Learn to use (7) 3skeng compatible Components (ver.1.0)

This document contains all scene texts of the SketchUp file in case you have problems to fit the text on your screen.

Scene "3skeng compatible Components"

How-to use this file:

Click on the next scene "1-Create Component" to start.

Follow the description step-by-step and feel free to align the predefined view to fit your screen resolution and preference.

When successfully finished, click on the next scene and repeat until the last scene. It may be helpful to click on this scene "3skeng compatible Components" for reference.

In the end, your design should look similiar as shown below.

Scene "1-Create Component"

1) Use SketchUp tools to draw the geometry of your component.

   We already prepared the simple outline of a future heat exchanger.

2) * Select the whole geometry the SketchUp way.

   Tip: Make a triple-click on a random surface to select all at once.

3) Right-click on the highlighted selection.

   You can select "Make Group" to create a group (not recommended).

   * Select "Make Component..." to create a component.

4) Name the component by filling out the "Definition" field.

   * Use the name "Manufacturer ABC - Model 123 (Heat Exchanger)"

Scene "2-Add references for start"

Now we have to add reference points for the future connections.

1) Enter the edit mode of the heat exchanger

   by double-click on the component

   or right-click on the component and selecting "edit component".

2) There are many ways to add reference points.

   In this example we use the SketchUp "Offset" tool.

   * Use the "Offset" tool with a distance of "100mm".

Scene "3-Add 3skeng interfaces (1)"

Now we start to add a 3skeng interface.

1) Enter the edit mode of the heat exchanger.

2) Click on the "Pipe tool" in the 3skeng toolbar.

3) In 3skeng (client) window:

   * Make sure that the switch is on the side "Detail".

4) Select material and standard in "library" register:

   * "Plastic Piping" => "PVC-C Pipe (mm) PN16 (SDR 13.6), gray".

5) Hover over the front surface and click to select the start point:

   * top right reference corner

     (only the vertical axis (on face) is available).

6) Select type of pipeline segment:

   * Click "Generate straight pipelines".

7) Move along the line to select the diameter of the straight pipe

   * select "Pipe d40mm".

8) Move along the ruler to select the length of the pipe segment

   or enter the value with the keyboard:

   * select "75mm" with either method.

Scene "4-Add 3skeng interfaces (2)"

Now we finish the first 3skeng interface.

1) Enter the edit mode of the heat exchanger.

2) If not still active, click on the "Pipe tool" in the 3skeng toolbar.

3) * Hover over the end of the straight piece and click.

   Make sure that the end of the pipe is highlighted,

   and not the Tee or connector symbol!

   Select type of pipeline segment:

   * Click "Select a pipe connector".

4) Select type of fitting in 3skeng (client) window:

   * "PVC-C Loose Flange Assembly (mm), gray".

5) For this size and type of connector, only one is available:

   * select "Loose Flange Assemly DN32-d40mm PVC-C PN16".

6) Now you can select the pipe and flange and copy them

   to the other reference points with the SketchUp move tool.

Scene "5-Connect to heat exchanger"

Now we connect to the 3skeng interface(s) of the heat exchanger.

1) Leave the edit mode of the heat exchanger

    by clicking outside of the component boundaries.

    or left-click outside of the component

       and selecting "Close Component".

1) Click on the "Pipe tool" in the 3skeng toolbar.

2) Hover over the end of the flange and click.

3) Select type of pipeline segment:

    * Click "Select a pipe connector".

3) Select type of fitting in 3skeng (client) window:

    * "PVC-C Loose Flange Assembly (mm), gray".

4) For this size and type of connector, only one is available:

    * select "Loose Flange Assemly DN32-d40mm PVC-C PN16".

5) Add a pipe to the flange

    * select "200mm".

6) Copy the flange and pipe to the other three interface

    by using the "Connect tool" (in the 3skeng toolbar).

Scene "Special: PIN outside visible"

Good-to-know:

(Free) connector PIN's (e.g. flange) added inside components/groups

(like in this file) are automatically set to "PIN outside visible"

and can be "seen" and used by 3skeng from the outside.

For all other 3skeng elements you have to manually set PIN's

to be visible from the outside.

The starting position of all 3skeng elements is defined as PIN 0.

To see the difference between PIN's of the same piece of pipe:

1) Click on the "Pipe tool" in the 3skeng toolbar.

2) Hover over the end's of the pipe pieces.

Top pipe: PIN 0 is set to "PIN outside visible"

Bottom pipe: PIN 1 is set to "PIN outside visible"

To set/change the setting of 3skeng element PIN's:

3) Left-click on a 3skeng element (inside a component/group).

4) Go to "PIN outside visible" in the context menu.

5) Make your selection as required.

   Feel free to change the settings of the sample pipe pieces.