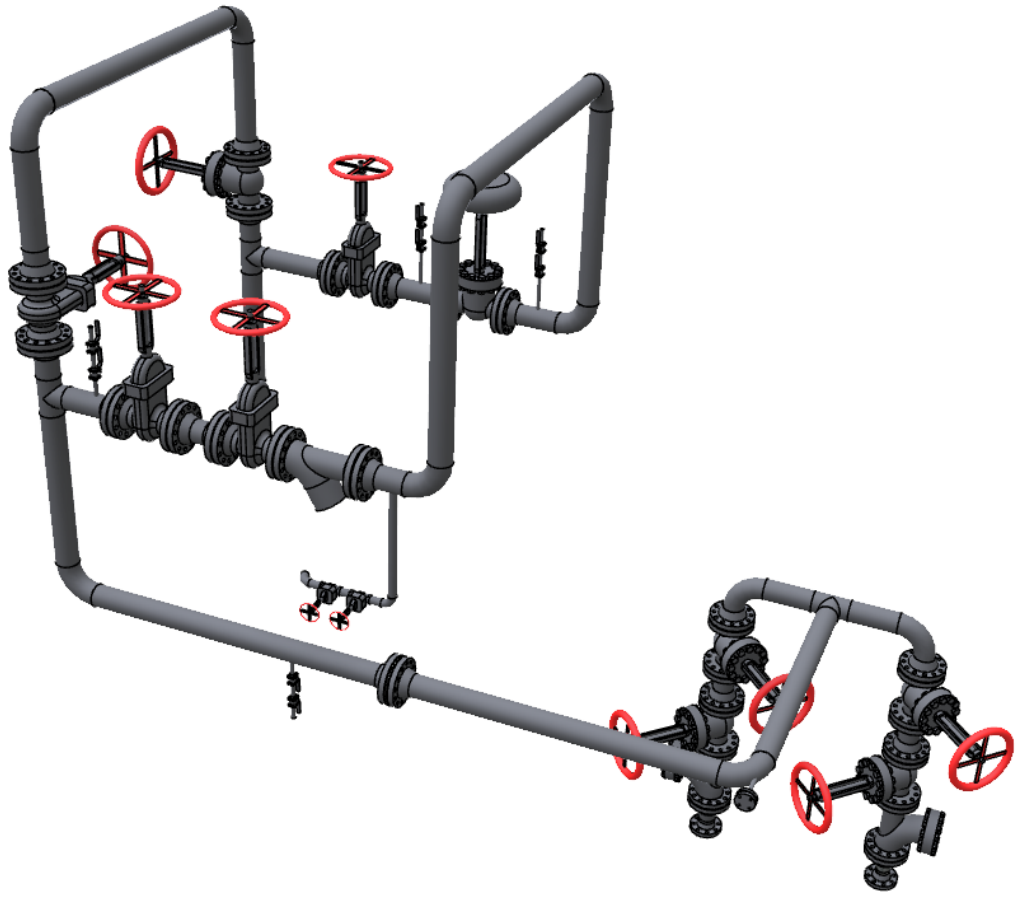
e-Piping

For

AUTODESK
Inventor Professional



Pipes, elbows, tees, reducers, flanges, supports, valves and much more.

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1. Introduction.

Thank you for using our software.

e-Piping is an add-in that has been built specifically for Autodesk Inventor. It is therefore necessary that Autodesk Inventor Professional is already installed on your workstation before you can use the software. More specifically, this version of e-Piping is suitable for version Inventor 2025. Because Inventor 2025 works with the .NET 8.0 framework, this has the disadvantage that this version of e-Piping will not work with all previous versions of Inventor.

Conceived and programmed in Belgium, e-Piping works according to the metric system, but it is also possible to select imperial parts.

With e-Piping, it is possible to configure and then insert piping fittings and valves within the working environment of the Inventor Assembly.

After the selection and configuration, you start the placement command, here e-Piping will ask you where you want to connect the fitting. Then, depending on the type of fitting, e-Piping will ask if you want to flip the fitting to the other connection side or e-Piping will ask you to rotate the fitting.

With e-Piping, you do remain responsible for the design yourself, but you can create a full piping design into your Inventor model, quickly and without a steep learning curve.

2. Install the software.

Before you can start installing e-Piping, you need to make sure that Autodesk Inventor Professional is installed on your workstation and that the version corresponds to the e-Piping version.

Make sure that Inventor is completely shut down.

The files of the Add-in are in a directory called: "ePiping". This directory contains at least the files "ePiping.dll" and "Autodesk.ePiping.Inventor.addin".

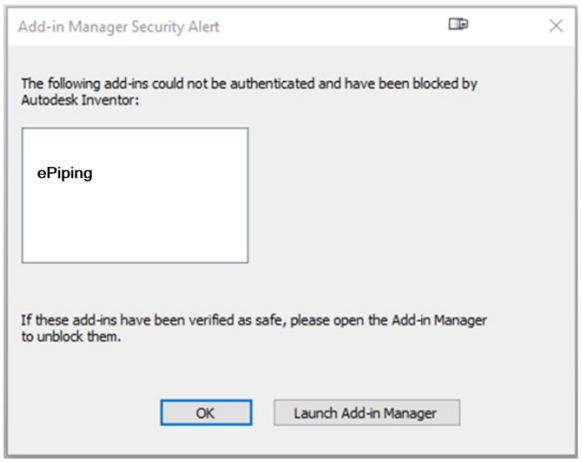
There is also a subdirectory "ButtonResources" which are all the images of the buttons. It goes without saying that you should not change anything in this structure. Any adjustment will result in the Add-in no longer working.

Copy the entire directory of the add-in to the following location:

C:\Users\ **»YourName»**AppData\Roaming\Autodesk\ApplicationPlugins.

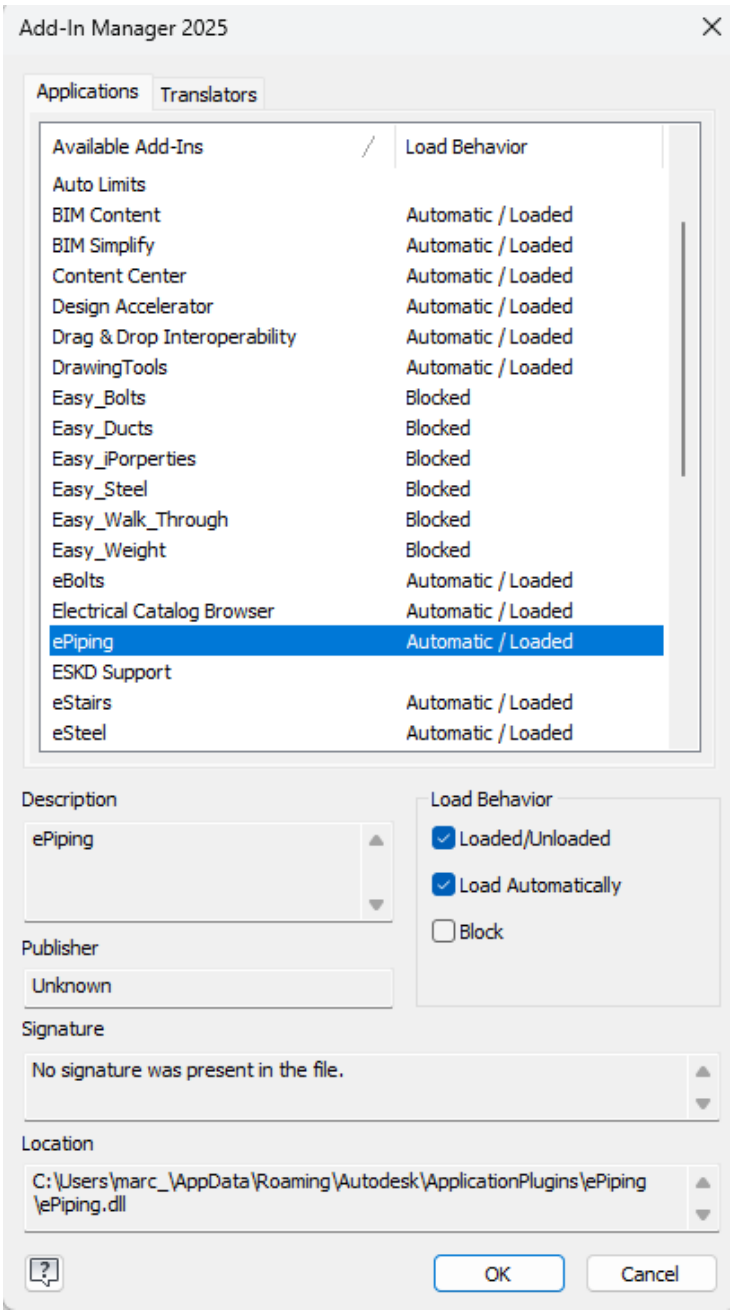
On the place **»YourName»** you must enter your username of windows.

Start Autodesk Inventor Professional, a window will appear during startup with the message that a new add-in has been found.



Accepted with OK, and Inventor will continue to be started.

On the "**Options" panel,** select the "**+Add-in**" field and the "Add-in Manager" window will open. Select the "**Applications"** tab, if it is not selected, and search for "ePiping" in the list of applications.



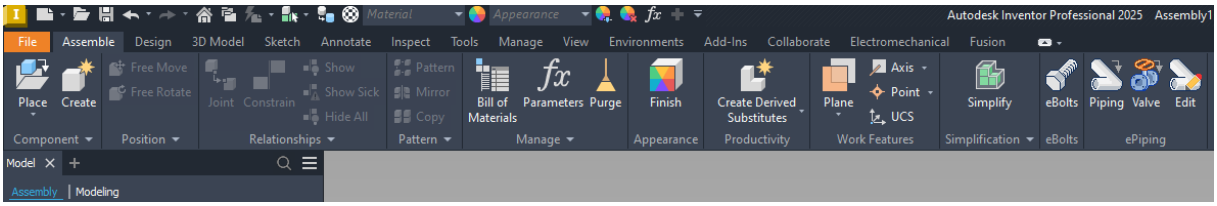
Select "ePiping" and you will notice that at the bottom the "Load Behavior" is set to "Block". This is a safety for new applications.

Uncheck "Block" and check the "Load/Automatically" and "Loaded/Unloaded" options.

Click OK to exit the Add-in Manager and the e-Piping add-in is installed.

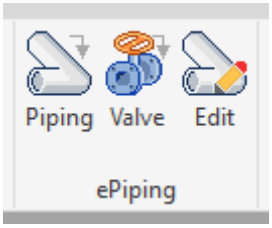
If you create a new assembly file or open an existing assembly file, the ePiping add-in panel will appear in the "Assemble" tab of the GUI (graphical user interface) of Inventor.

3. The graphical interface.

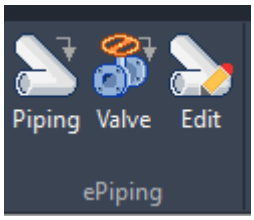


As you could already notice, the e-Piping panel can only be reached via the Assemble tab of the Assembly work environment. This makes sense since the parts generated by e-Piping must be placed in an assembly file.

Depending on which UI theme is selected, the e-Piping panel will look like the one shown below. All other windows of the application will follow the UI theme used.



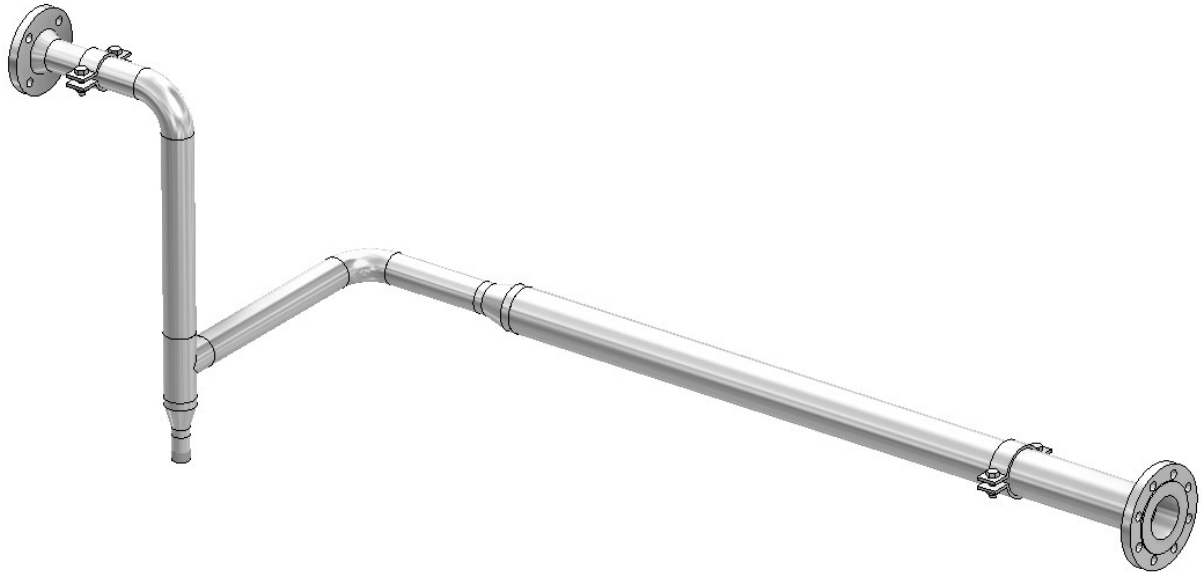
For the light UI theme



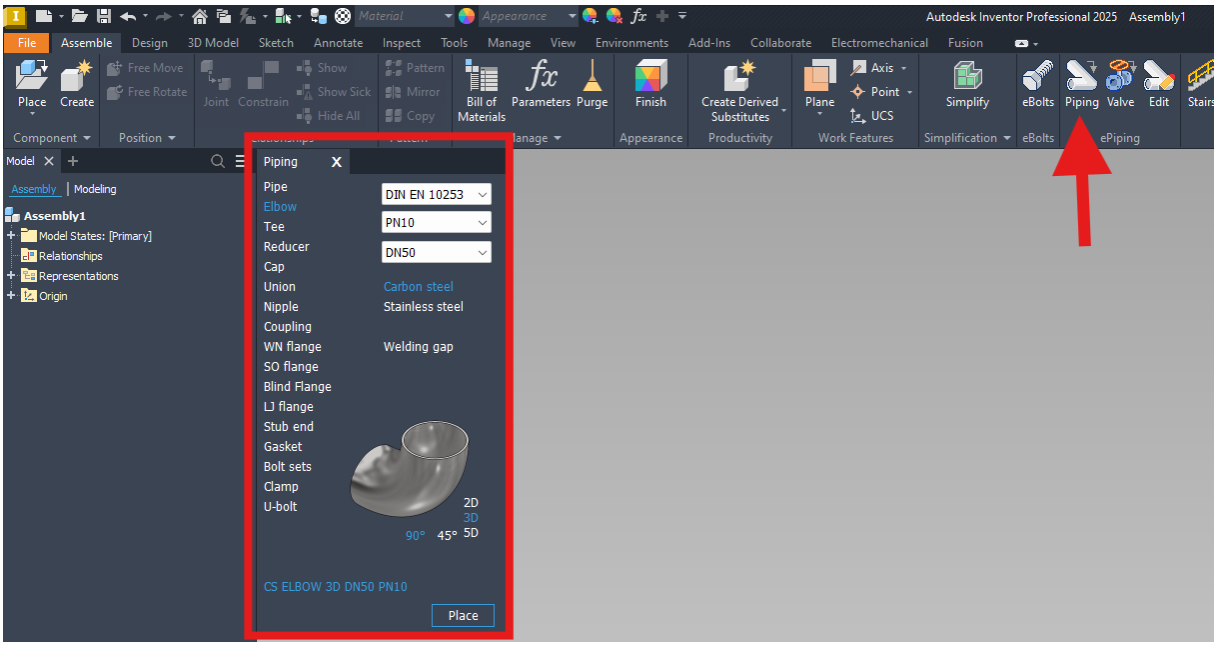
for the dark UI theme

With the first two buttons you can select the type of part you are going to place. On the left the Pipe fittings, in the middle the valves and filters. The third button is used to adjust the pipe length of pipes that have already been placed.

4. Inserting pipe fittings.



Click on the first button of the e-Piping panel to start inserting piping fittings. The window to configure a fitting will open at the top left corner of the graphical screen.



At the very top next to the title is a cross. If you move the cursor over it, it will turn red. With a click on the cross you can close the window.

You can also close the window by clicking on the escape key.

Below the title are seventeen labels the one that is selected is in this case Elbow. The color of the text is blue and the picture in the form shows the elbow fitting. If you hoover over the rest of the labels the text of the label becomes grey and back to white if you leave the label. The picture will change to the preselected fitting accordingly. If you leave the label the picture goes back to the selected fitting. If you click on another label that label will be selected, and the text becomes blue. The picture changes to that fitting and the additional configuration changes.

On the top right corner of the window form is a combo box where you can choose between the metric system piping or the Imperial system piping.

With the second combo box you can choose the rating of the piping for metric piping. The range is from PN6 up to PN100 for the imperial system. The range for the fittings is from Sch5 to Sch160 and the flanges from 150 # to 1500 #.

With the third combo box you can choose the size of the piping. For metric piping. The range is from DN15 up to DN1200 for the imperial system the range for the fittings is from ½” up to 24”

Below the combo boxes are a pair of labels where you can choose between carbon steel or stainless-steel piping.

Below those labels, just above the fitting picture is a label welding gap. You can select or deselect it. If it is selected, a combo box is visible and indicates the size of the welding gap. You can select from a list between 0 and 5 mm or in imperial between 0 and ¼”.

With some fittings there are additional configuration options they get visible when the fitting is selected. In this case the elbow in metric is selected so the additional configurations of this part are the angle of the elbow 45° or 90° and the size of the radius can be chosen between 2D, 3D or 5D.

The Tee has as additional configurations straight or reduced. And the reduced size if reduced is selected.

The reducer has additional configurations concentric or eccentric and the reduced size.

Other fittings do not have additional configurations.

At the very bottom right is the PLACE button that will start the routine to place the chosen fitting.

Here are the tasks that are running in the background:

Creating a new part file or using the existing one.

Modeling the fitting.

Filling in the i-Properties.

The fitting is given the material "CS-Pipe" with the appearance " CS-Pipe " for carbon steel and "SS-Pipe" with the appearance " SS-Pipe " for stainless steel.

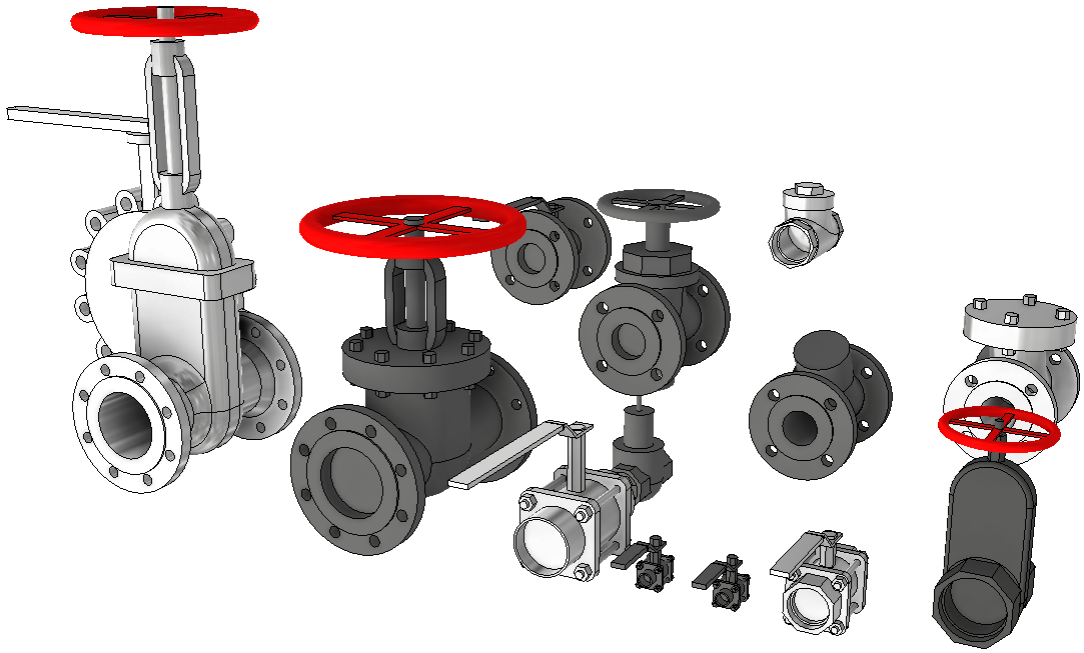
The file is written in the project directory in the subdirectory **Piping**, subdirectory according to the fitting. If this directory does not exist, it is created. The filename is made of the material, the item name, the size, the rating and the extension: ipt.

After the file has been saved, you will be asked to indicate a circular edge. After you have designated this edge, the fitting is connected. Some fittings ask to be rotated or flip to another connection.

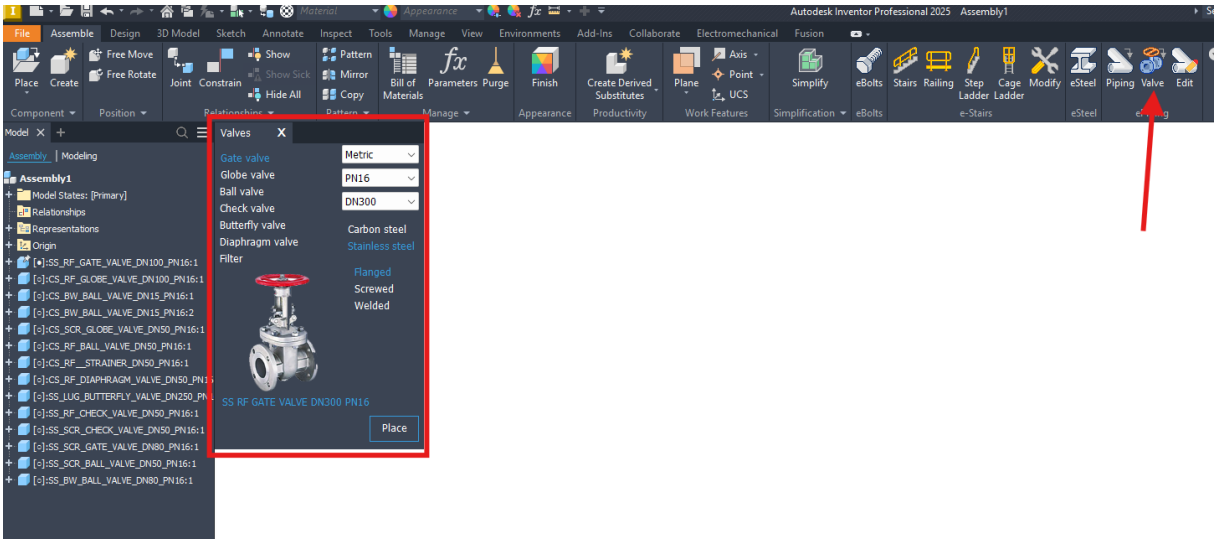
The routine is terminated, and the window of e-Piping is opened again, ready to install a new fitting.

If you don't want to connect the fitting to a circular edge, you can also continue with an "ENTER" click. Autodesk Inventor will then execute the regular insert command with the new fitting.

5. Inserting valves, check valves and filters.



Click on the second button of the e-Piping panel to start installing a valve, check valve or a filter. The window to configure a valve will open at the top left corner of graphics display.



To close the window, you can click on the cross next to the title or click the escape key, as with the window of the stairs.

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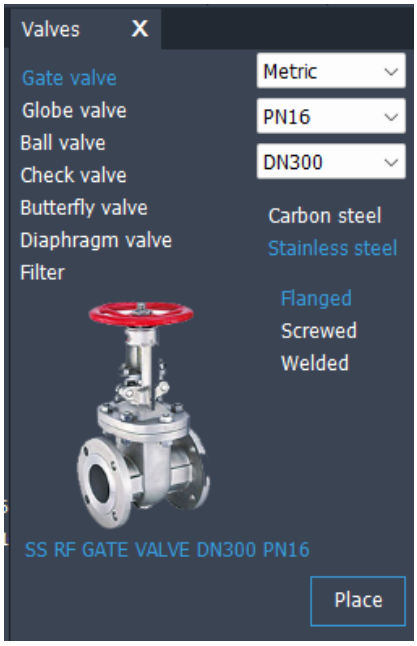


At the very top next to the title is a cross. If you move the cursor over it, it will turn red. With a click on the cross you can close the window.

You can also close the window by clicking on the escape key.

Below the title are seven labels the one that is selected is in this case gate valve. The color of the text is blue and the picture in the form shows the gate valve. If you hoover over the rest of the labels the text of the label becomes grey and back to white if you leave the label. The picture will change to the preselected fitting accordingly. If you leave the label the picture goes back to the selected fitting. If you click on another label that label will be selected, and the text becomes blue. The picture changes to that fitting and the additional configuration changes.

On the top right corner of the window form is a combo box where you can choose between the metric system piping or the Imperial system piping.

With the second combo box you can choose the rating of the valve for metric piping. The range is from PN6 up to PN100 for the imperial system. The range for the valve from 150 # to 1500 #.

With the third combo box you can choose the size of the piping. For metric piping. The range is from DN15 up to DN1200 for the imperial system the range for the fittings is from ½” up to 24”

The sizes and range can change according to the type of valve.

Below the combo boxes are a pair of labels where you can choose between carbon steel or stainless-steel piping.

Some valves have additional configuration options, they get visible when the valve is selected. In this case the gate valve in metric is selected so the additional configuration of this part is flanged. It can also be welded or screwed.

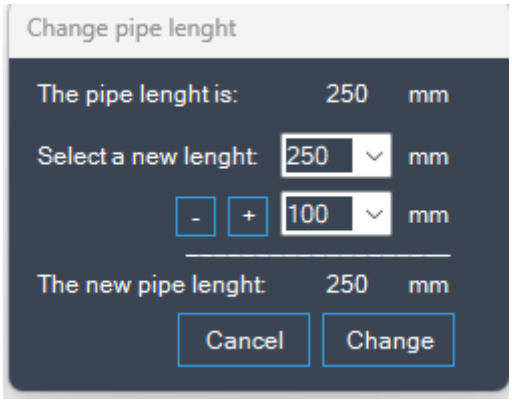
6. Modifying an existing pipe.

The third button of the e-Piping panel gives you access to the program to adjust the length of a pipe that has been inserted.

All parts of the piping installation are standard items. The dimensions of the fittings never change, with one exception, the length of the pipe. In piping design, flexibility is crucial for adjusting routes, making modifications, and ensuring that everything fits perfectly within a given space or project requirements. Having a tool that allows easy modification of pipes that are already in place is extremely important to save time and resources.

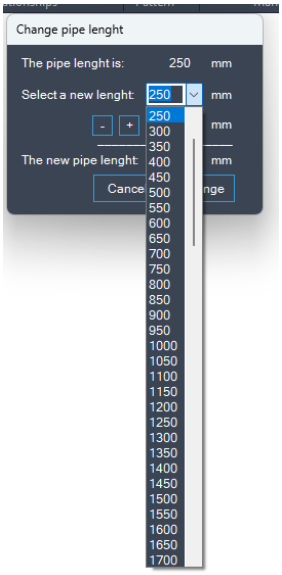
After you click the third button of the e-Piping panel, Inventor will ask you to select a pipe. You will only be able to select a pipe. If you want to exit the program, you can do that with the escape button.

If you select a pipe, ePiping will show you a window to modify the pipe.



The upper line of text is the actual length of the pipe.

The second line has a ComboBox and at the start it shows the length of the pipe. You can change the length of the pipe by selecting another length from the pull-down list.



Or you can type in a new length.

You can also use the third line, fill in an integer and use + or – to add or subtract the integer of the length.

The fourth line repeats the new length of the pipe.

Below there are the cancel and change button. If you cancel, nothing happens, and the pipe will be the same length. If you click change, Inventor will create the same pipe with the new length and replace the old pipe with the new one.

7. Finally.

The use of the application allows you to create a whole series of files in a short time and insert them into an assembly. As a result, Inventor itself can sometimes have problems with its RAM. It is advisable to save regularly.