Flexit MagiCAD plugin for AutoCAD

User guide

17/02/2021

MagiCAD

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1 Chapter 1. General

1.1 About this document

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

1.2 Installing the software

1.2.1 Required third-party software

Flexit MagiCAD plugins works with the following MagiCAD for AutoCAD versions:

- MagiCAD for AutoCAD 2021 (with AutoCAD 2017-2021)
- MagiCAD for AutoCAD 2022 (with AutoCAD 2017-2022)

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 the installation. **Note if you have several AutoCAD versions on your workstation:**
Before you run the installation program, start MagiCAD to make sure that *Flexit MagiCAD plugin* installs on the same AutoCAD platform as MagiCAD.

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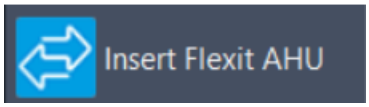
2 Chapter 2. Functions

2.1 Flexit MagiCAD plugin User Interface

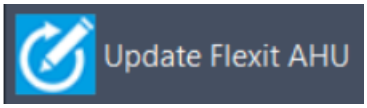
2.1.1 Main functions

The plugin main functions can be found in *MagiCAD Plugins* menu from the AutoCAD.

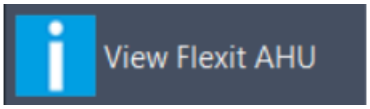
Plugin contains the following functions:



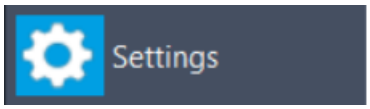
Opens the Flexit Configurator where the air handling units can be created and configured. User can choose products to be inserted to the drawning.



Updates the selected Flexit air handling unit by opening Flexit Configurator. The selected air handling unit will be replaced/updated to the drawing.



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 How to load menu

If the Flexit plugin functions is missing from the AutoCAD, here is the instructions how the menu file can be loaded to the AutoCAD.

1. Run **CUILOAD** command in AutoCAD and browse the customization file C:\ProgramData\Flexit\Flexit MagiCAD plugin for AutoCAD\FlexitWebMagi.cuix.

2. Please click *Load* button and the ribbon panel for the Flexit MagiCAD plugin is loaded:

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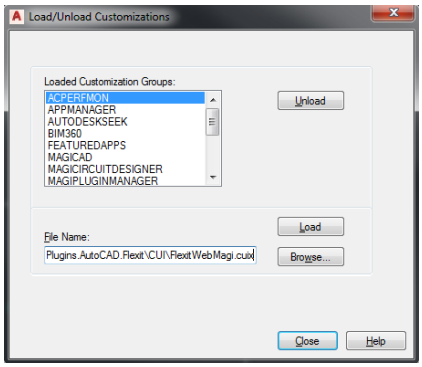

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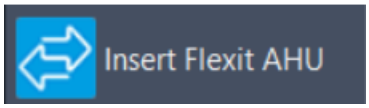
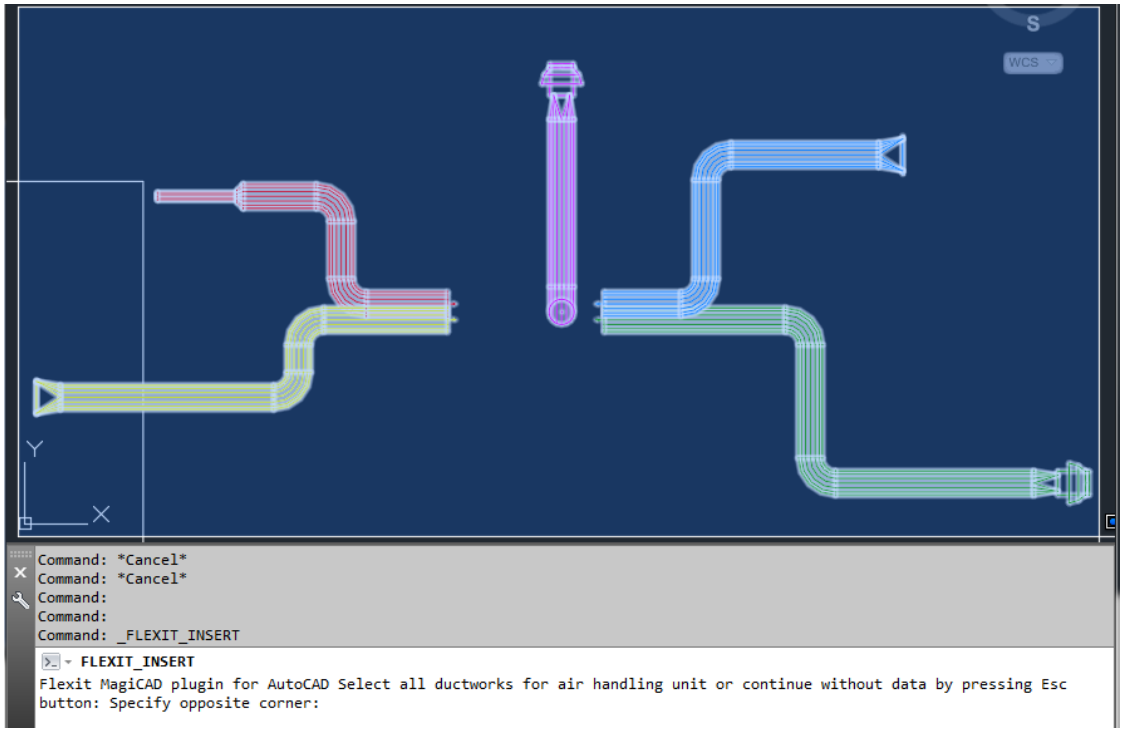
2.2 Insert Flexit AHU



Follow these steps for Inserting Flexit air handling unit into MagiCAD/AutoCAD drawing:

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

2. If the MagiCAD drawing is opened, the plugin asks to point ductworks for getting airflows, pressure drops and MagiCAD systems. This phase can be skipped by pressing Esc button.



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

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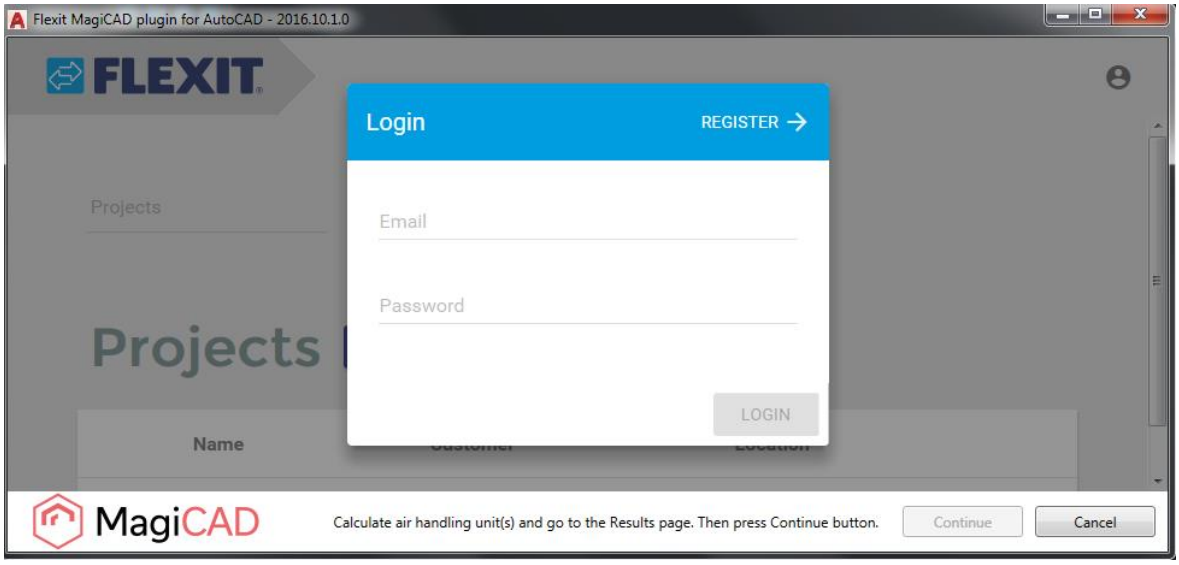
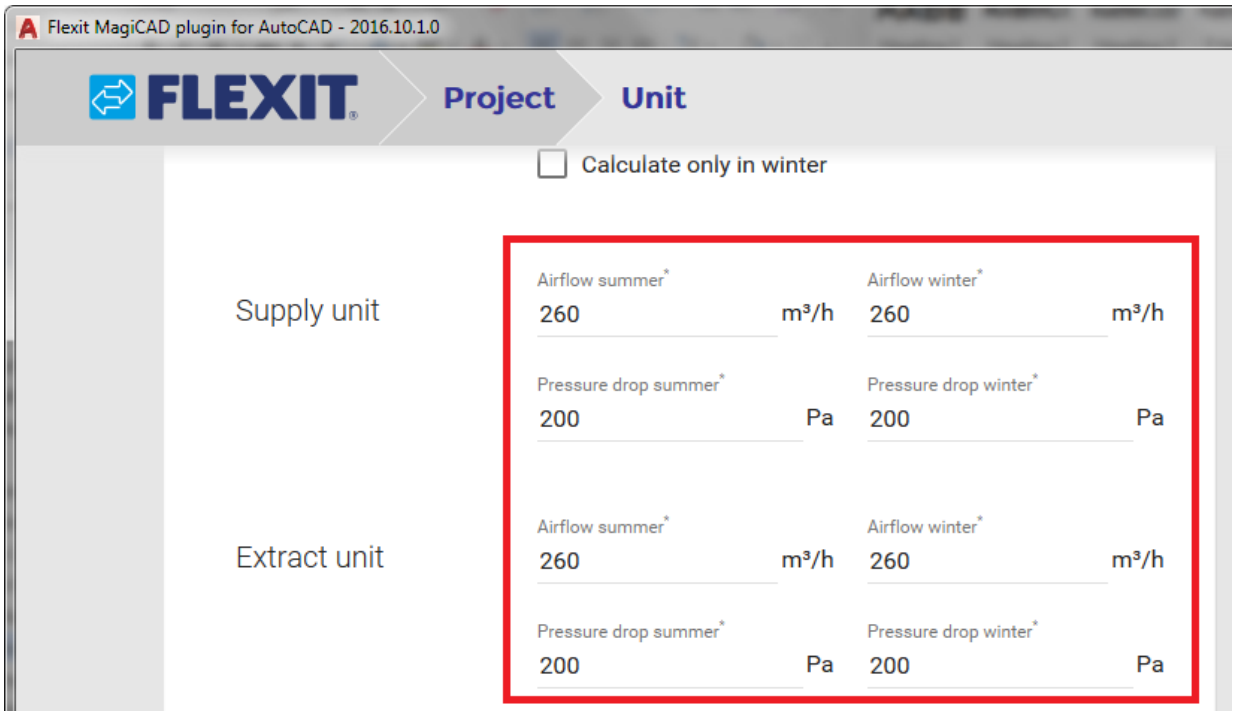
3. Flexit Configurator program is started.

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 drawing, 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.

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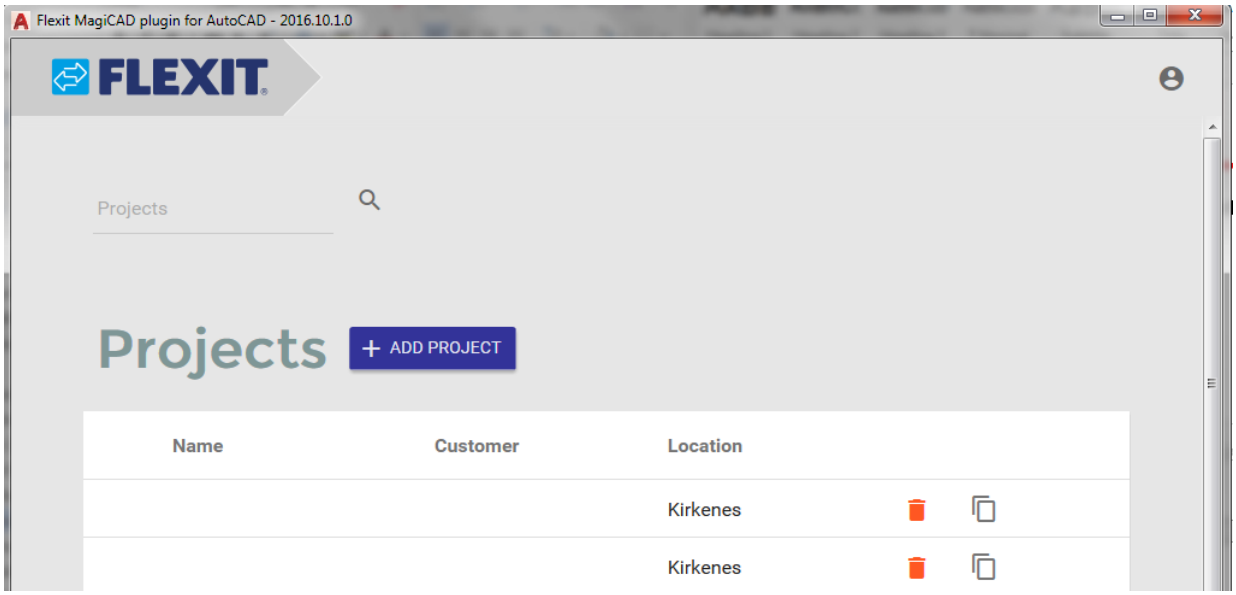
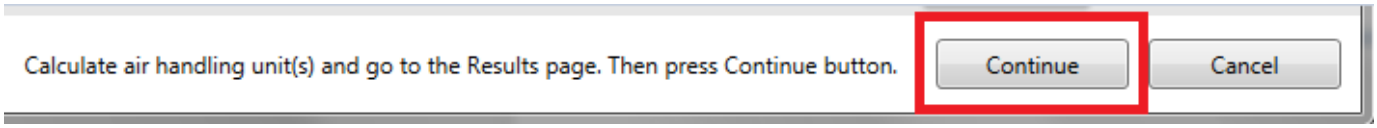
If the ductworks are not selected from the drawing, the *Projects* page is opened from the Flexit Configurator.



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 the 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.

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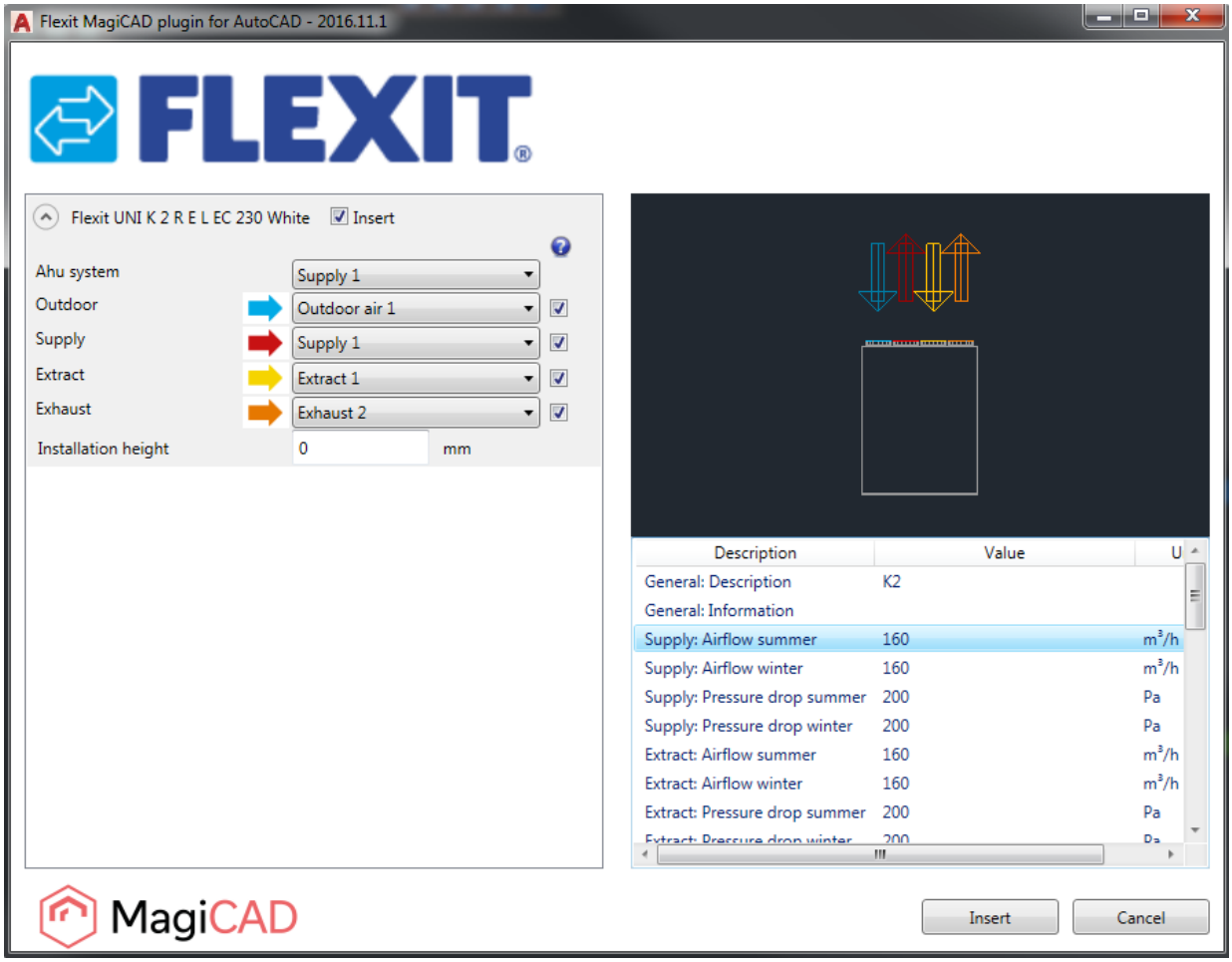
5. When *Continue* button is clicked, the following dialog is displayed for the user:



Available products are shown in the list view on the left side of the dialog. Geometry of the product is displayed on the top right side. The product can be zoomed with the mouse wheel.

Before installing the product to the drawing, the user needs to select MagiCAD system (if MagiCAD drawing is available) for each duct connection (for each product installed to the drawing). Also installation height of the product can be defined here. The duct components inherit the system selections from the parent air handling unit.

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

6. Once MagiCAD systems have been defined for all products, the installation 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 drawing one by one by dragging them to wanted position in the drawing.

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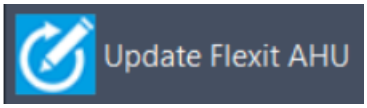
2.3 Update Flexit AHU

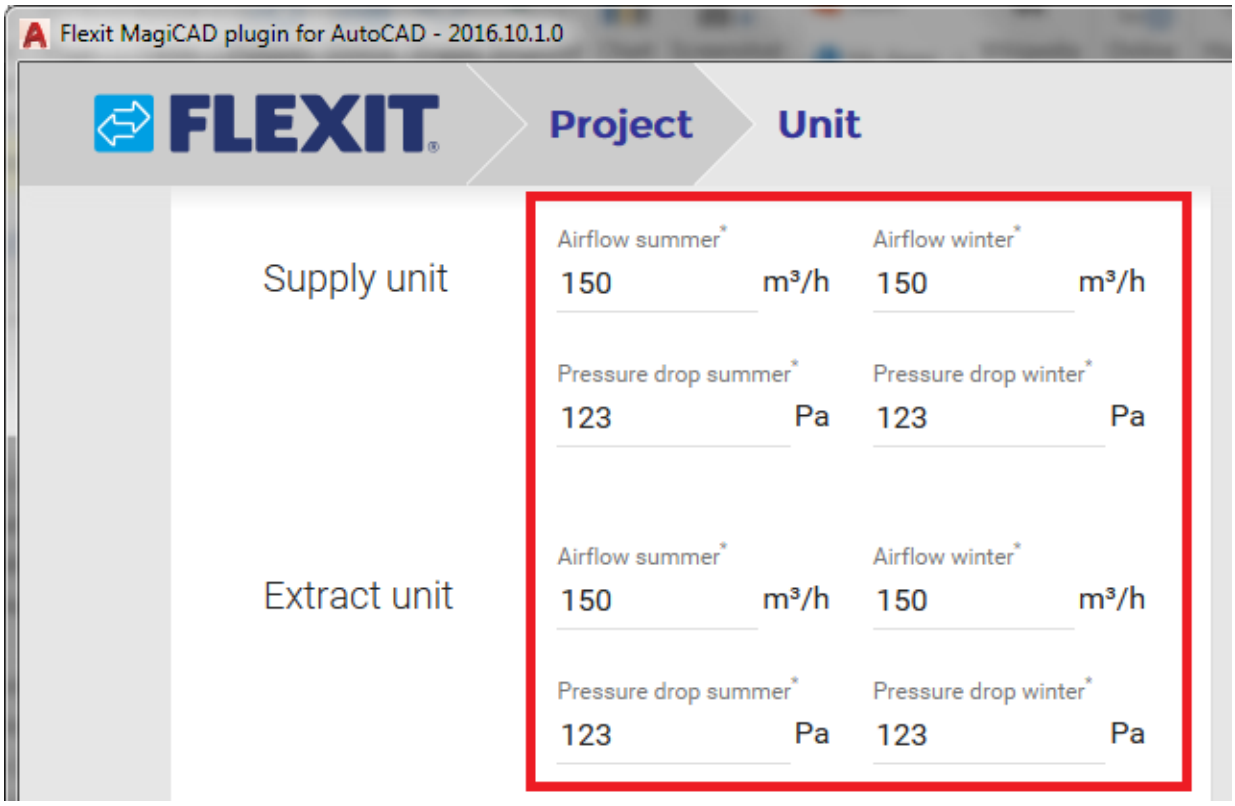


Please follow these steps to update Flexit air handling unit into MagiCAD drawing:

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

2. Select the air handling unit from the drawing 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 drawing 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 MagiCAD.

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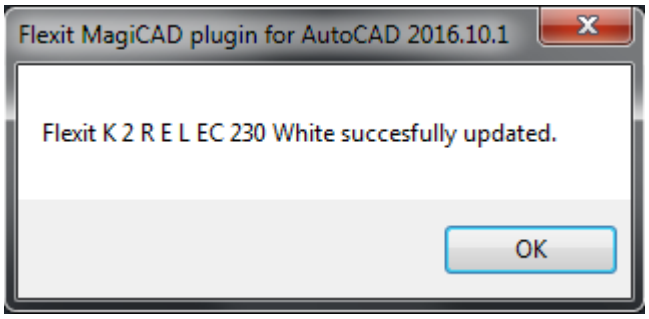
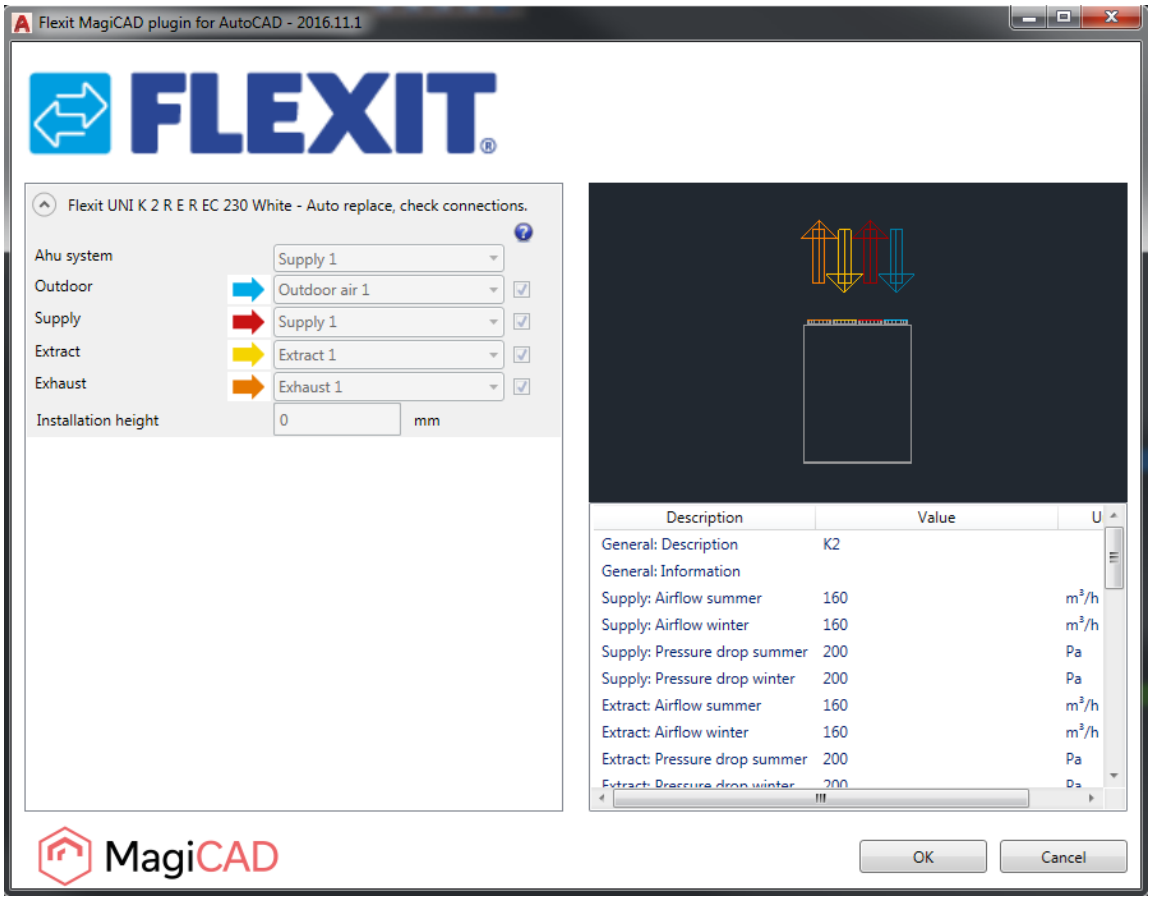
5. The plugin will perform compere operation in order to validate whether the original air handling unit has been changed to the different kind of the air handling unit during the update operation in Flexit Configurator.

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 drawing. 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 MagiCAD system selections. The following dialog is displayed to user:



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

From the settings dialgo the user can change how supply and extract pressure drops are reported to the Flexit Configurator.

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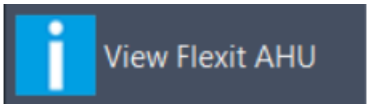
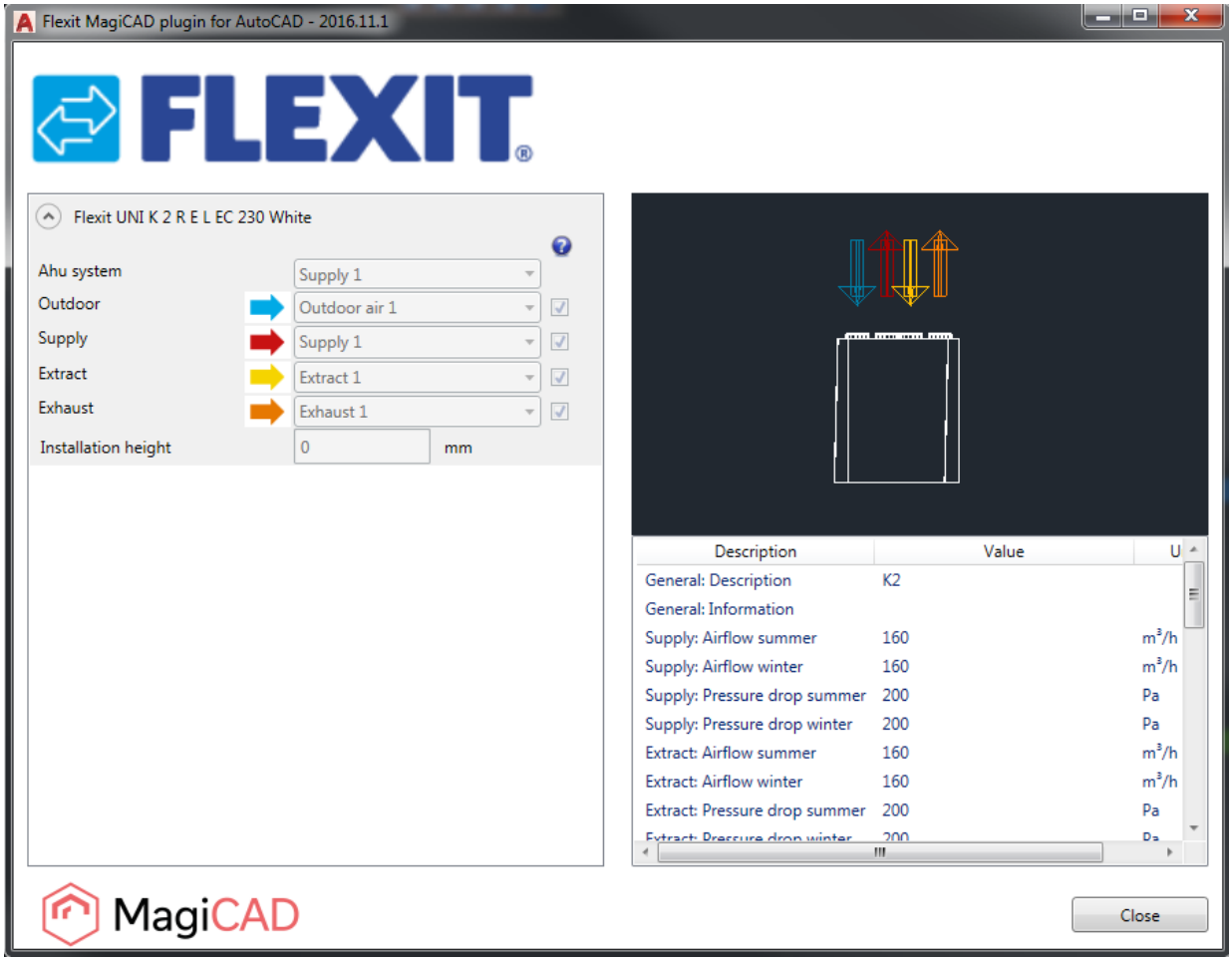
2.4 View Flexit AHU data



Follow these steps for viewing Flexit air handling unit data:

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

2. The installation dialog will be shown. This dialog is the same as in the Insert Flexit AHU procedure. Only difference is that the MagiCAD systems, enable/disable the duct connections and the installation height are not enabled.



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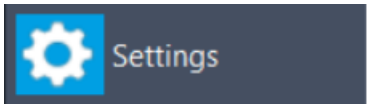
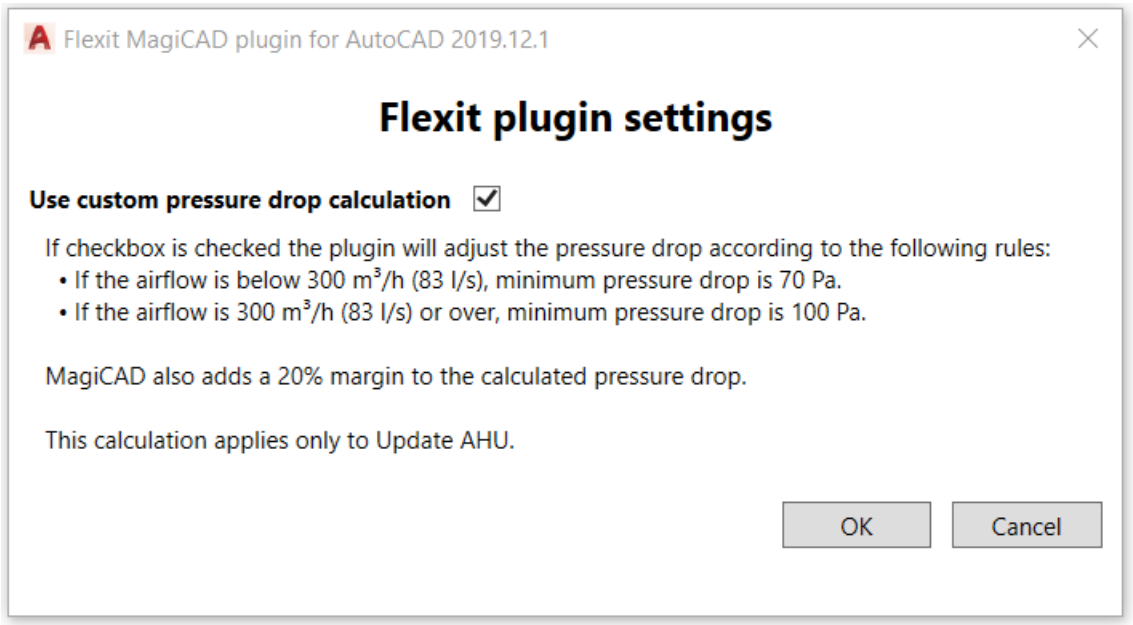
2.5 Settings dialog



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 (83 l/s) 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.

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