Flexit MagiCAD plugin for Revit

User guide

26/05/2023

MagiCAD

Content

1 Chapter 1. General

1.1 About this document

This document contains instructions on using *Flexit MagiCAD plugin for Revit*. The plugin allows inserting Flexit air handling units into Revit.

1.2 Installing the software

1.2.1 Required third-party software

Revit
- Revit 2021 - 2024

MagiCAD (optional)
- MagiCAD for Revit 2023 with Revit 2021 - 2023
- MagiCAD for Revit 2024 with Revit 2021 - 2024

1.2.2 Installation

1. Download setup file from
   https://portal.magicad.com/download/ProductSearch?searchStr=Flexit&categoryId=3

2. Install Flexit MagiCAD plugin.

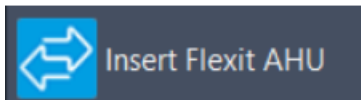   Administrator privileges are recommended for installation.

2   Chapter 2. Functions

## 2.1   Flexit MagiCAD plugin User Interface

2.1.1 Main functions

After running the installation, Flexit panel appears to the Revit *Add-Ins* ribbon tab and the user can start using the Flexit Revit plugin functionalities.
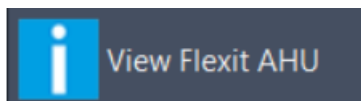
Plugin contains the following functions:

Opens the Flexit Configurator where the air handling units can be created and configured. The user can choose products to be inserted to the Revit.
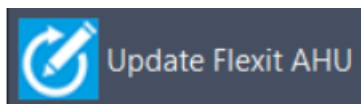
Updates the selected Flexit air handling unit by opening Flexit Configurator. The selected air handling unit will be replaced/updated to the Revit.
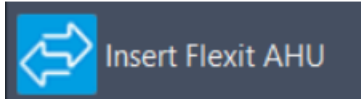

Allows user to view technical data of the selected product. The selected product can be air handling unit or duct component which is dimensioned by Flexit Configurator.
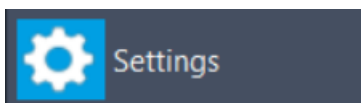
Allows user to change how pressure drops for supply and extract are reported to the Flexit Configurator.

2.1.2 Insert Flexit AHU

Follow these steps for Inserting Flexit air handling unit into Revit:

1. Click *Insert Flexit AHU* button from the plugin ribbon panel in Revit.

2. Next step is that the plugin asks to point ductworks for getting airflows and pressure drops. This phase can be skipped by pressing Esc button. By pressing the Finish button, the airflows and pressure drops are read from the ducts.

   Please note that the pressure drops are available only if MagiCAD for Revit is installed. If the MagiCAD for Revit is not exists, only airflows are read from the Revit to Flexit Configurator.
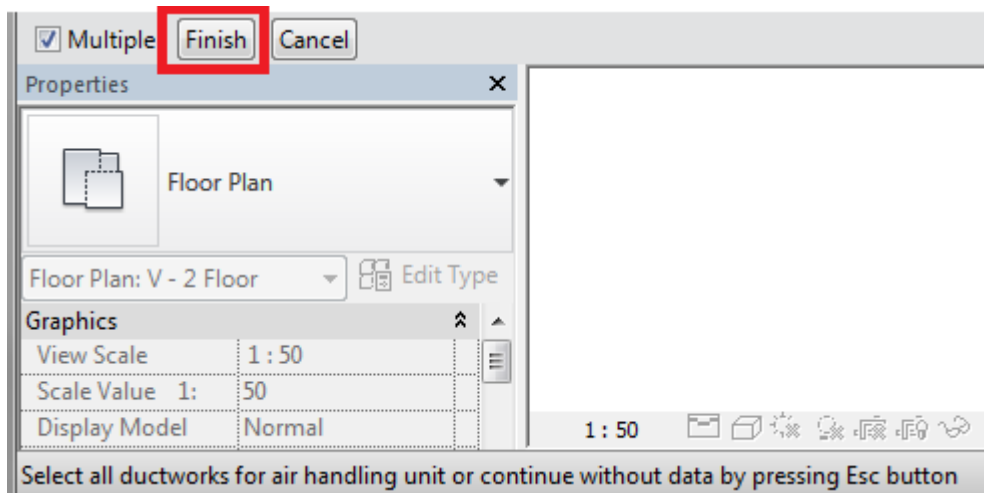

The ducts can be seleced with Revit multiselection tool or one by one.

3. Flexit Configurator program is started.

   If the user has not already logged in to the Flexit Configurator, the user name and password are requested from the user.
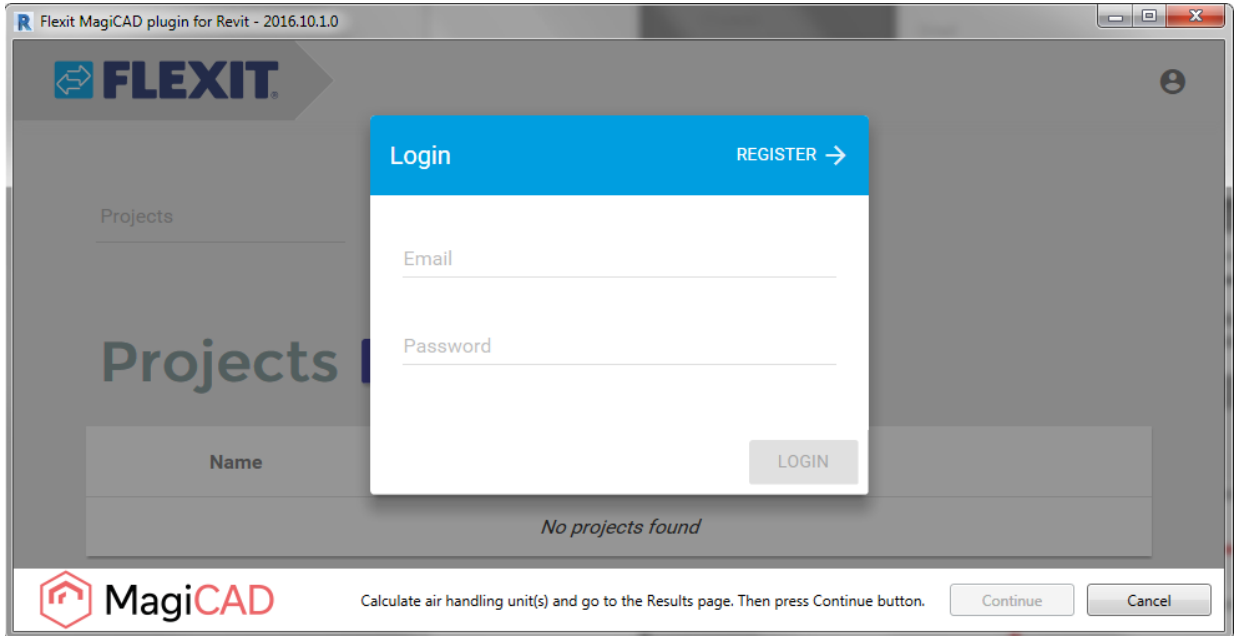

If the ductworks are selected from the Revit, the new project is automatically created and the airflows and pressure drops values are auto-filled with values received from the CAD.
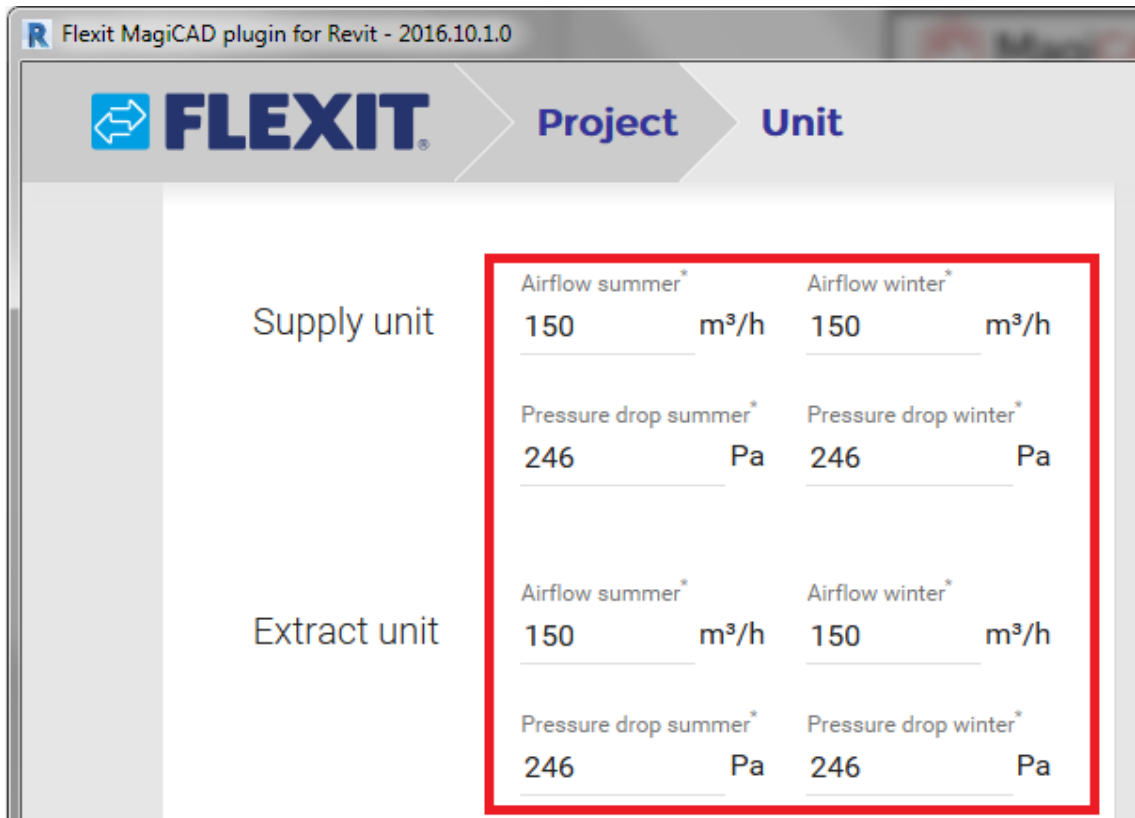
The user can change the predefined air handling unit type or edit unit properties from the *Unit* page.

If the ductworks are not selected from the Revit, the *Projects* page is opened from the Flexit Configurator.
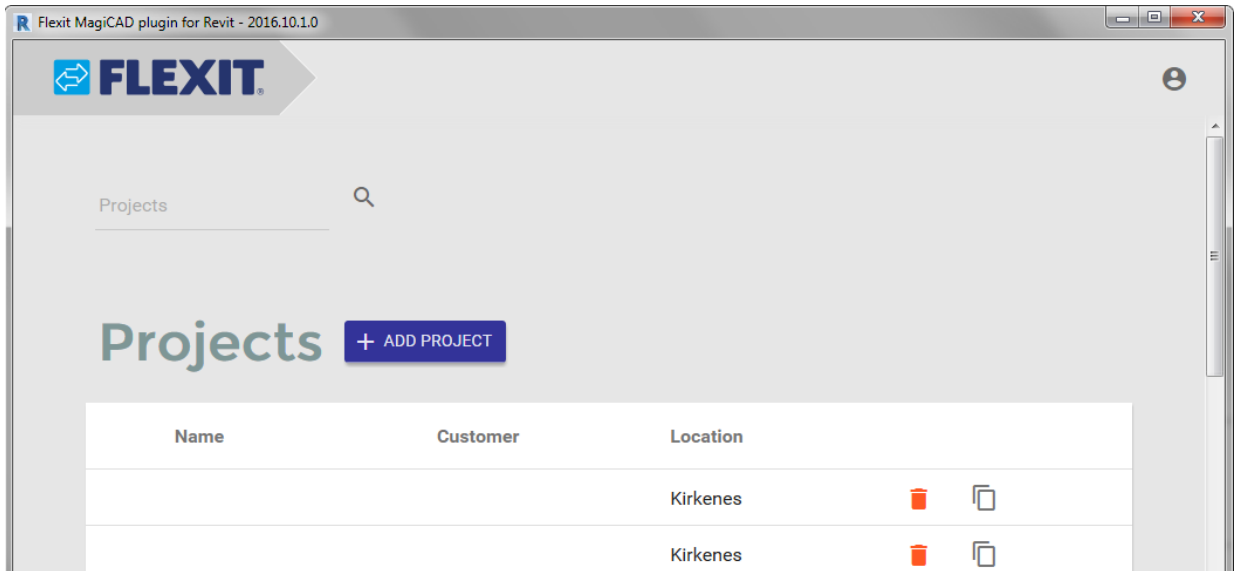
The user can add a new project from this page. After the project is added, the user can continue to add an air handling unit (or units) to project.

It is also possible to open an existing project from this page.

4. When the all air handing units are configured and calculated, the user can click *Continue* button at the bottom of the plugin.
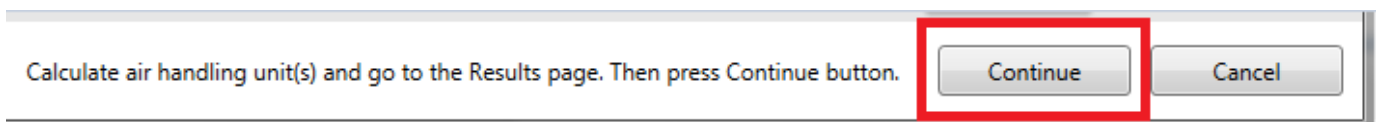
The *Continue* button is enabled when the *Results* page is selected and one or more units is calculated in the active project.

5. When *Continue* button is clicked, the following dialog is displayed for the user:
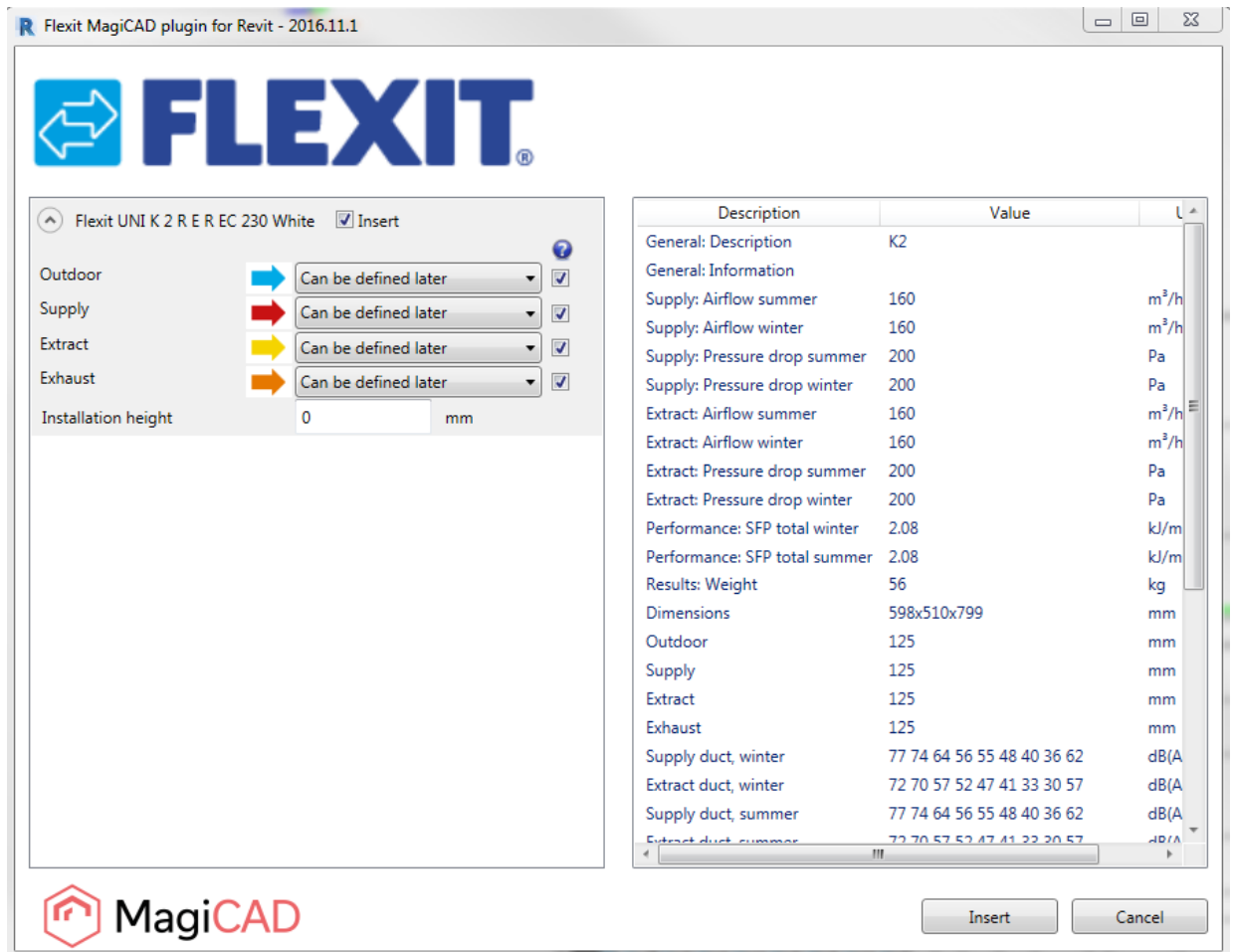

Available products are shown in the list view on the left side of the dialog. Some product properties are displayed on the right side of the window.

Before installing the product into the Revit project, the user can select systems (not necessary) for each duct connection (for each product installed to the project). Also installation height (Offset) of the product can be defined here.

The air handling unit duct connection can be plugged by unchecking the checkbox after the system selection drop-down list.

6. The installation process can be started by clicking the *Insert* button. Please notice that it is possible to uncheck insert checkbox in case you want to exclude some of the units from the insert operation.

7. The products can be placed to the Revit one by one by dragging them to wanted position in the view. After the products have been positioned in Revit, they can be connected to the ductwork.

2.1.3 Update Flexit AHU
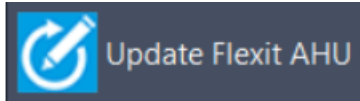
Please follow these steps to update Flexit air handling unit into Revit:

1. Click *Update Flexit AHU* button from plugin ribbon panel in Revit.

2. Select the air handling unit from the Revit project which will be updated.

3. The selected air handling unit is opened from the Flexit Configurator. The plugin automatically passes the updated airflow and pressure rise requirerements from the duct connections in the Revit to the Flexit Configurator.
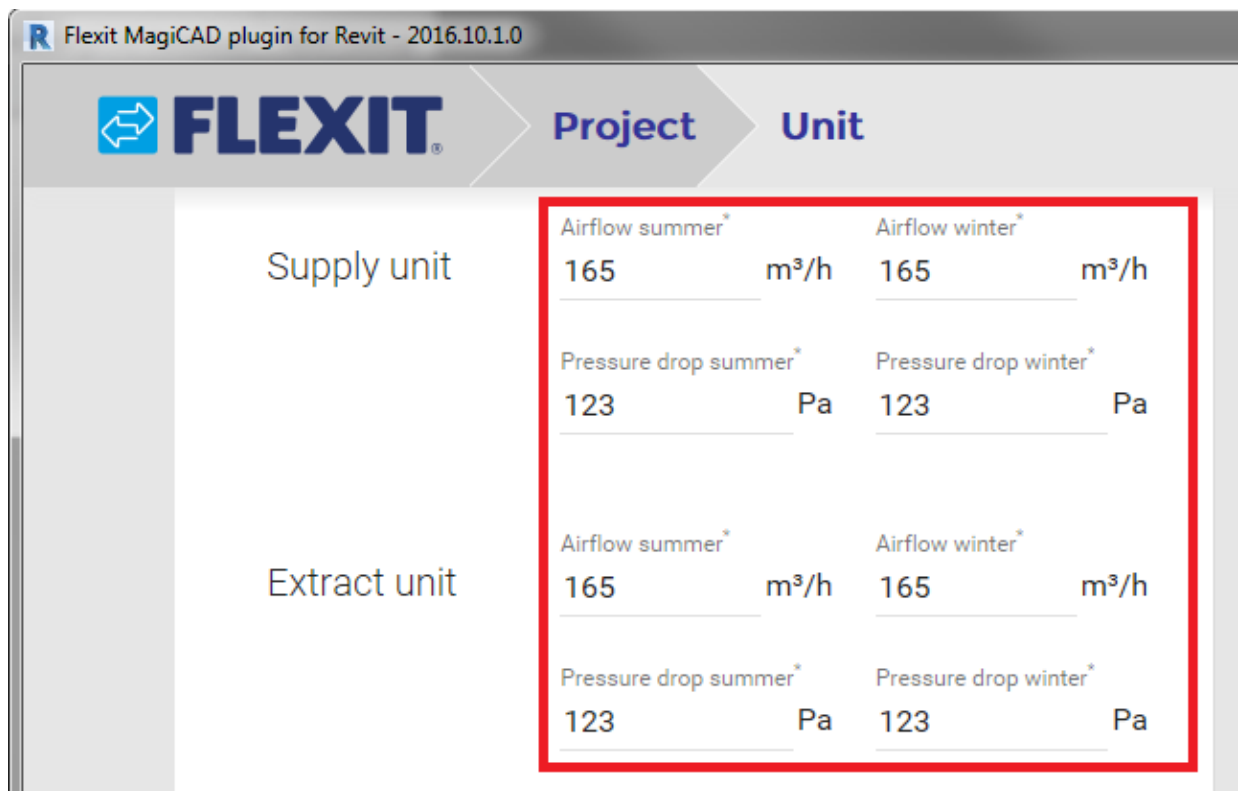

The user can change the predefined air handling unit type or edit unit properties from the *Unit* page.

4. When the active air handing unit is configured and recalculated without errors, the user can click *Continue* button at the bottom of the plugin. The *Continue* button is enabled when the *Results* page is selected.

   Please note that the selected unit in the Configurator must be the same (same ID) than the selected unit from the Revit.

5. The plugin will perform compere operation in order to validate whether the original air handling unit has been changed to the different kind of the air handling unit during the update operation in Flexit Configurator.

If the air handling unit is still exactly the same, only technical data (such as sound data) is updated to the existing air handling unit in the Revit. The following message will be displayed:
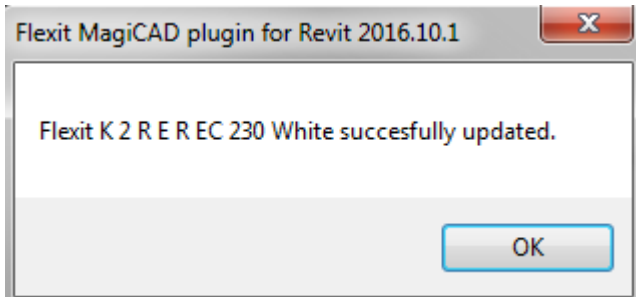

In case the air handling unit has been changed somehow (or switched to a completely another one), the plugin performs replace operation. In the replace operation the plugin deletes the original air handling unit from the drawing and places a new unit to the same position with the same system selections. The following dialog is displayed to the user:
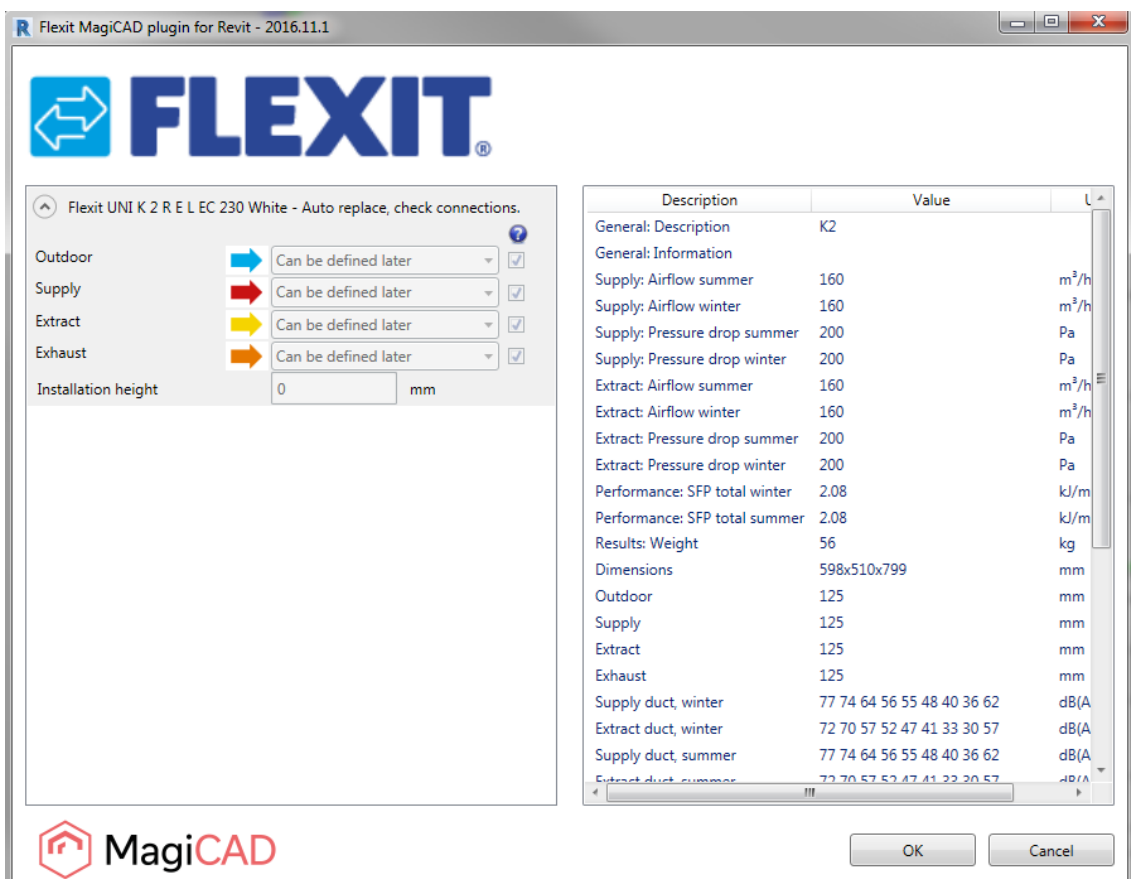

The dialog is purely informative, no actions are required. If the new duct components are added during update, those will be inserted to the Revit at this point. The user can see from the dialog which systems are automatically selected for the new air handling unit. The user can exit the dialog by clicking OK button.

2.1.4 View Flexit AHU data
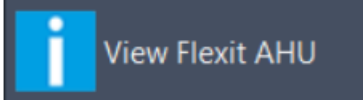
Follow these steps for viewing Flexit air handling unit data:

1. Click *View Flexit AHU data* button from the plugin ribbon panel in Revit.

2. The installation dialog will be shown. This dialog is the same as in the Insert Flexit AHU procedure. Only difference is that the systems selections, enable/disable the duct connections and the installation height are not enabled.
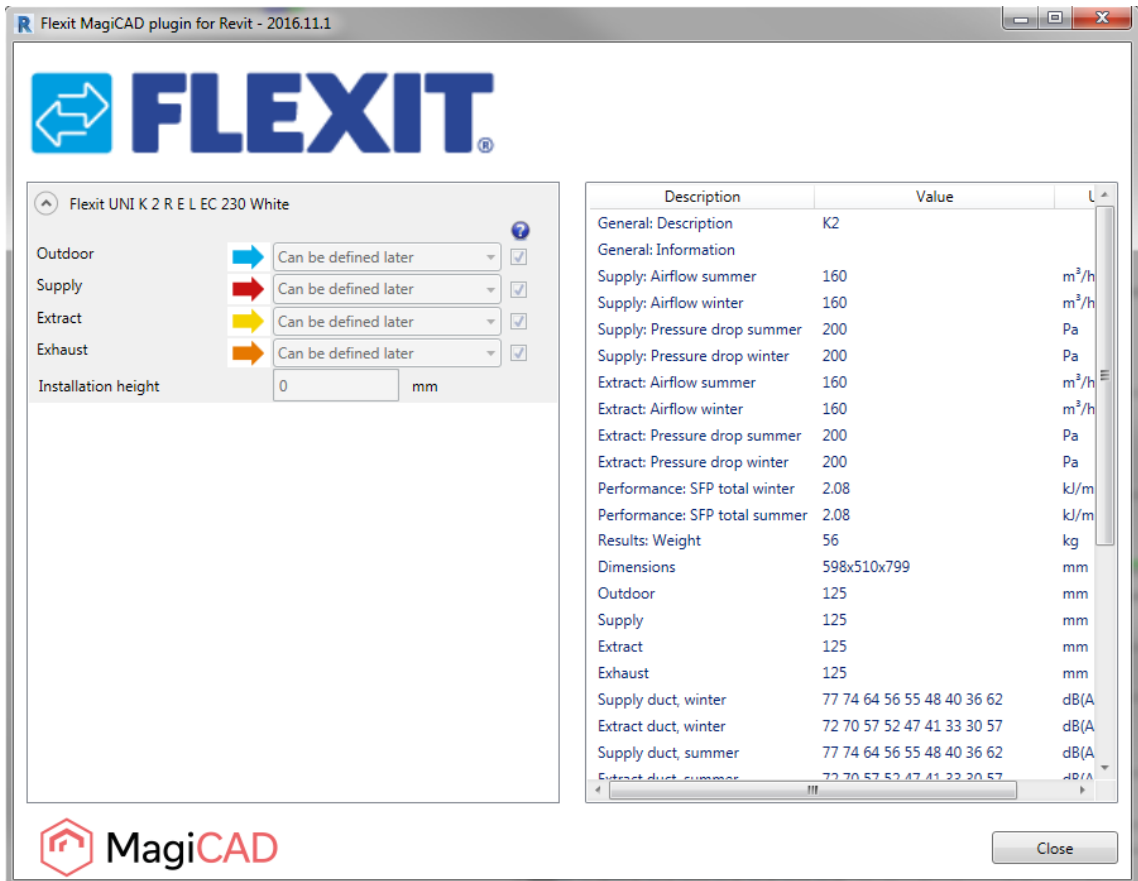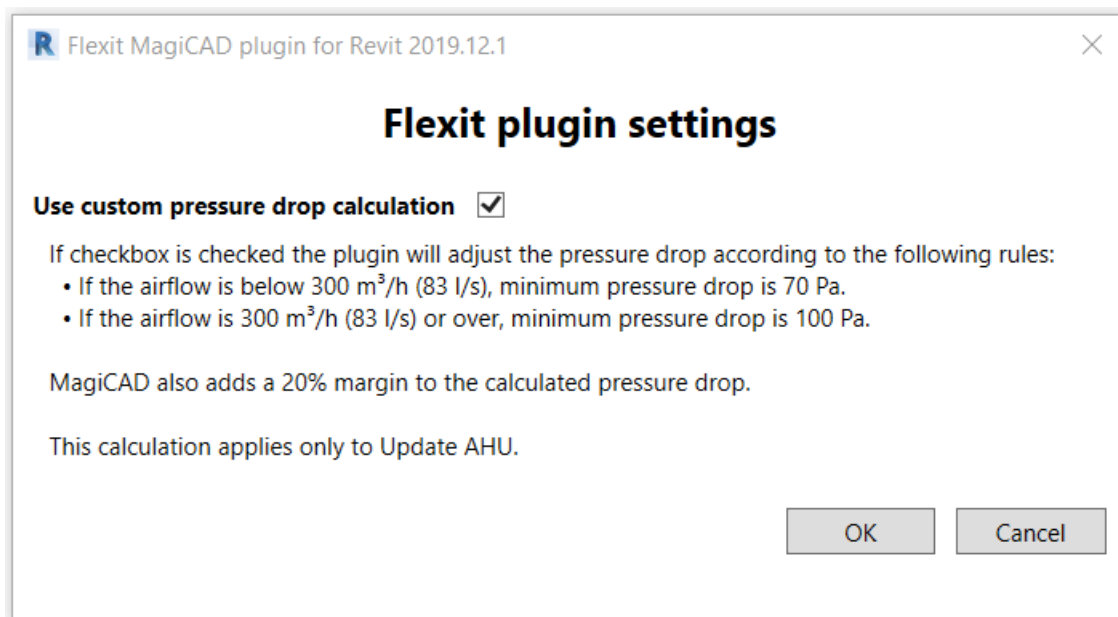
2.1.5 Settings dialog
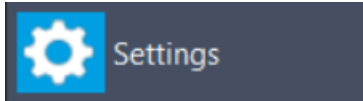
The user can change the way pressure drops are reported to the Flexit Configurator when the Update AHU function is used from the settings dialog.

1. Click on the settings button.

2. To use the custom pressure drop calculation click on the checkbox.

The custom pressure drop calculations do the followin for Update AHU:

1. Add a 20% margin to supply and extract pressure drops.

2. If airflow is below 300 m3/h (83 l/s) a minimum pressure drop of 70 Pa is used. If airflow is 300 m3/h (83 l/s) or greater a minimum pressure drop of 100 Pa is used.

3. If pressure is below the minimum value the delta between supply and extract is added to correspodning value, so that the difference between supply and extract is still visible. For example supply pressure drop is 55 and extract pressure drop is 57. The airflow is below 300m3/h so a minimum pressure drop of 70 Pa is used. The values reported to Flexit Configurator would in this case be for supply 70 Pa and extract 72.