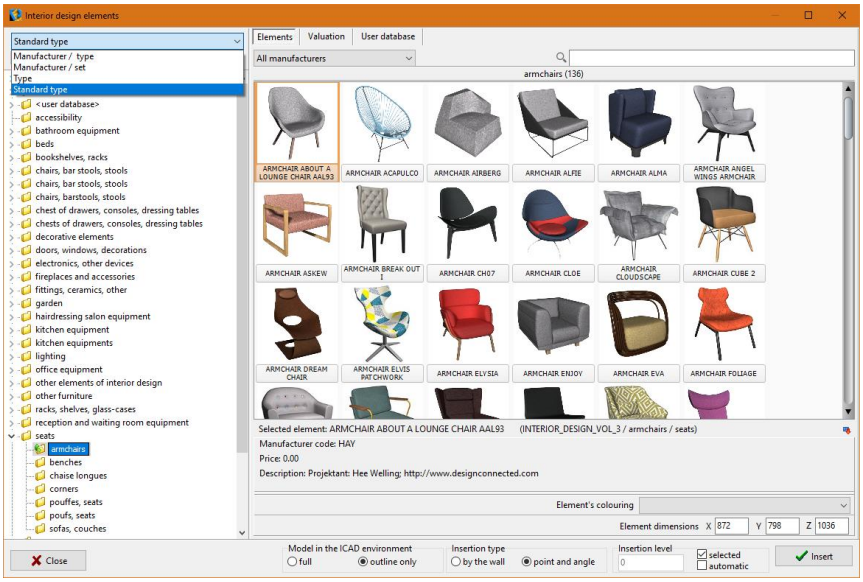


Illustration 14 Window "Interior Items

2. „Interior design elements" Window Options

The left side of the window contains a list of databases and a filter that allows you to control the display of items available in the databases according to four categories: **"Manufacturer/type"**, **"Manufacturer/Set"** ,**"Type"** and **"Standard Type"** (Illustration 15).

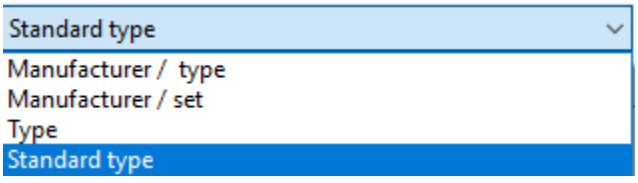


Illustration 15 Choosing how to filter the furnishing bases

At the top of the window are tabs , which allow you to switch between different parts of the base:

- the **"Elements"** tab selects objects to be inserted in the project; when selected, the main part of the window displays a list of model previews;

- in the **"Valuation"** tab, a summary of all the elements used is displayed along with their preliminary cost estimate (Illustration 16) (for more information see the Valuation Manual);
- after going to the **"Price-list"** tab, the price list of the currently selected manufacturer will be displayed (Illustration 17) (for more information see the Valuation Manual);
- the **"Manufacturer's details "**tab contains contact details of the company whose base is currently selected (Illustration 18);
- the **"User Base"** tab contains a list of items independently added by the user to his/her individual model collection using the 3D Converter module (it is described in a separate manual).

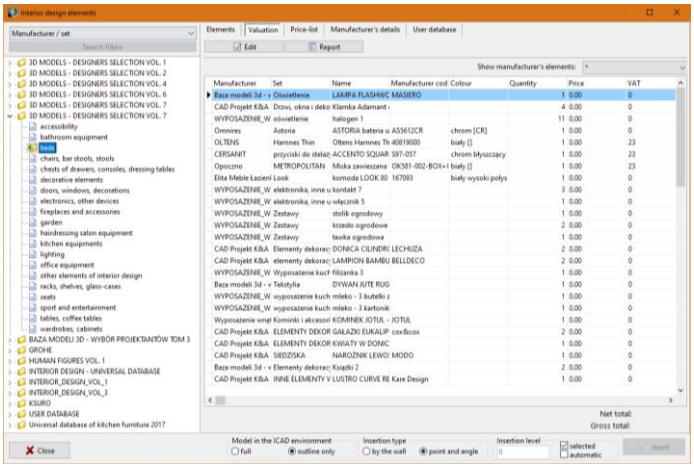


Illustration 16 "Valuation" tab

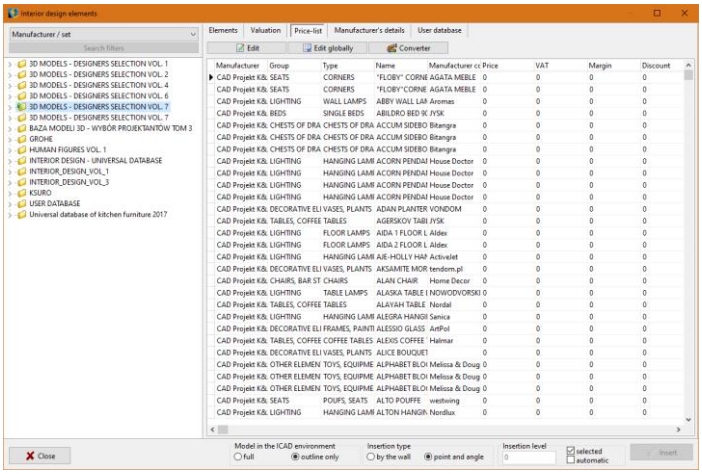


Illustration 17 Price-list tab

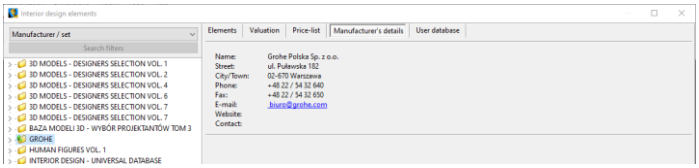


Illustration 18 "Manufacturer Details" tab

In the upper part of the window, under the tabs, there is a text search engine, which allows you to quickly search all the databases uploaded to the program in search of models whose name contains the specified phrase (minimum 3 characters) (Illustration 19).

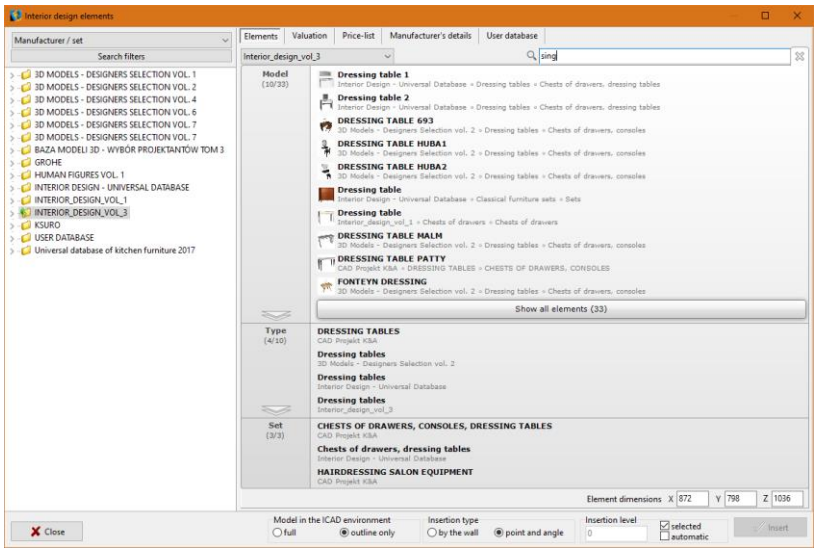


Illustration 19 Text search engine

After clicking the **"Search Filters"** button in the upper left corner (Illustration 20), another filter will open in the right part of the **"Interior design elements"** window, to facilitate searching the databases by indicating the dimensions of the models (Illustration 21).

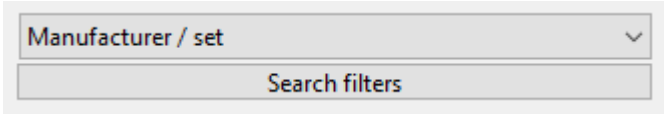


Illustration 20 "Search Filters" button

At the bottom of the window are the insertion options: how the model is displayed in the CAD environment (full model or just its outline), how the model is placed in the design (by the wall or by point and angle) and the insertion level.

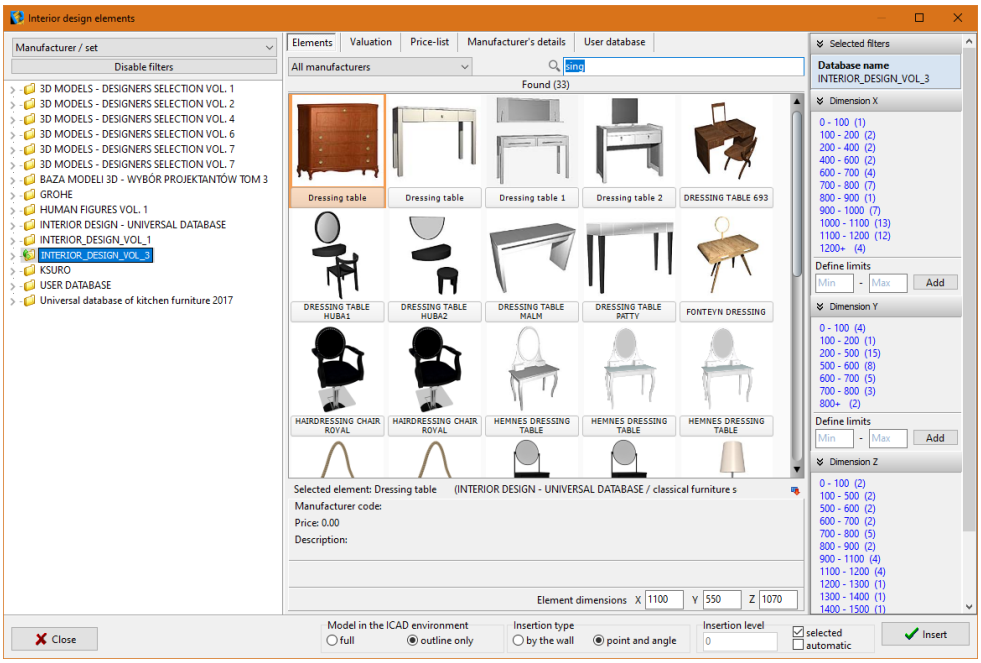


Illustration 21 Dimensional filters

3. Selection of interior design elements

3.1. Managing database sorting

The appearance of the list of database directories changes depending on the filter set in the upper left corner (**"Standard type", "Type", "Manufacturer/set", "Manufacturer/type"**) (Illustration 22).

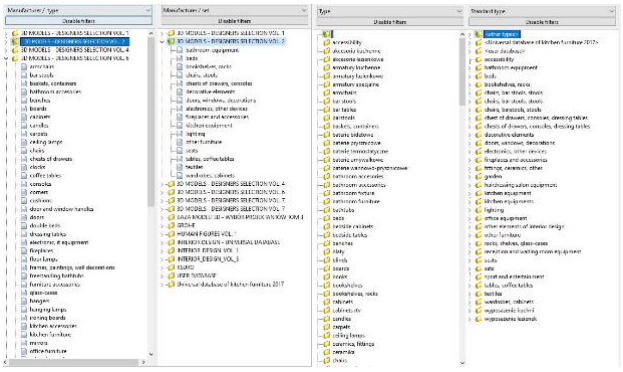


Illustration 22 Different appearance of the list of bases depending on the selected filter

In the modes **"Manufacturer/Set"** or **"Manufacturer/Type"** the list displays the names of all manufacturer and universal 3D model databases installed in the program. After double-clicking on the database name or clicking on the arrow ▷ a list of the sets or types contained in it, grouped into subdirectories, will expand. After clicking on a subdirectory, a list of thumbnail previews of the models contained in it will be displayed in the central part of the window (Illustration 23).

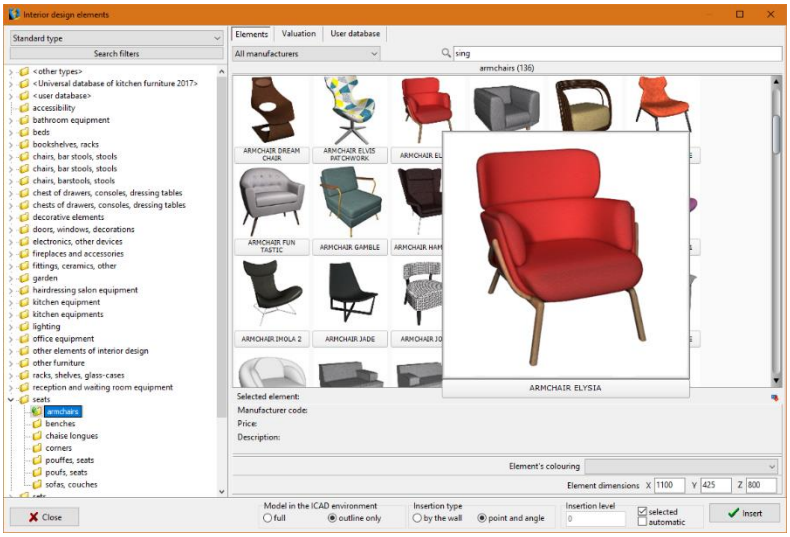


Illustration 23 Model preview

In the **"Standard Type"** mode, which displays a list of arbitrary standardized types to which items from all uploaded bases are assigned, when you click on the selected item, a list of subdirectories will expand (e.g., after selecting the type **"beds"** subdirectories will be displayed: **"double beds"** and **"single beds."** (Illustration 24).

When you click on a subdirectory, a list of previews of the models in it will be displayed in the central part of the window. If there are models in any database that are assigned to categories other than those included in the list of **"Standard types"**, you should look for them in the directory named **<other types>**.

On the other hand, models independently added by the user after processing in the 3D Converter module, drawn by hand or downloaded from the Internet, will be available in the **<user base>** directory (you can read more about converting models and creating your own base in further in this manual and in the Converter manual). When you add a new type to a user base, a new subdirectory will automatically be added to the list of bases.

When the **"Type"** category is selected, all types established by manufacturers are displayed, without dividing them into individual bases. After clicking on the selected type, previews of the elements included in it will be displayed in the central part of the window.

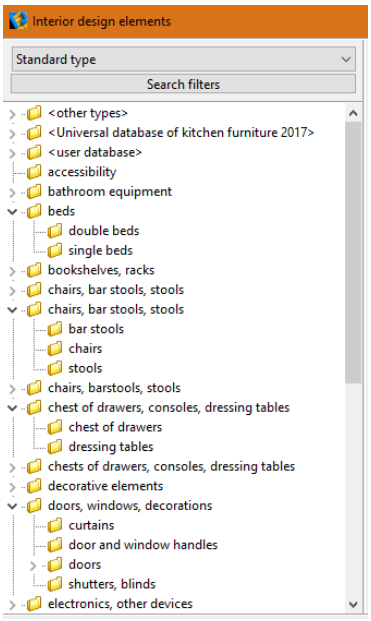


Illustration 24 Filter "standard type"

3.2. Filter by size

The dimension filter is launched by clicking the **Search Filters** button in the upper left corner of the window. A panel with the name of the selected base and lists of X, Y, Z dimensions will be displayed in the right part of the window. If the base has not yet been opened by double-clicking on its name, the dimension lists will be empty (Illustration 25).

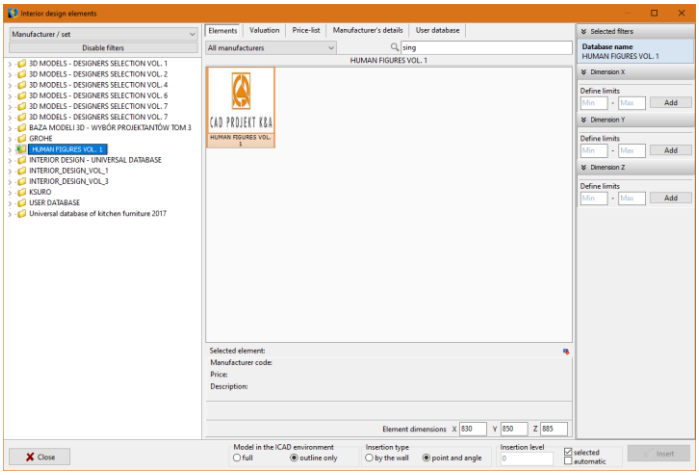


Illustration 25 Dimensional filters - blank

If the database is open and a specific set or type is selected, the dimension lists will display all the dimension ranges of the models present in the database, present in the given set or type (Illustration 26). Next to the range of dimensions (e.g. 800 - 900 mm) is given the number of models in the selected set or type, the dimensions of which fall within the range.

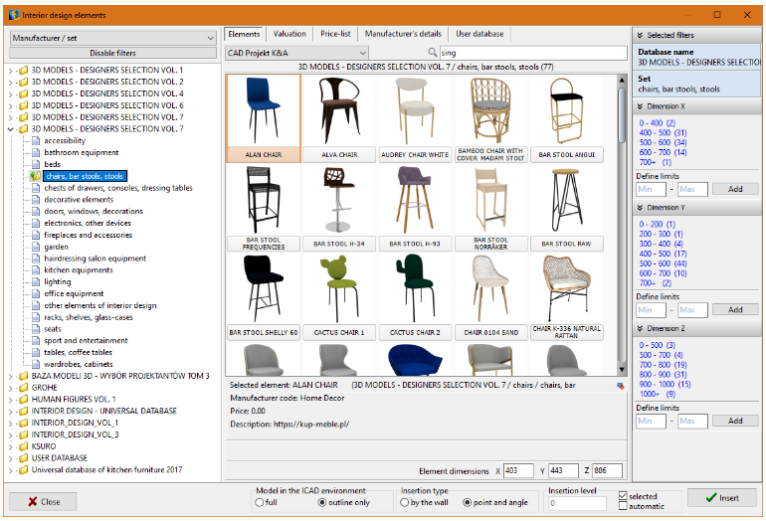


Illustration 26 Dimensional filters - available size ranges

You can enter restrictions on the display of models, that is, filter the contents of a set or type according to dimension criteria: by selecting one of the proposed ranges; by adding your own range, entering extreme values in the field **"Enter restrictions"** and clicking ,,**Add"** (Illustration 27).

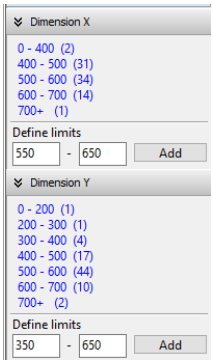


Illustration 27 Adding your own range of dimensions

Then the list will display only previews of models whose dimensions in the axis correspond to the indicated range (Illustration 28). To return to the display of all models in a set or type, click the **Delete** button next to the defined dimension range

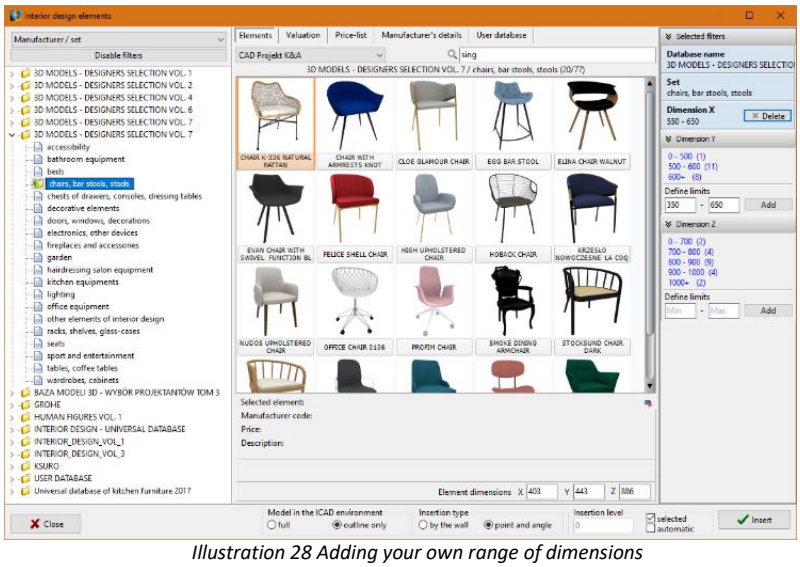


Illustration 28 Adding your own range of dimensions

Dimension filters in different axes can be combined as desired (Illustration 29).

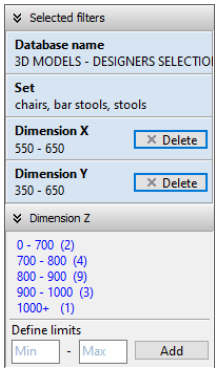


Illustration 30 Filtering by two dimensions

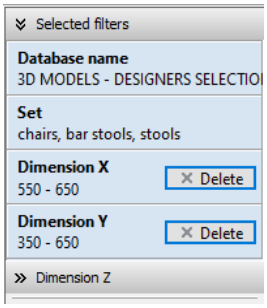


Illustration 29 Closed unused Z-axis dimension filter

Unused filters can be closed or opened by clicking on the arrows and (Illustration 31).

3.3. Search by name

Another aid to finding the most suitable models in our extensive digital catalogs is a text search engine. To instantly access all models in all installed databases whose name contains a specific text, simply enter a portion of the name (minimum three-letter).

A list of models whose names contain the search phrase will be displayed (Illustration 31). If there are sets or types in the databases with names also containing the searched text, they will also be displayed - in separate lists (Illustration 32).

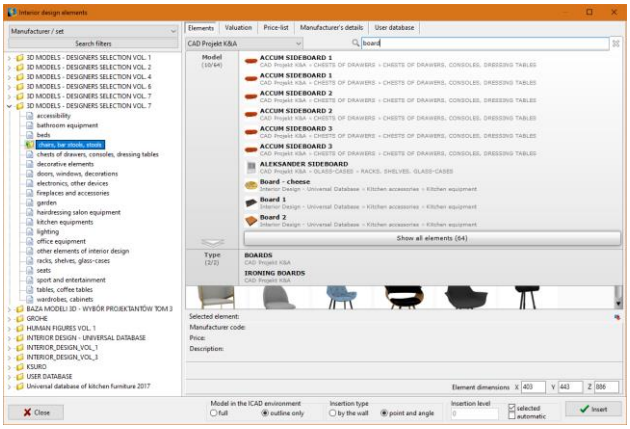


Illustration 32 Search for models whose name contains the phrase "board"

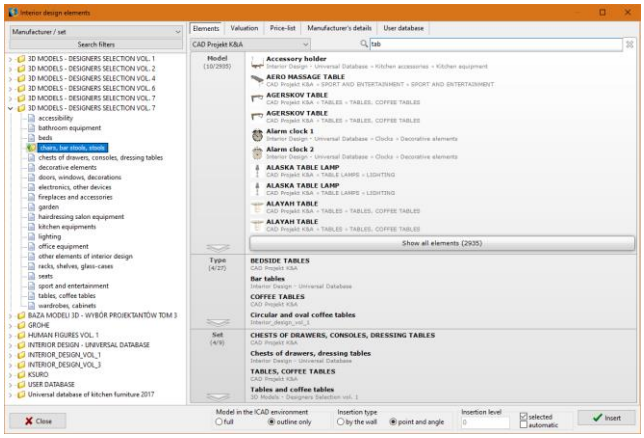


Illustration 31 search for models whose name contains the phrase "tab"

To navigate to the selected base, point the cursor to the desired model, type or set in the list - it will be highlighted in orange. After clicking, the base will open, containing the searched model, type or set.

Illustrations 33 - 36 show an example of searching for models of bookcase and chair belonging to the JIL collection from our universal database "**Base of 3D Models - Designers' Choice Volume 2**".

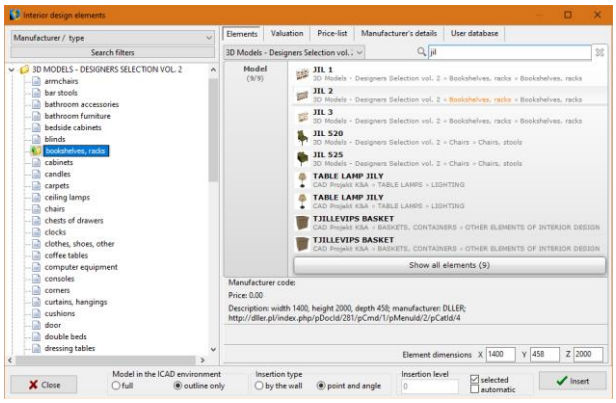


Illustration 33 Search for models containing the phrase "JIL" - rack selection

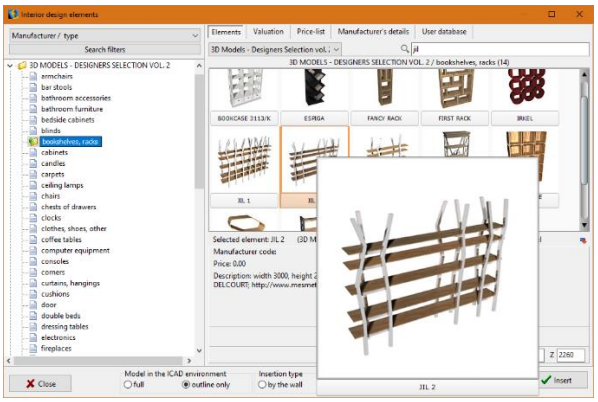


Illustration 34 Sophisticated JIL bookcase at the base

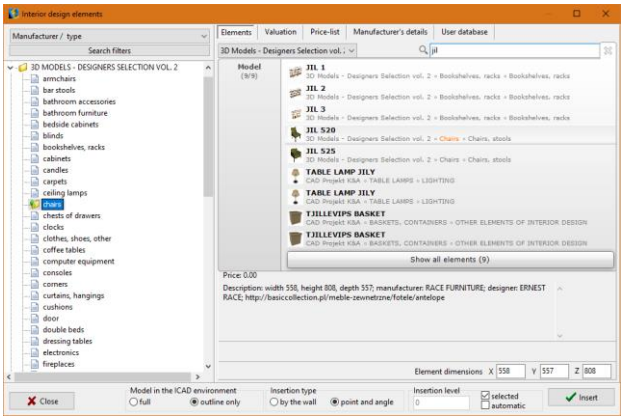


Illustration 35 Re-search for models containing the phrase "JIL" - choice of chair

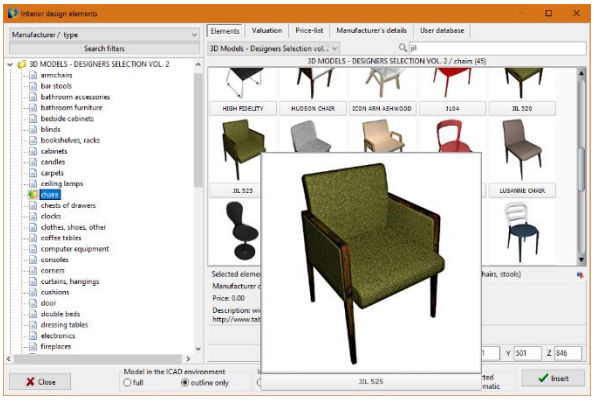


Illustration 36 JIL chair found in base

Adding interior elements to a project

1. Model selection

If you hover the cursor over the thumbnail of an item and hold it still for about two seconds, a large preview with the name of the model will be displayed, which helps you assess whether the object will fit well in the interior you are arranging (Illustration 37). On the other hand, after clicking on the thumbnail with the left mouse button, the **"Selected element**" panel at the bottom of the window will display the manufacturer's provided information about the model (code, price and description) and its dimensions or scale factor. The dimensions and scale can be freely changed even before inserting the model into the project by entering new values in the X, Y, Z fields in the lower right corner of the window.

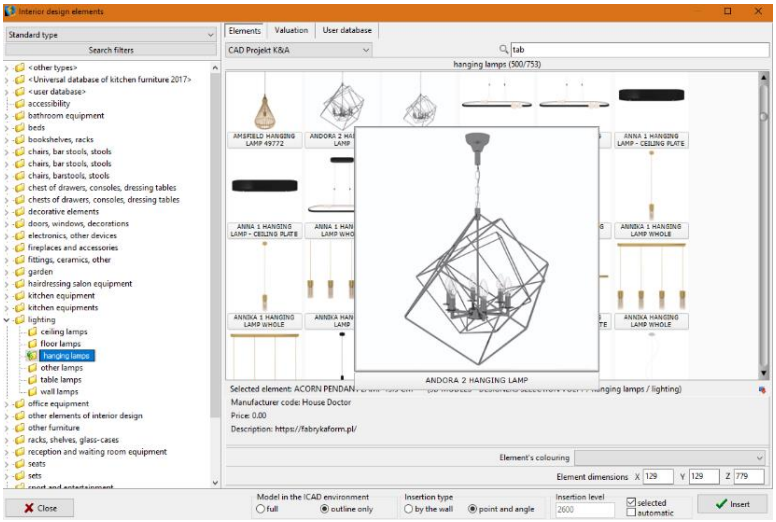
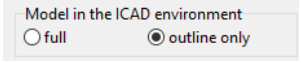


Illustration 37 Model preview

In order to insert the selected model into the design, the insertion options must be determined: the method of display in the CAD environment (full or outline only), the method of placement in the design (by the wall or by point and angle), and the level at which the model is to be placed (given, indicated or automatic).

2. Displaying Models in CAD

How the objects inserted into the design are displayed in the .4CAD environment is determined by the **"Model in ICAD environment"** function 

. When ,,**full**" is selected, all surfaces of which the model is built will be visible. On the other hand, when you select **outline only"**, only the outline of the model will be visible (displayed in turquoise color - Illustration 38).

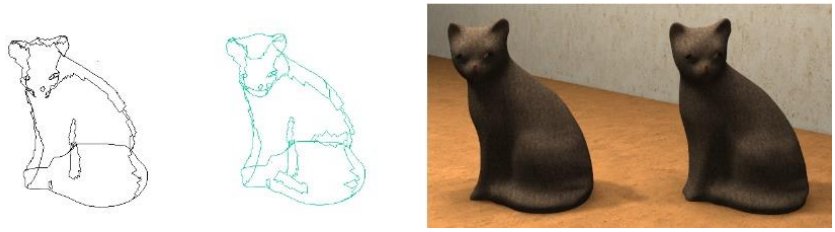


Illustration 38 From left: full model in CAD environment, model as outline in CAD environment, both models in visualization

The method of inserting outlines alone reduces the load on the project with models with a large number of surfaces, so the program uses less RAM and runs faster. In the IntelliCAD environment, only the schematic outline of the model is loaded, and only when you enter visualization mode are the surfaces of the model also loaded. Objects inserted into the project as outlines behave as "references", since they refer to the original DWX file, which is only loaded when you switch to visualization. When transferring a project to another computer, all these DWX files are stored in a DAT file and are read when the project is opened.

3. Change in dimensions or scale factor of the model

Each object in the databases has certain dimensions or scale factor. These values can be freely modified even before the model is placed in the project - in the **"Elements Dimensions"** field in the lower right corner of the window (Illustration 39 and Illustration 40).

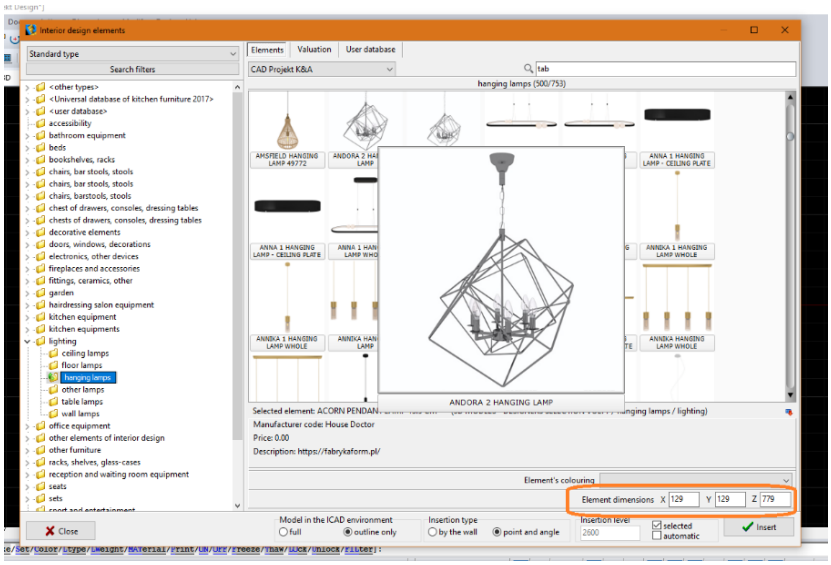


Illustration 39 Window Interior Items - dimensioned element

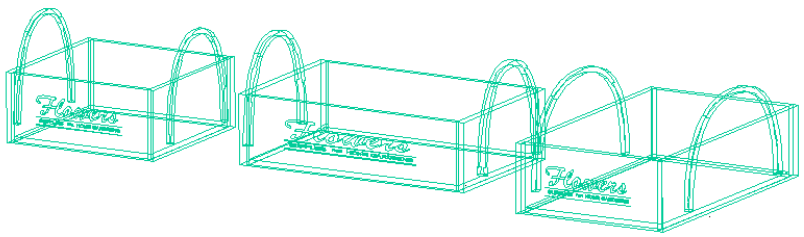
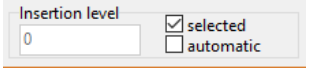


Illustration 40 The same model inserted in the project - original dimensions and after changing the X-axis and Y-axis dimensions

4. Insertion level

Before placing a model in a project, you need to determine the level insertion**,** that is, the height at which the base point of the inserted element will be inserted. Many elements already have a default insertion level defined, such as suspended sinks, toilet seats, bidets, mirrors, lamps, etc. The insertion level can be changed in several ways:



- in the **"insertion level"** field, enter the height at which the element is to be inserted in the design;
- select the **"seleced"** option, and then when inserting an object, indicate the insertion point by clicking at the appropriate place in the project; this option is useful, for example, when one object

is to be positioned on top of another; it is most convenient to insert a model using this method in an axonometric (oblique) view, as it requires the user to be most precise; it can be helpful to use snap points(more information about them in a separate instruction);

- select the option **"automatic"** - when the element is to be set on another element, located in the project - for example, a lamp on a table, a sink on a countertop.

5. Defining element's colouring

In the databases of some manufacturers, individual models are assigned several different color variants to choose from. In this case, before inserting the object into the project, you can select a color from the drop-down list in the **"Element's Colouring"** field (Illustration 41).

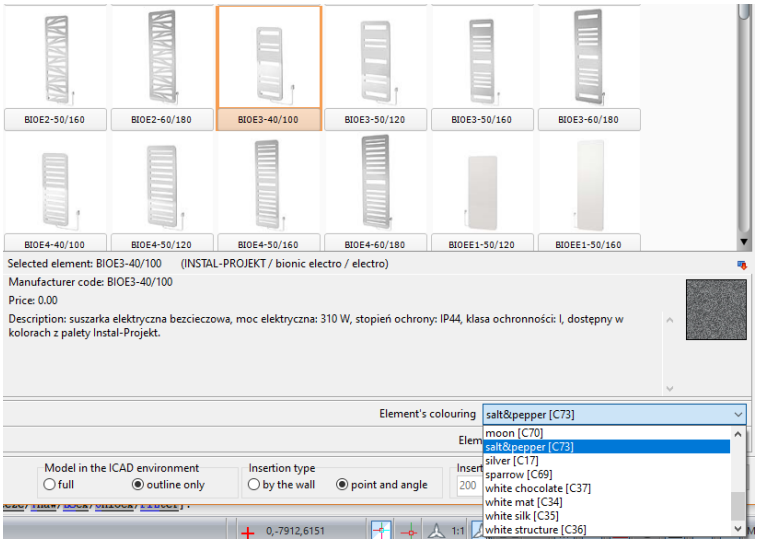


Illustration 41 - Element's Colouring

6. Methods for inserting models

There are two ways to place interior design models in the program:

- **"by the wall"** - allows you to hang an object on the selected wall or to move it closer to it, while maintaining a predefined insertion level (defining the level is described in section 4.4); most often elements such as sofas, paintings, mirrors or bookcases are inserted using this method;
- **"point and angle"** -allows you to insert an object anywhere and at any angle (e.g., a table in the middle of a room); the most convenient view in this case is the vertical top view - you can determine, using the mouse, the angle of rotation of the object to be inserted, as well as correctly position adjacent elements.

After selecting how the model will be displayed in the CAD environment, the level of insertion, the color scheme and the method of placing the object in the project, click **"Insert"** (Illustration 42). To exit the **"Interior design elements"** window without inserting an element into the design, click the button ,,**Close"** in the bottom left corner.

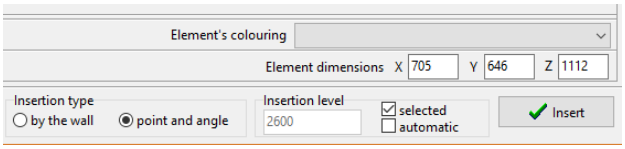


Illustration 42 "Insert" button

The following illustrations show the appearance of fixtures in the .4CAD environment and in visualization (Illustration 43 and Illustration 44).

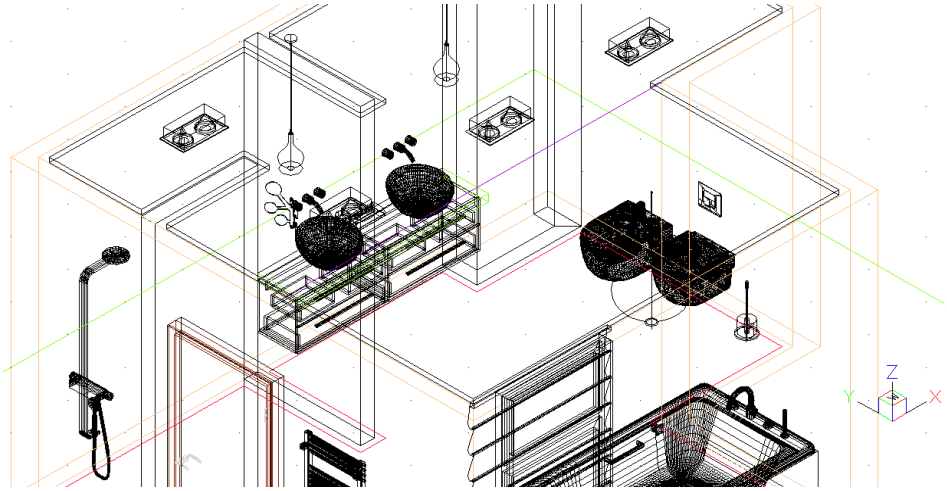


Illustration 43 Interior design elements inserted into the project

Illustration 44 Interior design elements in visualization

User 3D model database

1. Introductory remarks

The user can create his own base of any elements, which can then be used in projects. You can access the user base in the **"Interior design elements"** window (under the icon) and in the Converter module (under the icon). Models added to the database are saved in our proprietary DWX format. Functions for adding, editing and deleting items, as well as exporting and importing the database, are available in the **"User Database"** tab (Illustration 45). Items in the database can be sorted by the columns **"Name", "Manufacturer", "Type", "Set"**.

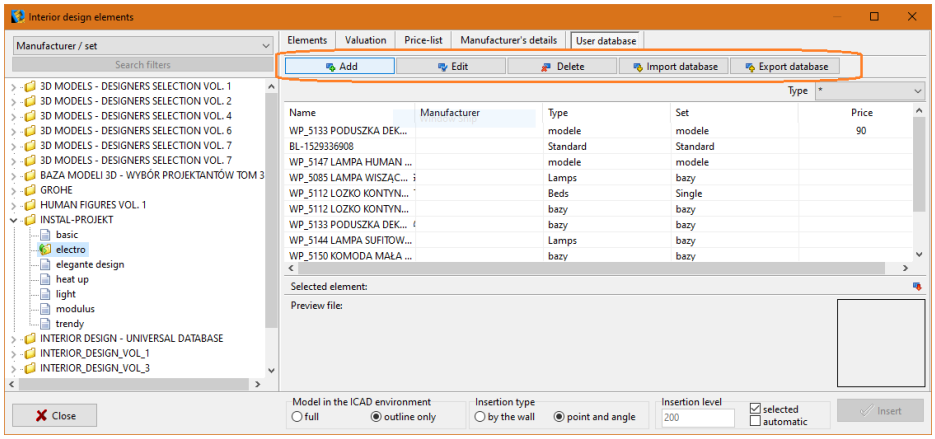


Illustration 45 "Interior items" window, "User database" tab

2. Creating a user database

To add a file in a format other than DWX to the user base, you need to:

- launch the 3D Converter module (by clicking the icon or button ,,**Add**" in the **"User Database"** tab of the **"Interior design elements"** window);
- the user will be transferred to the 3D Converter module;
- if the list of files to be converted is empty (the first time you start the module or with the option to save the list state disabled), the window for adding files for conversion will also automatically open (Illustration 46);
- if you run the module through the **"Add"** button, a file addition window will automatically appear - if not, click the **"Add files"** button;

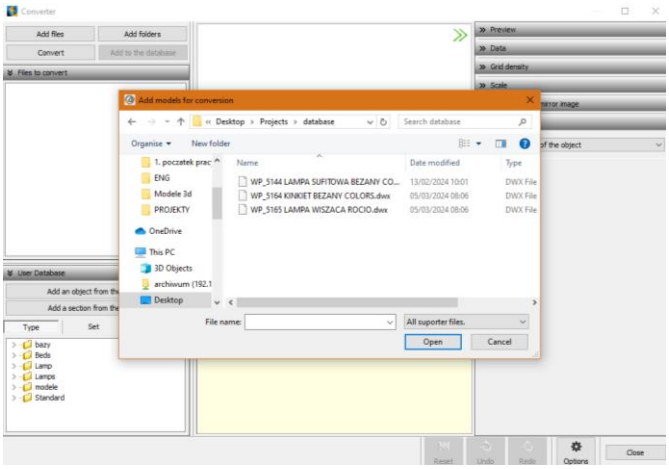


Illustration 46 Converter and window for adding models for conversion

- in the window **"Add models for conversion"** indicate files in formats to be converted (DWG: 3dFace or 3dSolid, DXF, 3DS, SKP, DAE, STL, PLY, OBJ, LWO, OFF, CTM);
- when you click **"Open"** the files will be added to the list for conversion;

- before saving them in the user base, they must be converted and, if they require it, also scaled, rotated, assigned optimal insertion points or reduce the density of the surface mesh - these operations are described in a separate manual on the operation of the 3D Converter module;
- then fill in the panel with the model data (name, manufacturer, type, set, description, insert level, color, price, VAT and discount) and click the **"Add to the database**" button;
- information can also be supplemented later by editing the element in question;
- object is available for use in the current project in the window **"Interior design elements"** - in the **"Elements"** tab (Illustration 47) (Inserting equipment items is described earlier in this manual).

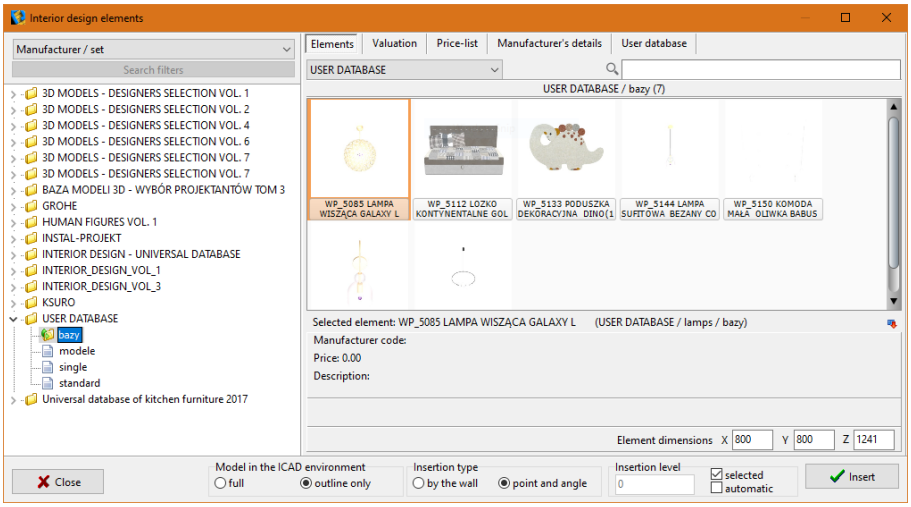


Illustration 47 Preview items in the user base

To add a DWX format file from the **Bank of 3D Model** on our website (https://cadprojekt.com.pl/bank-modeli-3d/) should be:

- download the file and save it to a convenient location on your computer;
- launch the 3D Converter module and click the **"Add files"** or **"Add folders"** button;
- in the window **"Add models..."** indicate the DWX file downloaded from our site;
- when the file is displayed in the list, enter its data and click **"Add to the database"** button;
- the model will be added to the user's database and is ready to be used in the project.

To add an object from the project to the database (insert) you need to:

- launch the 3D Converter module and click the button, **,Add object form the design"**;
- the converter window will be closed and the user will be asked to indicate the object in the design (it can be a self-created arbitrary element, an inserted column or wall, any model from the manufacturer's or universal database, a linear element);
- The object will be added to the database with a name like that of the added file;
- name and other data can be edited - changes do not require confirmation, they are made by clicking in any other field.

3. Editing and deleting items from the user base

Elements stored in the user's database can be edited, e.g. to add or change data. After selecting an element and clicking the button ,,**Edit"** , or after double-clicking on the element, the 3D Converter window opens, in the right part of which you can change the data and perform various operations on the object (scale or rotate

it, change the insertion point, minimize the mesh if it contains too much area). The changes you make are saved on the fly when you click elsewhere.

To remove an element from the base in the **"Interior design elements"** window, select it and click the button ,,**Delete**". The program will ask you to confirm that the indicated item is to be deleted (Illustration 48). Elements can also be deleted in the 3D Converter module window.

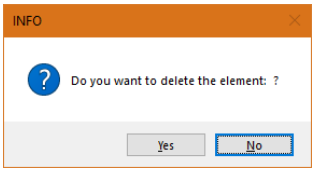


Illustration 48 request for confirmation of removal of item from user base

4. Importing and exporting the base in the "Interior Elements" window"

The user additive model database can be exported or imported in its entirety using the buttons ,,**Export database**" and ,,**Import database**". During export, the database is copied, zipped and saved to the indicated location. To import the database, indicate the location of the packed database and click **"Open"** - the files will be extracted and added to the user's database.

If the program encounters a file with a name identical to a file present in the database, it will ask the user to decide whether the new file is to replace the existing one or omit it, or whether both files are to be retained. A detailed description of these procedures can be found in the Converter manual.

5. Defining the color and properties of the model - assigning a palette

To ensure that an object from the user base inserted into the project always has a specific, specified palette in the visualization.:

- insert the object into the project, using any of the techniques described above in this manual;
- go to the visualization by selecting the **[F12]** key or the icon on the **"Visualisation"** toolbar;
- apply textures to the object, using the materials supplied with the program or added independently in the **"Materials"** tab on the left menu;
- if the model is divided into different layers, they can be assigned different textures and properties - you can choose from the following:
    - gloss;
    - transparency;
    - Reflections (planar or overall);
    - roughness;
    - emission (emission of light);
    - glow (glowing or glowing effect, without real light emission);
    - emission color;
    - bump mapping effects;
- for more information on the use of textures and effects, see the instructions on visualization;
- to assign selected properties to an object or part of it, double-click on it with the left mouse button - the right menu options will then become available, divided into panels: **"Filling Type", "Texture",**

"Material Properties", "Emission", " Bump mapping", "Layer" and **"Selected"** (Illustration 59), in which you can:

- decide whether the object should be covered with color or texture;
- select any color (by pointing to it on the palette, typing in RGB values or setting the parameters **"Hue", "Saturation"** and **"Brightness."**);
- change texture settings (move it, stretch it over the whole object, set dimensions and rotation angle);
- give the material the properties mentioned above;
- point to another object layer and set for it the degree of smoothing, visibility and optionally also the bilateral material (which is important, for example, in the case of blinds, when the **Radiosity** method was used to render the scene and the back parts of the surface would cause excessive darkening);

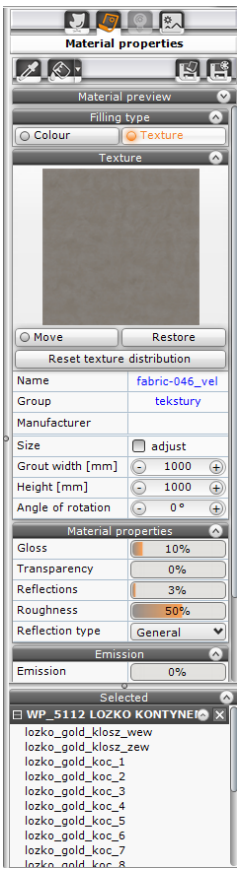


Illustration 49 Right function panel

- to check the effect you can turn on the lights using the **"Show lights"** icon on the top bar;
- after setting the properties, save the palette by clicking on the **"Save the object palette"** icon in the upper right corner of the screen (Illustration 50);
- saving the palette will cause it to retain the defined textures and properties every time the model is used in the project again.

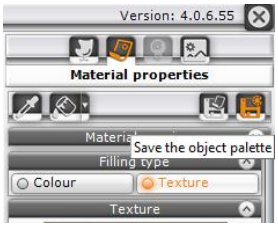


Illustration 50 - Location of the "Save Object Palette" icon in the upper right corner of the screen

6. Scaling Elements

Models inserted into a project are not always the correct size. Sometimes an element needs to be scaled down or up to make it the right size.

To do this, perform the following operations:

- click on the object with the left and then right mouse button and select **"Properties..."** from the drop-down menu (Illustration 51);
- opens the window **"Entity Properties"** (Illustration 52);
- in the **"Geometry"** tab, change the values in the **"Scale factor" X, Y, Z** (Illustration 53) (this can be done independently in each of the three axes);
- when entering decimal values, use periods, as .4CAD does not recognize commas;

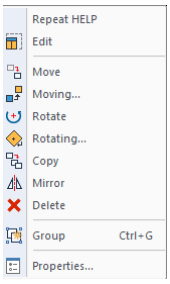


Illustration 51 Context menu

- approve the new settings with **"OK** button**”**;
- in this window you can also change the insertion point of the object - in the coordinate fields **"Insertion point**.";
- an example of scaling is shown in the illustration (Illustration 54).

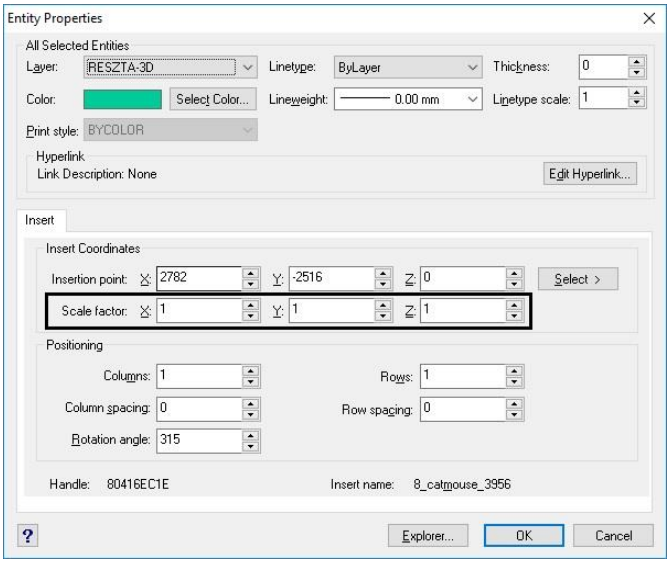


Illustration 52 "Entity Properties" window

Illustration 53 Altered scale factors - independently in all three axes

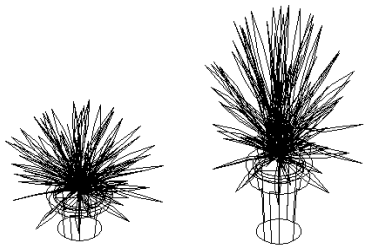


Illustration 54 Object in 1:1 scale and scaled in axis

Additional information

1. Instructional videos

- Playlist, Insert 3D Models | Converter."
- Insert 3D models in visualization | move | rotate | scale
- Insert 3D models in visualization | base search | favorites | model replacement
- Inserting 3D models in visualization | Insertion modes

2. Shortcuts and commands

The document compares keyboard shortcuts in the .4CAD and visualization environments and lists the most frequently used commands in versions up to 3.Xi/7.X and version 4.X/8.X (both 34 and 64 bit versions of the environment). Find the document at: https://www.cadprojekt.com.pl/zasoby/pdf/opisy-techniczne/shortcuts-4-0-8-0-eng.pdf

This document provides an overview of keyboard shortcuts and commonly used commands in the .4CAD environment for visualization. The shortcuts and commands can be issued using either the mouse or keyboard. It can be accessed at: https://www.cadprojekt.com.pl/zasoby/pdf/opisy-techniczne/shortcuts-4-0-8-0-64bit-eng.pdf

In the above list, LPM and RMB stand for left and right mouse buttons, respectively. A command notation with a + sign (e.g. [Ctrl] + [Z]) indicates that both keys should be pressed simultaneously, while a notation with a >> symbol (e.g. [E] >> [Enter] or [Space]) means that you should first type E and then press [Enter] or the space bar.

Technical support
Mon-Fri from 8 a.m. to 5 p.m.
pomoc@cadprojekt.com.pl
tel. +48 61 662 38 83

Contact form

We would like to inform you that we provide training in the use of our programs. For more information, please visit our website: https://www.en.cadprojekt.com.pl/trainings/

Training section
szkolenia@cadprojekt.com.pl
tel. +48 505 138 863

CAD PROJEKT K&A

CAD Projekt K&A Sp.J. Dąbrowski, Sterczała, Sławek
ul. Rubież 46 | 61-612 Poznań | tel. +48 61 662 38 83
biuro@cadprojekt.com.pl | www.cadprojekt.com.pl