Learn to use (1.1) 3skeng Pipe conceptual (ver.2.3)

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

Scene "Explanation"

Important for MAC-users:

Clicking on and making changes in the 3skeng client give it focus!

So please click on the SketchUp window once you are done to give SketchUp back focus.

This will enable input of measurements with the keyboard.

Scene "Learn to use Pipe conceptual"

How-to use this file:

Click on the next scene to start or use the PgUP and PgDN keys

to advance to the previous or next scene.

Follow the description step-by-step ("*" requires action from you) and feel free to align the predefined view to fit your screen resolution and preference.

When successfully finished, go to the next scene and repeat until the last scene. It may be helpful to click on this scene for reference.

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

Scene "1-Straight Pipe"

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

2) In 3skeng (client) window:

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

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

   * "Ventilation and Exhaust Duct" => "Metric Steel Ductwork".

4) Click to select the start point:

   * drawing origin.

   Option: Change the number of circle segments:

   * type in "16" and press "enter".

5) Select the direction of the first pipeline segment:

   * hover over the red axis and click.

   Info: Main axes are highlighted in the specific colors.

6) Select type of pipeline segment:

   * Click "Generate straight pipelines".

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

   (just click on a highlighted square)

   or enter the value with the keyboard:

   * select "500 mm" with either method.

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

   or enter the value with the keyboard:

   * select "1000 mm" with either method.

   Info: One side of the ruler is always set to "inch",

   the other side uses the drawing unit (this drawing is "mm").

Scene "2-Tee"

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

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

   Select type of pipeline segment:

   * Click "Select a T-Piece".

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

   * "90° (Straight)".

4) Move along the ruler to select the length of the tee

   or enter the value with the keyboard:

   * select "800 mm" with either method.

5) Select the orientation of the tee outlet

   by using the degree selection

   or entering the value with the keyboard:

   * select "90°" (highlighted blue like main axis) with either method.

6) Move along the line to select the diameter of the tee outlet

   or enter the value with the keyboard.

   * select "315 mm" with either method.

   Option: Change diameter standard in (client) library register.

7) Two given pins show minimal and maximal snapped length.

   You can also select the length for the tee outlet with the ruler

   or enter the value with the keyboard:

   * select "500 mm" with either method.

Scene "3-Reducer"

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

2) * Hover over the end of the tee piece and click.

   Select type of pipeline segment:

   * Click "Select a Reducer".

3) Move along the ruler to select the length of the reducer

   or enter the value with the keyboard:

   * select "600 mm" with either method.

4) Move along the line to select the desired diameter

   or enter the value with the keyboard:

   * select "315 mm" with either method.

   Option: Change the diameter standard in library register.

5) Choose between pins for concentric, eccentric reducer or free value:

   * select "eccentric" with offset "92.5 mm".

6) Select the position of the eccentric outlet side

   by using the degree selection

   or entering the value with the keyboard:

   * select "270°".

Scene "4-Elbow"

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

2) * Hover over the end of the reducer and click.

   Select type of pipeline segment:

   * Click "Select the direction and an elbow".

3) Select the orientation of the elbow by

   moving the mouse over the degree selection

   or entering the value with the keyboard:

   * select "180°".

4) Select the elbow opening angle between 0 and 90 degree

   by using the degree selection

   or entering the value with the keyboard:

   * select "90°".

5) Select the elbow bending radius.

   You can use the pre-defined snap points

   (set between 0.5 and 2.5 times the elbow diameter)

   or enter a free value with the keyboard:

   * select "r/d=1.5".

Scene "5-Pipe-Elbow"

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

2) * Hover over the end of the elbow and click.

   Select type of pipeline segment:

   * Click "Select an elbow and generate a pipe".

3) Select the orientation of the elbow

   by using the degree selection

   or entering the value with the keyboard:

   * select "180°".

   Option: A double-click to confirm the degree selection

   will take over the configuration of the last elbow.

4) Select the length of the whole pipe-elbow combination

   by entering the value with the keyboard

   or hovering over an element for reference and alignment.

   The total length is the intersection of the pipe's centerline

   and the centerline of the elbow outlet.

   * select "1500 mm".

Scene "6-Flex"

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

2) * Hover over the end of the elbow and click.

   Select type of pipeline segment:

   * Click "Generate Flex".

3) Select the end of the flex segment either in free space

   or better at an existing pin:

   * select the pin of the tee outlet.

Scene "7-Add tee in straight piece"

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

2) * Hover over a straight piece and

   click on tee symbol to add a tee in the straight piece.

3) Move along the ruler to select the length of the tee

   or enter the value with the keyboard:

   * select "600 mm" with either method.

4) Select the position of the tee in the straight piece.

   * select "0 mm" to center the tee.

5) Select the orientation of the tee outlet

   by using the degree selection

   or entering the value with the keyboard:

   * select "180°" (highlighted green like main axis) with either method.

6) Move along the line to select the diameter of the tee outlet

   or enter the value with the keyboard.

   * select "315 mm" with either method.

   Option: Change the diameter standard in library register.

7) Two given pins show minimal and maximal snapped length.

   You can also select the length for the tee outlet with the ruler

   or enter the value with the keyboard:

   * select "400 mm" with either method.

Scene "Special-Auto-Pipe (Concept)"

1) Click on the "Pipe Tool".

2) Hover over Tee Outlet and click when highlighted.

3) Click on "Straight Pipeline" (top left).

4) Hover over Destination and click when highlighted.

5) Select Route by hovering over pins and click to select.

Scene "Special-Troubleshooting"

Problem:

PIN cannot be selected in previous step 4.

Reason:

Tape measure blocks access.

Solution:

Hold "Shift" to hide scale

or orbit to have unblocked "view" to PIN.

Scene "Flex 2020"

Flex 2020 allows detailed routing.

1) If not still active, click on the "Pipe Tool".

2) * Hover over the Start PIN of the duct piece and click.

Select type of pipeline segment:

* Click "Generate Flex".

3) Follow the maze by clicking on the "floor".

Every click sets a waypoint for the flex tube.

Clicking on edges prevents Flex from making shortcuts that create

collisions.

Feel free to play with the maze and get to know Flex better!

Scene "Flex 2022"

Flex 2022 allows routing inside of ("detail" and "conceptual") pipelines.

1) If not still active, click on the "Pipe Tool".

2) In 3skeng (client) window:

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

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

    * "Plastic Piping" => "Plastic piping (DIN)".

4) * Click "Generate Flex".

    * select "40 mm".

5) * Press and hold "Ctrl".

    * Hover over PIN and click when axis of pipeline elements

      are highlighted.

6) Click on the PIN to close the connection.