Swegon MagiCAD plugin for AutoCAD User guide

11/04/2022

MagiCAD

Content

1 General

The purpose of Swegon MagiCAD Plugin is to use ProSelect, ProSilencer, or AHU-Design software directly from MagiCAD as a product configurator when adding Swegon products into MagiCAD for AutoCAD project / drawing.

1.1 How to install plugin

1.1.1 Required third-party software

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

- MagiCAD 2022 and AutoCAD 2017-2022
- MagiCAD 2023 and AutoCAD 2019-2023
- AutoCAD 2017-2023

1.1.2 Installation

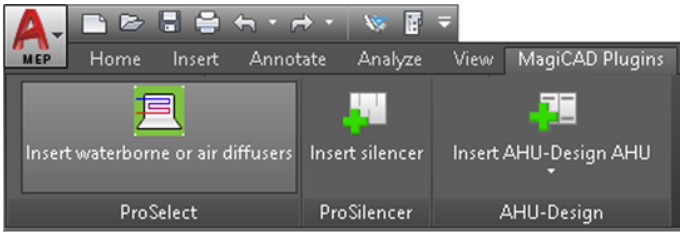
1. Download setup file from https://portal.magicad.com/download/ProductSearch?searchStr=Swegon&categoryId=3
2. Ensure that you have required MagiCAD version installed on your computer (not needed if you only want to export ahu from AHU-Design to AutoCAD drawing)
3. Install the plugin by running the downloaded installer

Administrator privileges are recommended for installation. **Note if you have several AutoCAD versions on your workstation:**
Before you run the installation program, start MagiCAD to make sure that *Swegon MagiCAD Plugin* installs on the same AutoCAD platform as MagiCAD.

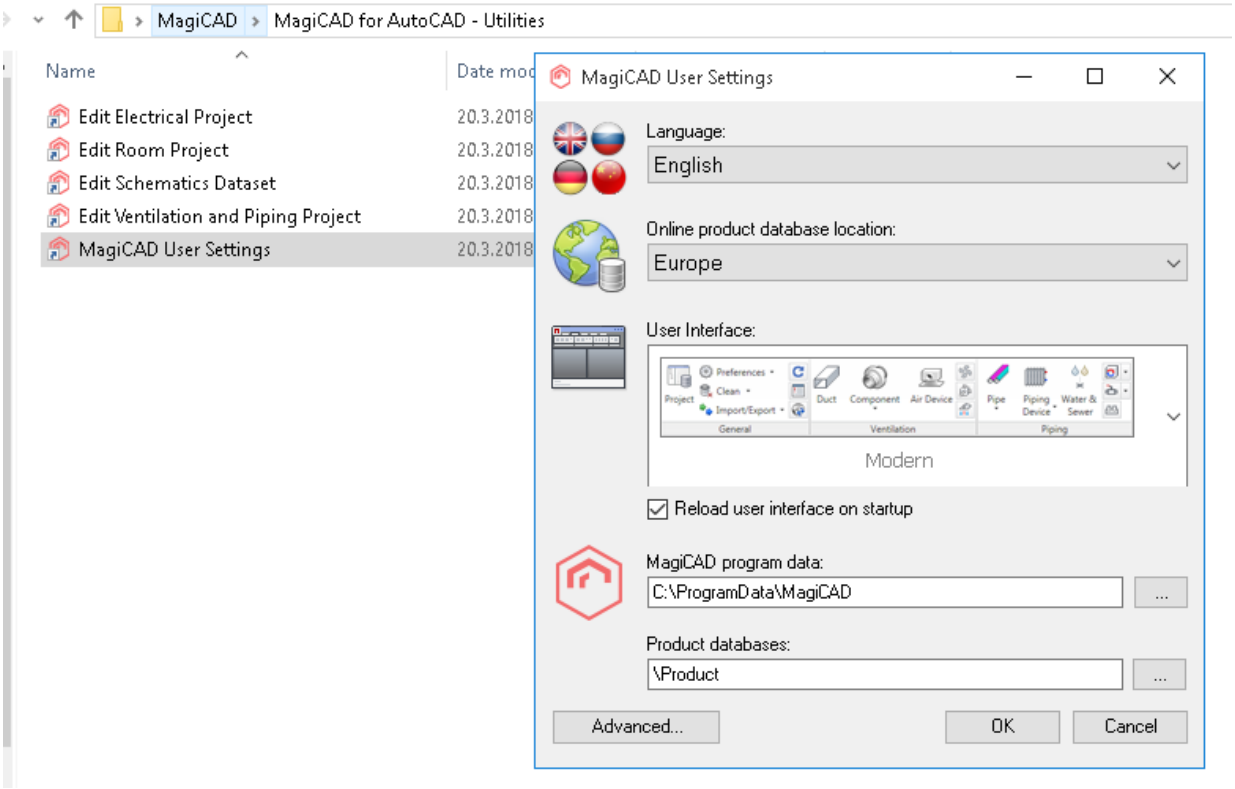
2 Starting the program

Before you start using *Swegon MagiCAD Plugin*, start MagiCAD and open MagiCAD project.

You will have Swegon MagiCAD plugin ribbon under MagiCAD Plugins tab



If ribbon is not loaded after MagiCAD is started, close AutoCAD&MagiCAD and open MagiCAD User Settings-dialog which is located in desktop MagiCAD folder in MagiCAD for AutoCAD – Utilities.
In dialog select ”Reload user interface on startup” and press ok. Start MagiCAD again.



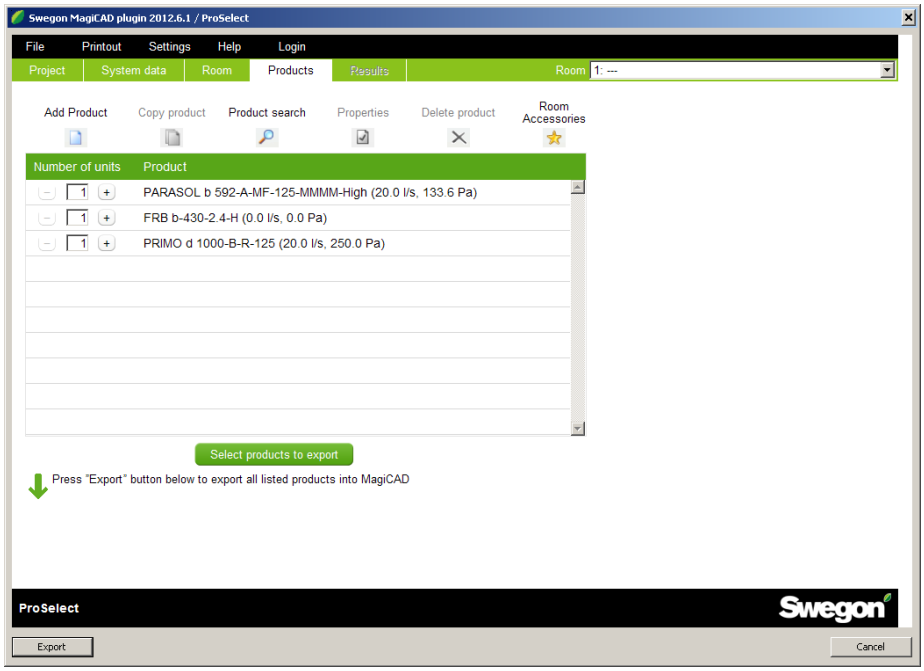
3 How to use the plugin

3.1 Insert ProSelect Waterborne Climate Systems and Air Diffusers

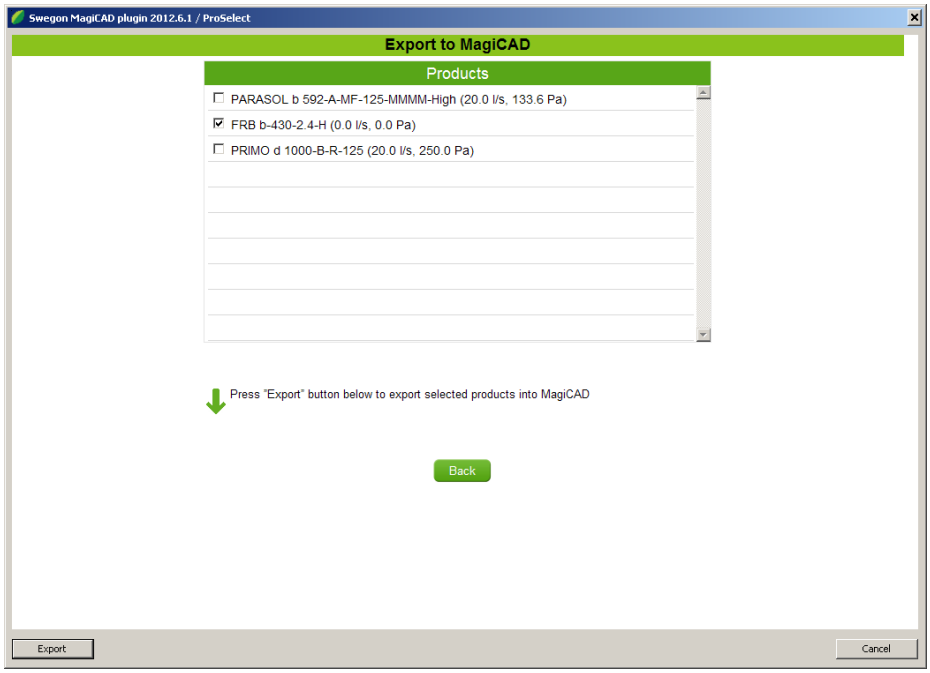
Press the plugin icon  to add unit from ProSelect. Create products to be exported.

By pressing button *Export* in lower left corner, all products in selected room will be exported.

If you don't want to export all the products, click *Select products to export* -button.



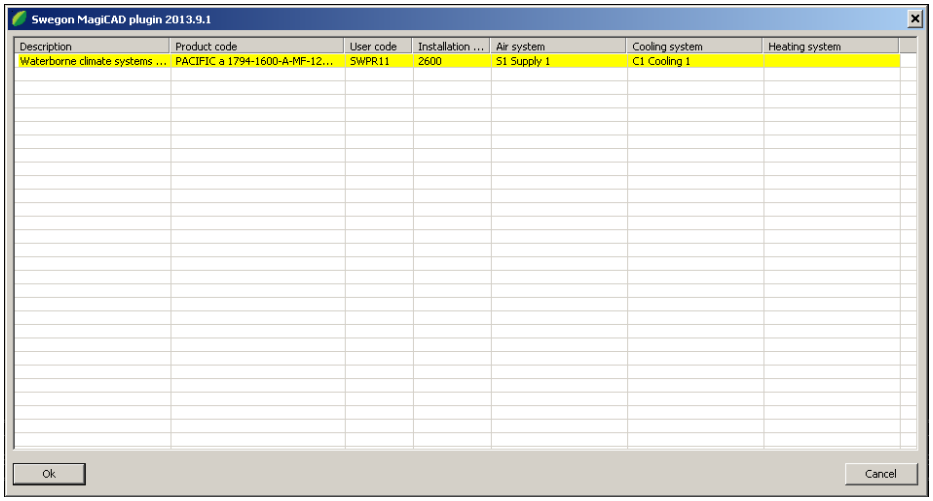
Uncheck products which you don't want to export and click *Export*-button.



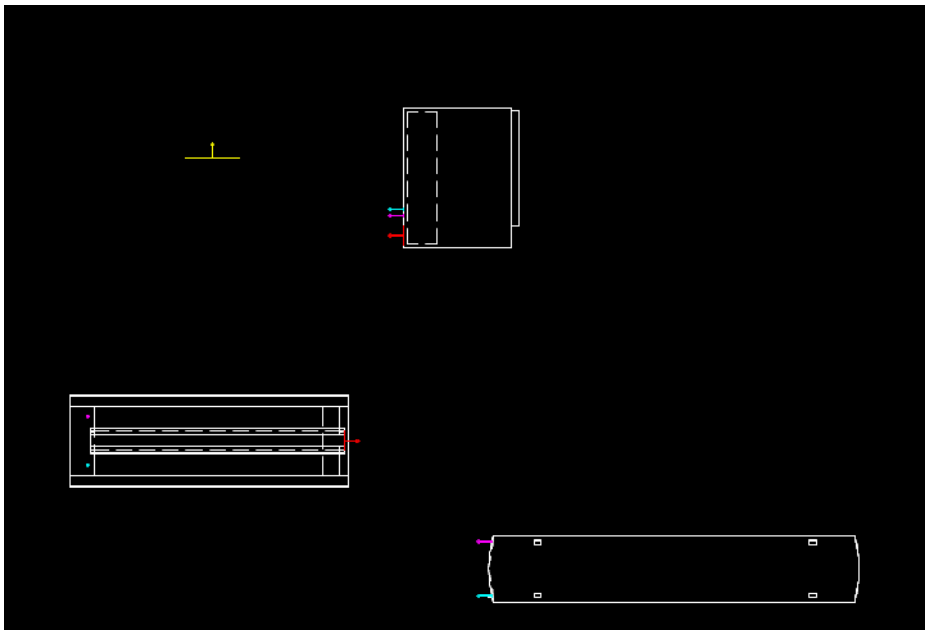
Waterborne Climate Beams will be exported to MagiCAD project as Cooling Beams (in previous versions beams where exported as Supply and Other Pipe Device).

Other devices like Air Diffusers and Transfer Units are exported to MagiCAD as Air Devices.

If you have already exported same device to MagiCAD, it will be highlighted in yellow colour. Change usercode if you don't want to replace previous device. Click ok.

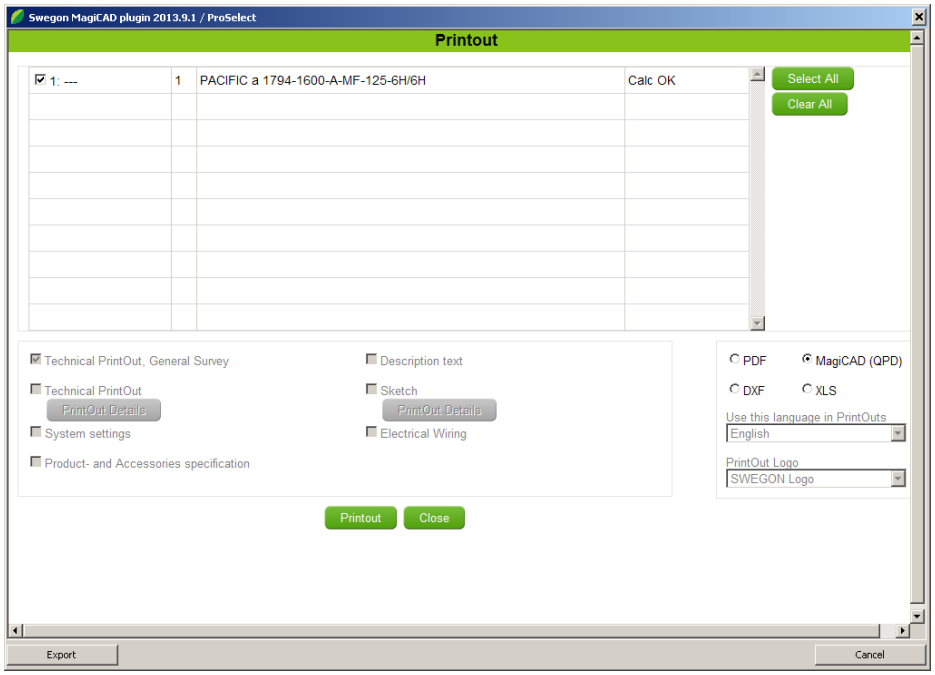


If you have multiple devices to insert MagiCAD drawing, then press Esc-button after one device type is inserted.



"Cooling Beam" objects have all systems in the same product.

Note! If you need to have Waterborne Climate Systems as Supply or as Other Pipe Device in MagiCAD, export it as .QPD-file in ProSelect program, use the file as local database and select products into MagiCAD project.

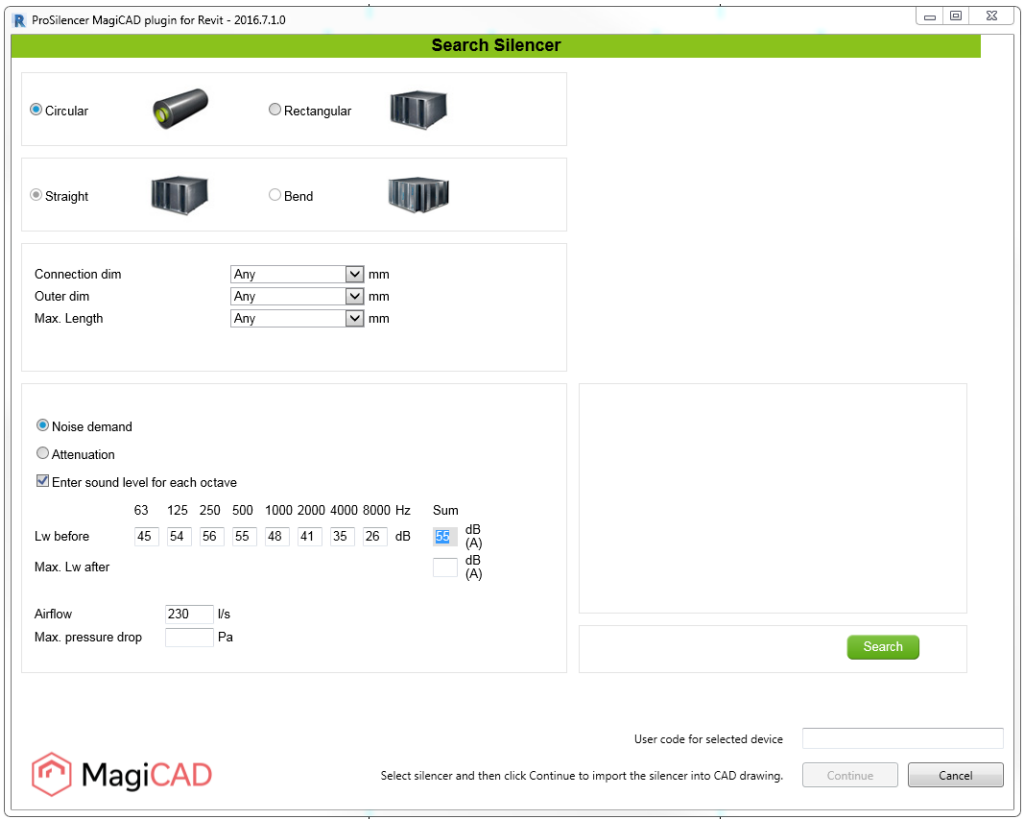


3.2 Swegon ProSilencer plugin's User Interfaces

3.2.1 Insert Swegon Silencer

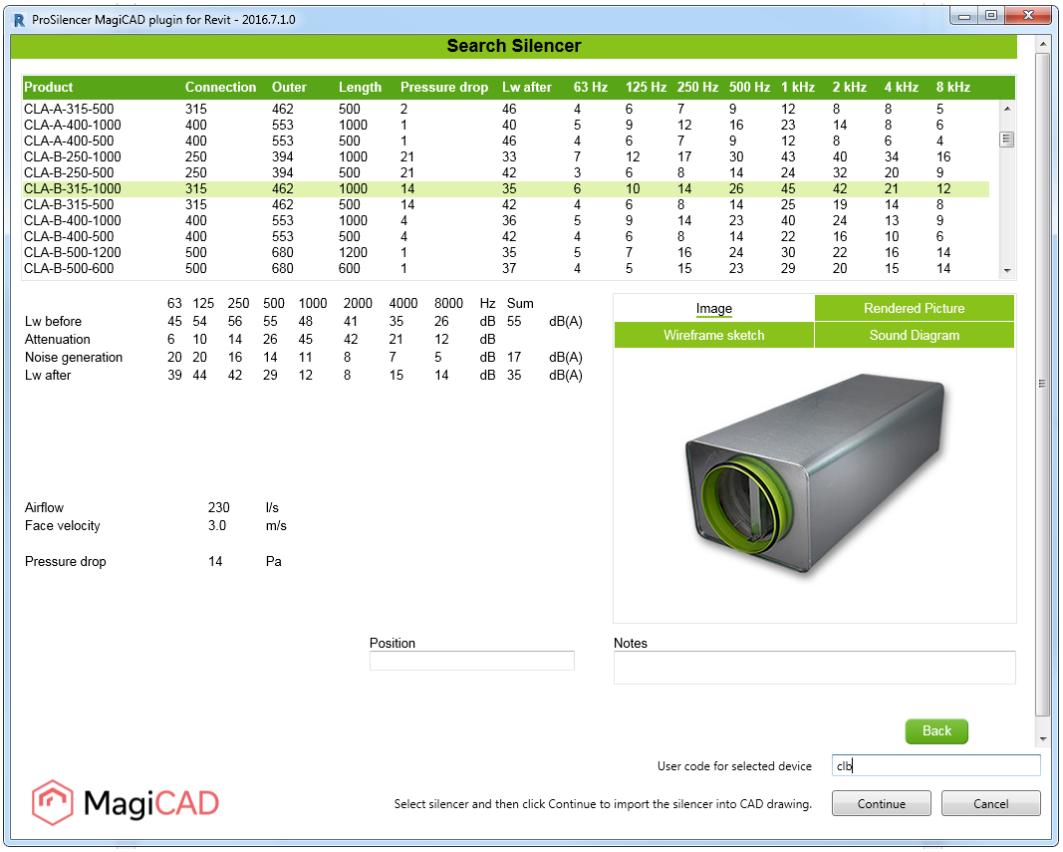
Follow these steps for Inserting Swegon's silencer into MagiCAD drawing:

1. Click Insert silencer button from plugin's ribbon panel in AutoCAD/Revit.
2. Plugins ask to point ductwork for getting air flow, sounds and dimensions. This phase can be skipped by pressing Esc button.
3. Swegon ProSilencer program is started



Air flow, sounds and dimension values are auto-filled with values received from MagiCAD. If dimensions are not selecteable on ProSilencer then selection is "Any" by default.

4. Search silencers and selected one by clicking the row:



Remember give user code to the field at near right bottom corner.

5. When *Continue* -button is clicked silencer can be placed to the duct in MagiCAD.

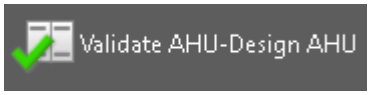
3.3 Swegon ahu-design plugin's User Interfaces

3.3.1 Main functions

Plugin contains the following functions:

Opens the Air Handling Unit Designer web program(AHU Designer) where air handling units can be created and configured. Needs registering. User can choose products to be inserted to the drawing.

Import AHU by opening .mah-file. Quick way to add AHU to drawing.



Validates Swegon's air handling unit. Checks whether there is significant change in the working point. Gives warning to user in case AHU should be redimensioned.

Updates selected Swegon's air handling unit by opening AHU Designer. The selected air handling unit will be replaced/updated to the drawing.

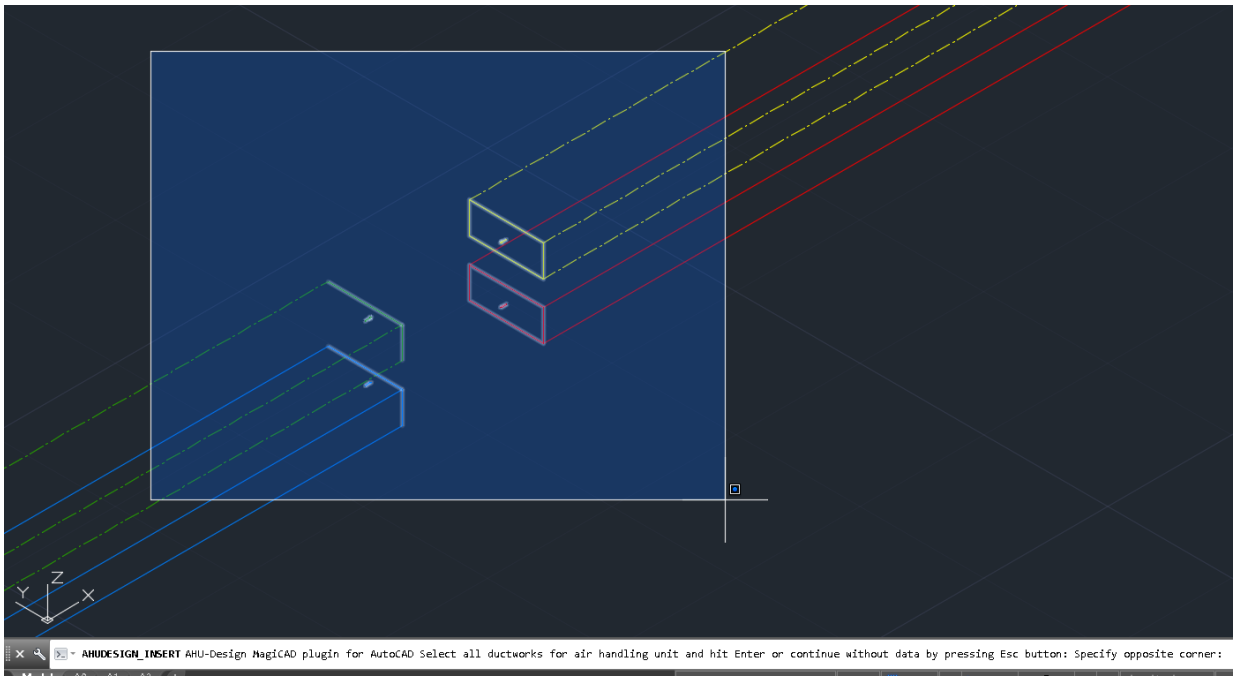
Allows user to view technical data of the selected product. The selected product can be air handling unit or duct component which is dimensioned by AHU Designer.

3.3.2 Insert Design AHU

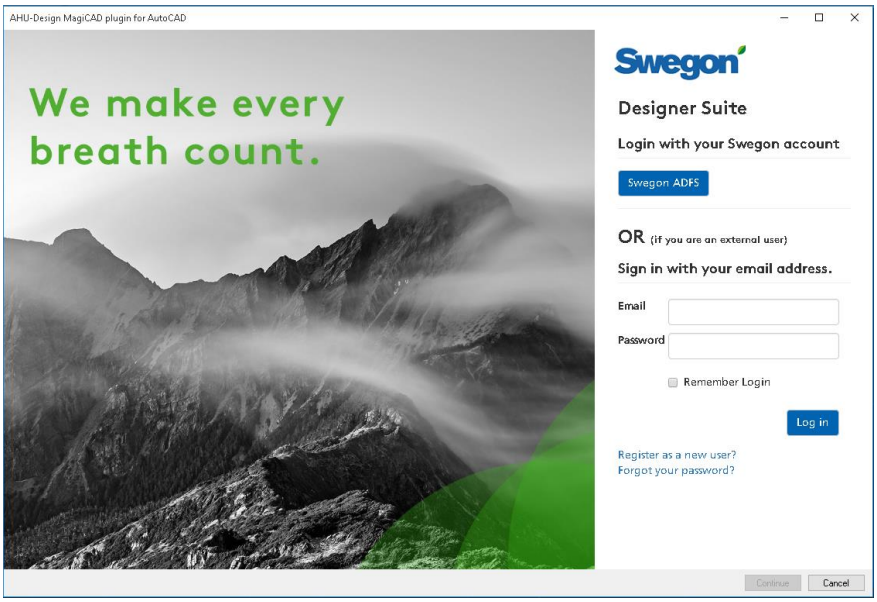
Follow these steps for Inserting Swegon's air handling unit into MagiCAD drawing:

1. Click Insert AHU-Design AHU button from plugin's ribbon panel in AutoCAD/Revit.

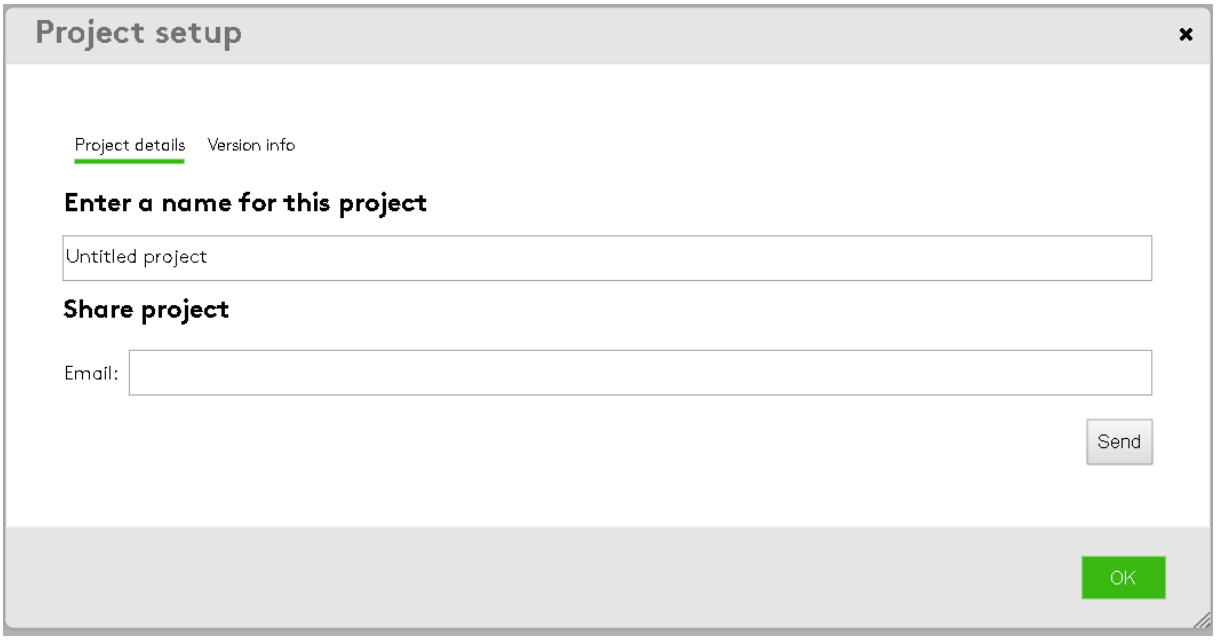
2. User may point ductworks for getting air flows, pressure drops and MagiCAD systems and hitting enter in the end. This phase can be skipped by pressing Esc button.

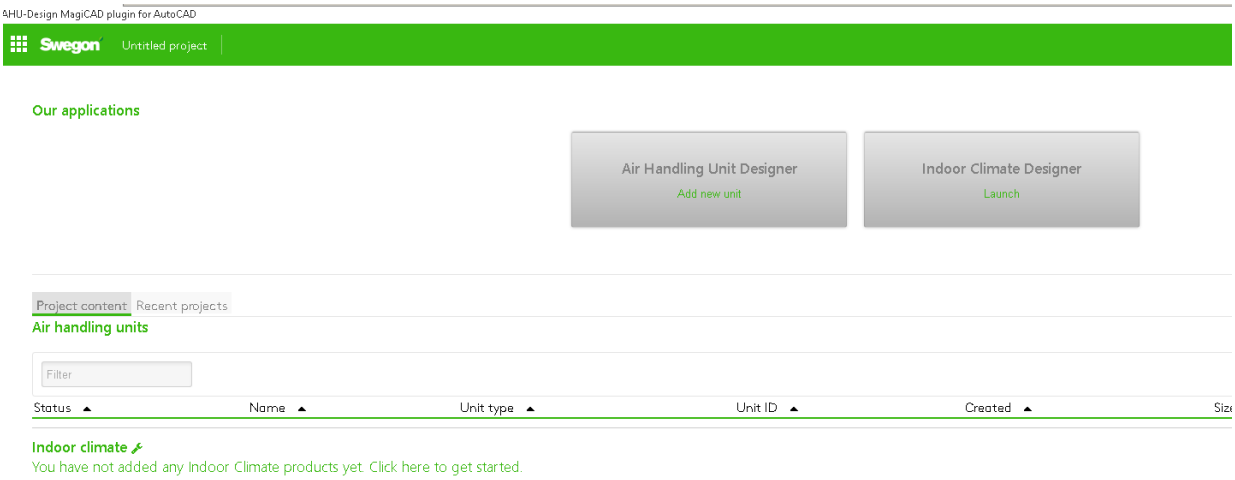


3. Swegon AHU designer program is started and user is asked to login to the application.

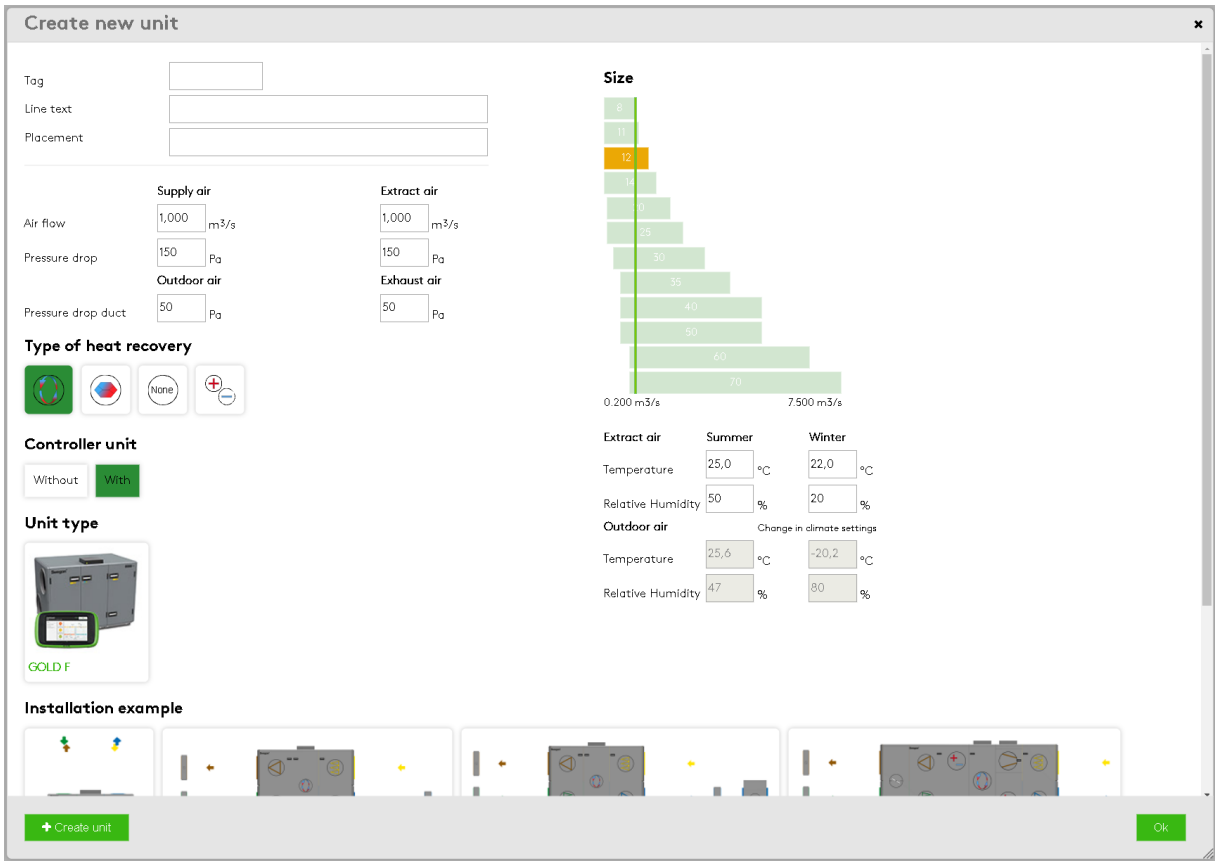


4. User proceeds by choosing Air Hangling Unit Designer-button

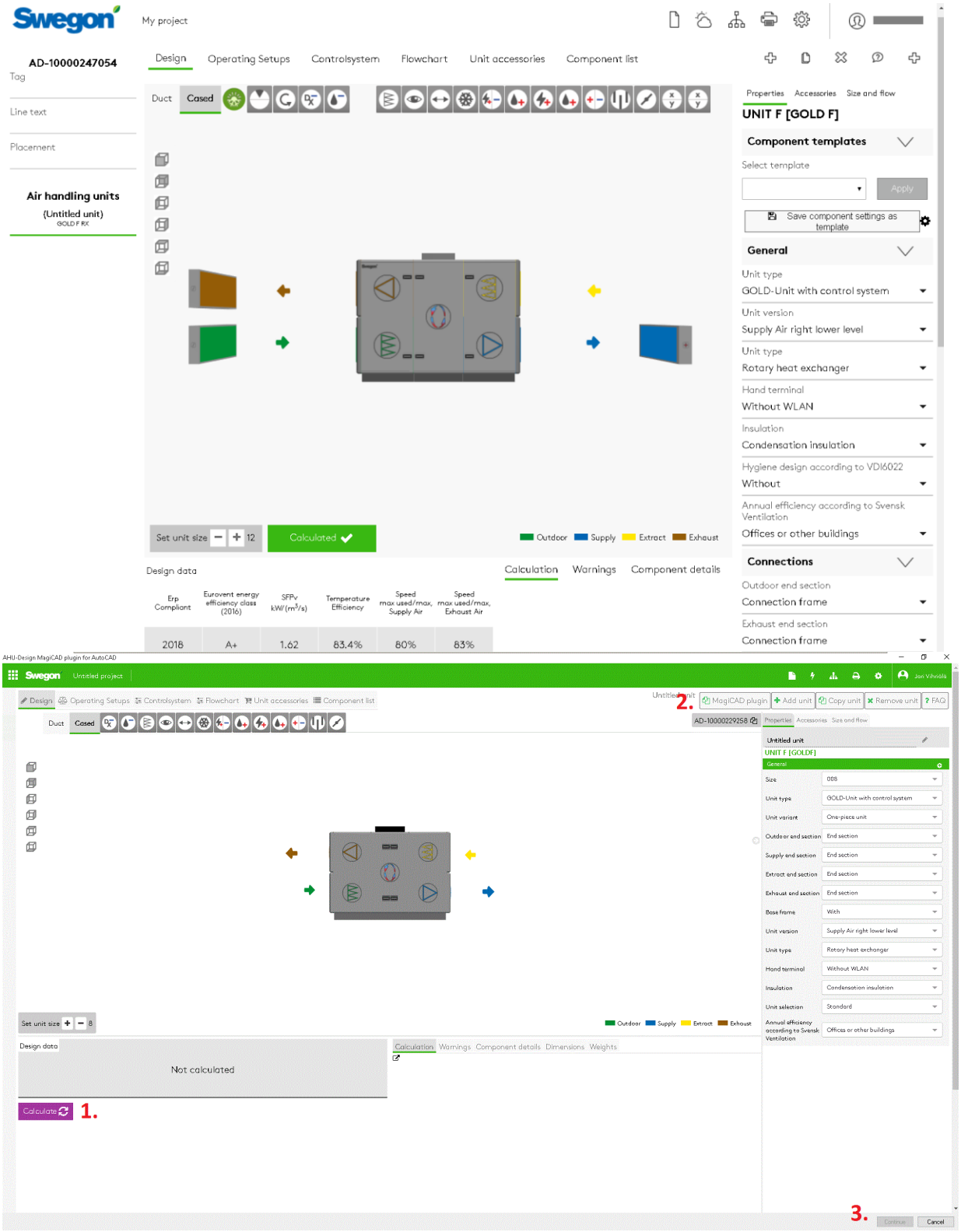




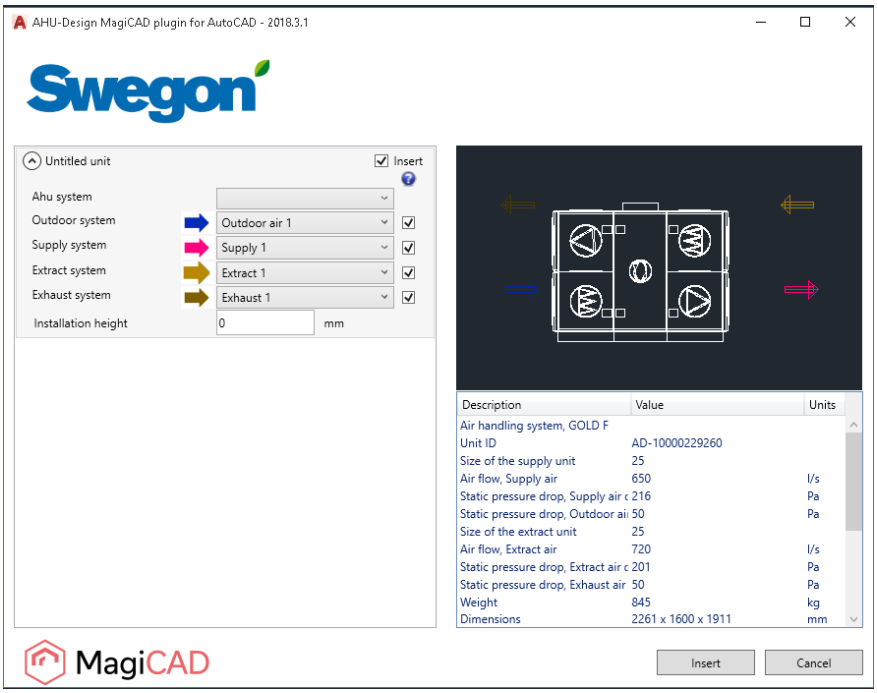
Air flow and external pressure values are auto-filled with values received from MagiCAD. Airflow is taken from supply/extract system (outdoor/exhaust airflow are ignored here). If ducts were not selected before entering to AHU-Design, airflow and pressure drop values needs to be set manually. Make selections and continue with Create unit-button.



After unit type selection, user may modify unit, add parts etc. When unit is ready for exporting it to MagiCAD, user need first calculate it, then click MagiCAD plugin-button and finally click Continue-button. Notice that it takes few second before Continue-button is enabled.



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

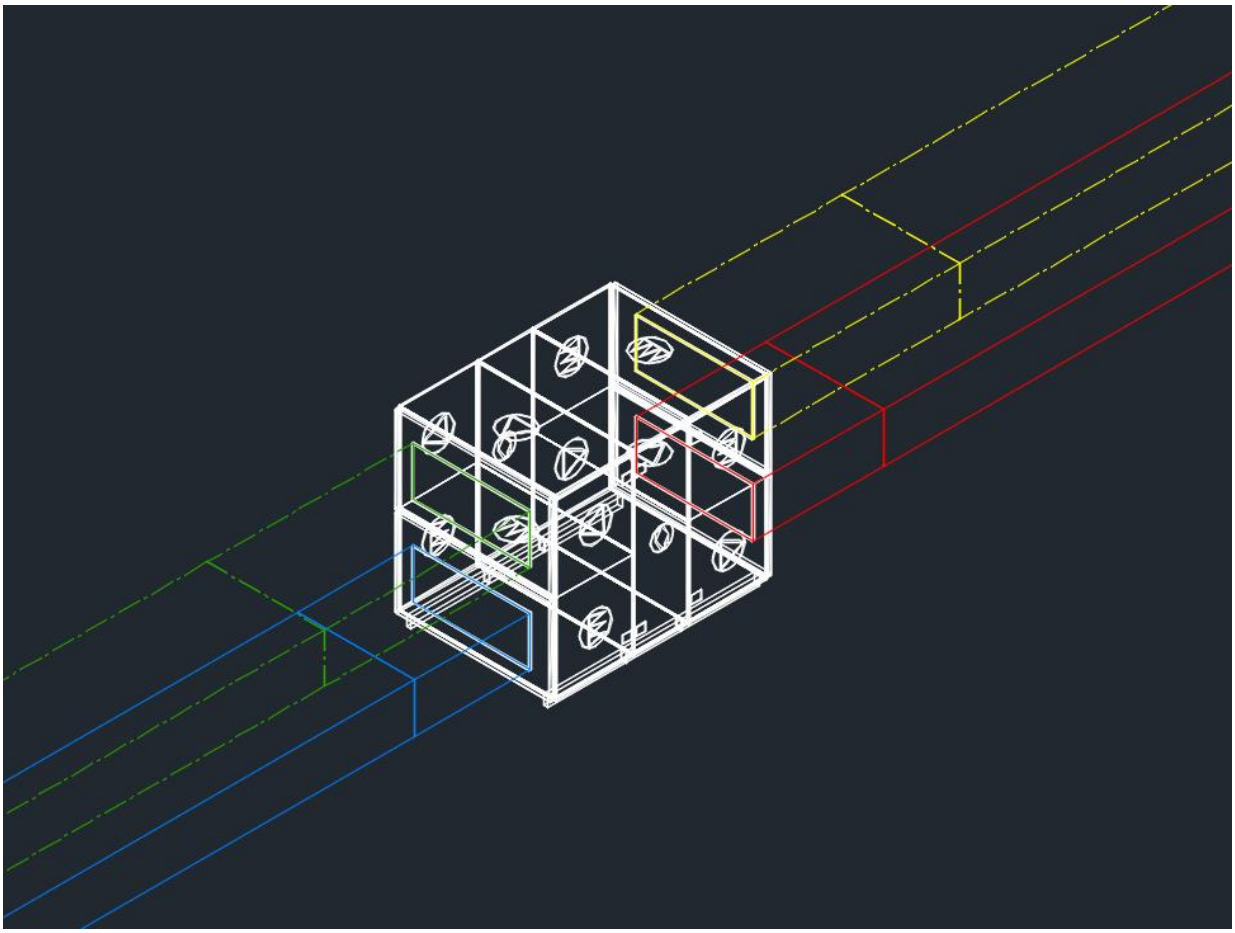


6. Available products are shown in list view on the left side of the dialog. Geometry of the product is displayed on the top right side. Before installing product to drawing, user needs to first select MagiCAD system (if MagiCAD drawing is available) for each duct connection (for each product installed to the drawing). Also installation height of the product can be defined here. Duct components inherit system selections from parent air handling unit.

   The export supports also AHU-Designer specific data like SFP-values and sound levels. These can be reviewed with the function “View AHU-Design Data”.

7. Once MagiCAD systems have been defined for all products, installation can be started by clicking *Insert* button. Notice that it’s possible to uncheck insert checkbox in case you want to exclude some of the unit’s from insert operation.

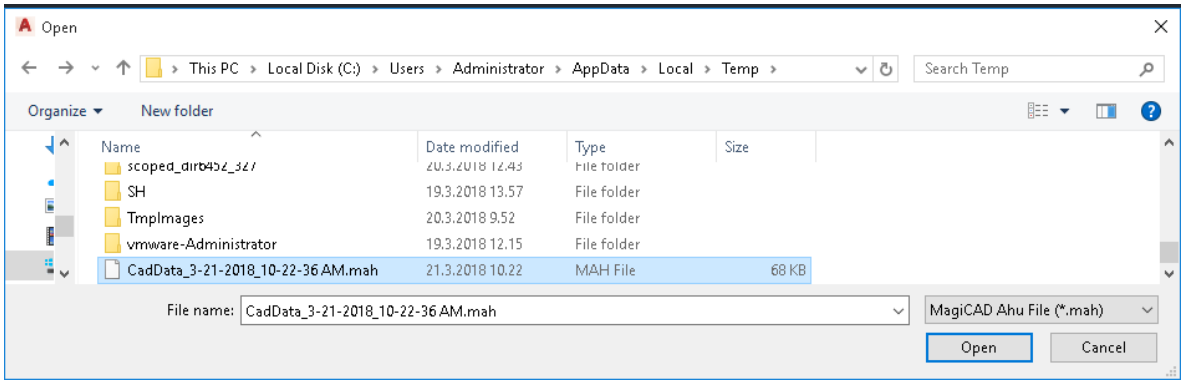
8. Products can be placed to the drawing one by one by dragging them to wanted position in the drawing. After products have been positioned in the drawing they can be connected to the ductwork.



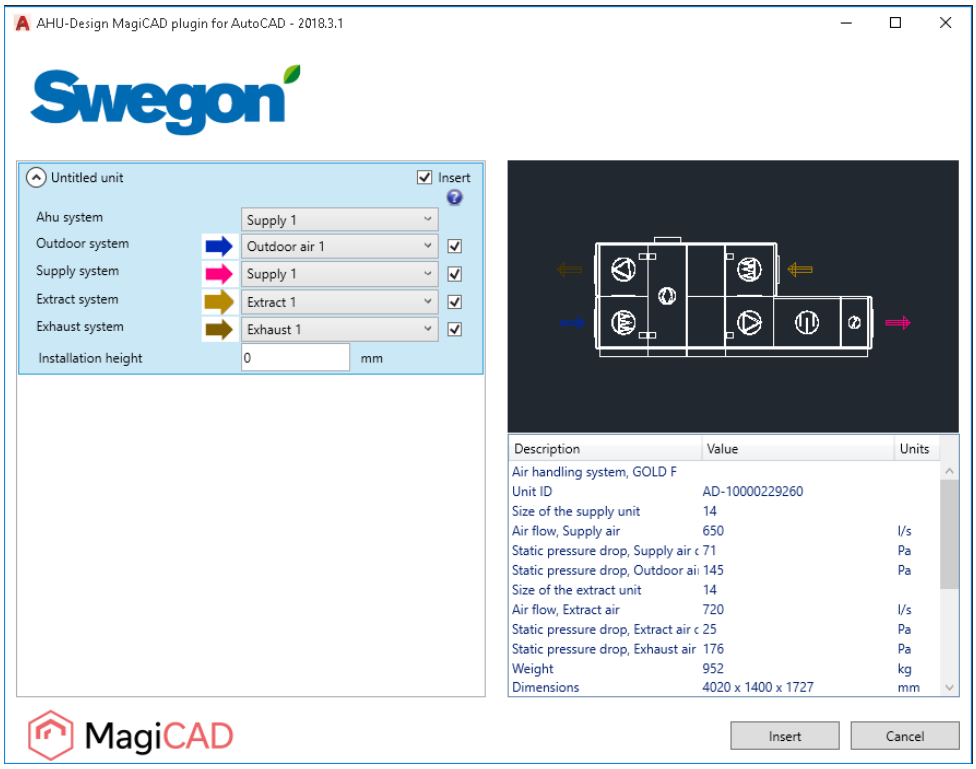
3.3.3 Import Design AHU

It is possible import AHU to MagiCAD drawing without visiting in AHU Designer program. It is quick and easy way to share and use the AHU. Before using the import command an export file from AHU-Design needs to be requested from Swegon.

Click Import AHU-Design AHU-button and select .mah-file which contains Swegon AHUs exported from AHU-Design.

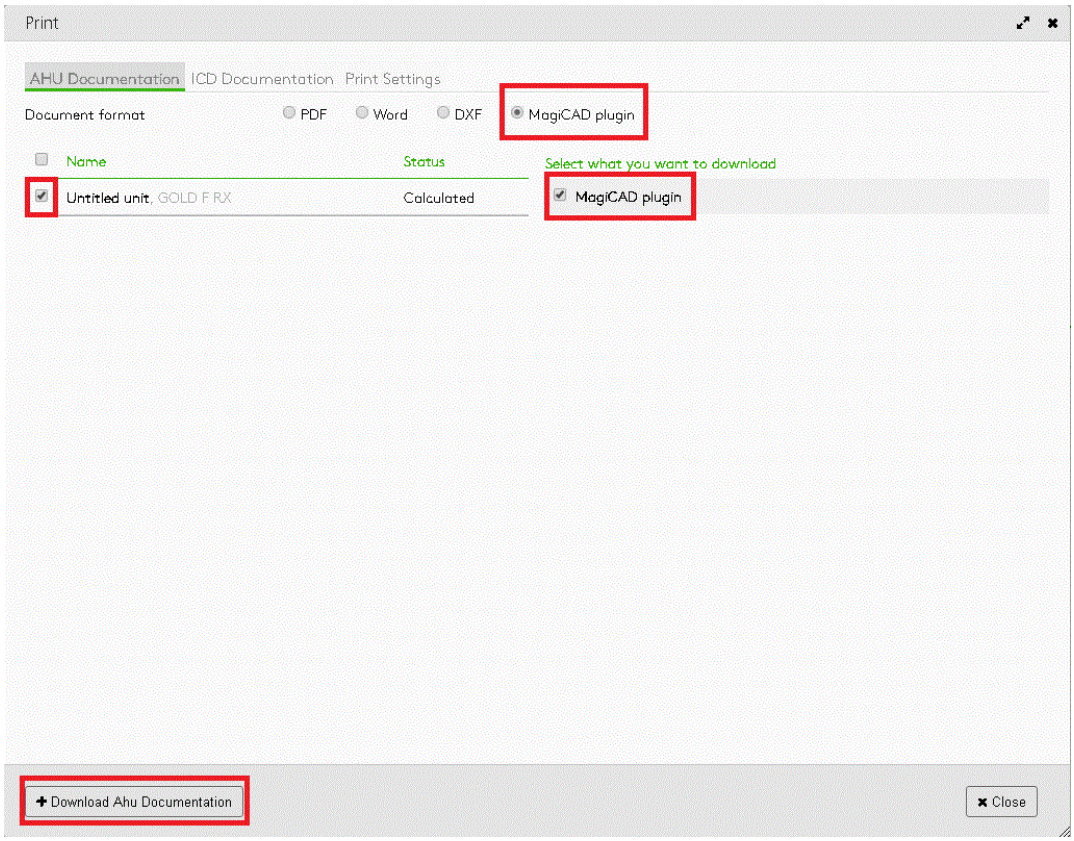


Click Open to import it to drawing. Available products are shown in list view on the left side of the dialog. Geometry of the product is displayed on the top right side. Before installing product to drawing, user needs to first select MagiCAD system (if MagiCAD drawing is available) for each duct connection (for each product installed to the drawing). Also installation height of the product can be defined here. Duct components inherit system selections from parent air handling unit.

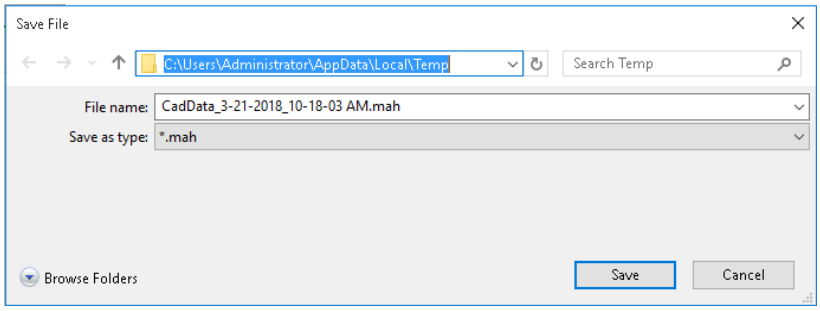


Exporting plugin file (.mah format) from AHU-Designer. After unit is calculated click Print button in right upper corner

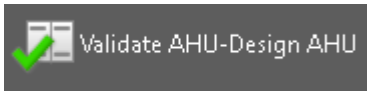
First choose the document format as MagiCAD plugin. Select one or more AHUs and check MagiCAD plugin box and finally press in left lower corner “Download Ahu Documents-button.



If needed, change directory for .mah-file and file name.



3.3.4 Validate Design AHU

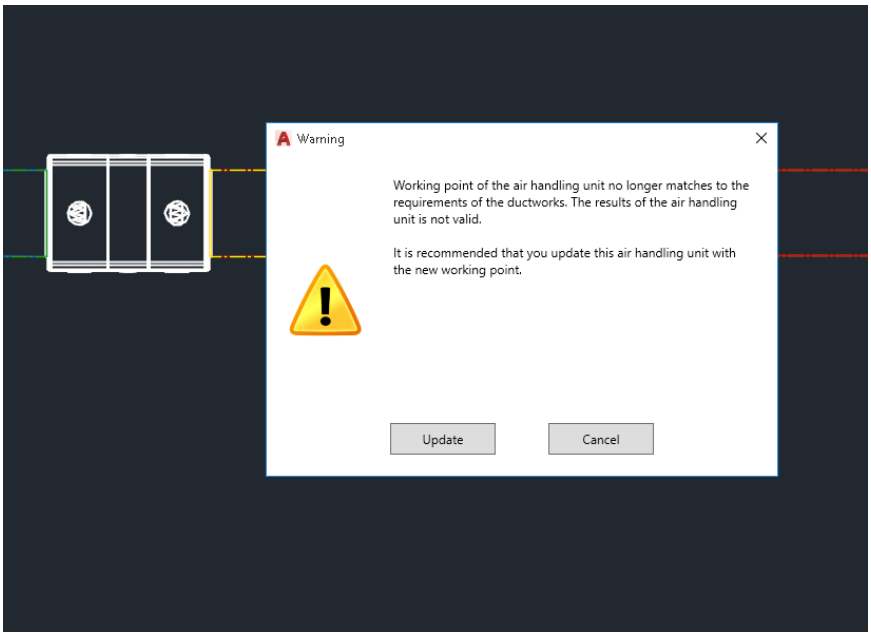


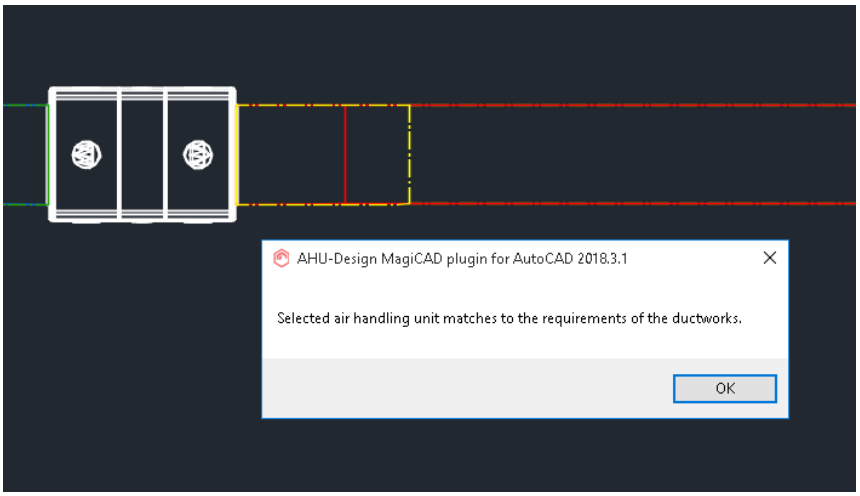
Follow these steps for Validating Swegon's air handling unit into MagiCAD drawing:

1. Run MagiCAD balancing for all system
2. Click Validate Swegon AHU button from plugin's ribbon panel in AutoCAD/Revit.

3. Select air handling unit from drawing which will be validated.

4. Plugins shows if validating is successfully passed or if AHU needs to be updated. If updating is needed user can continue to update or cancel the validation. Validation checks if selected air handling unit still meets the requirements of the ductwork (air flow and pressure drop) . There is 5% tolerance before the warning message is displayed for airflow and 10% tolerance for pressure drop.





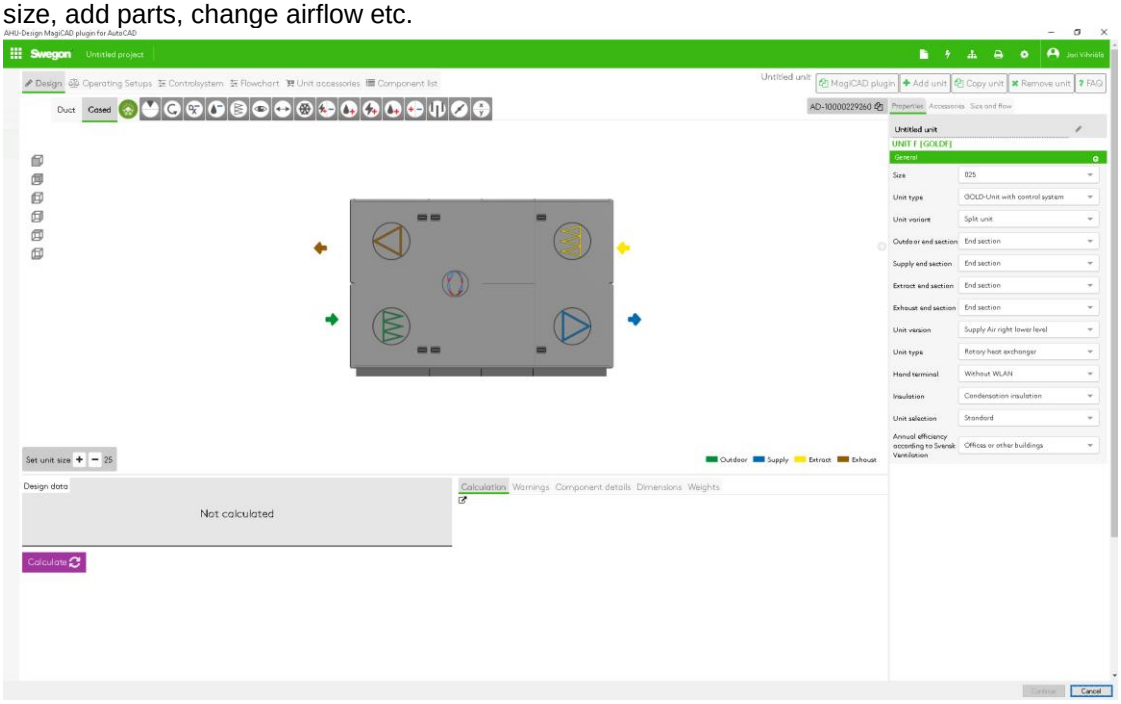
3.3.5 Update Design AHU

Follow these steps for Updating Swegon's air handling unit into MagiCAD drawing:

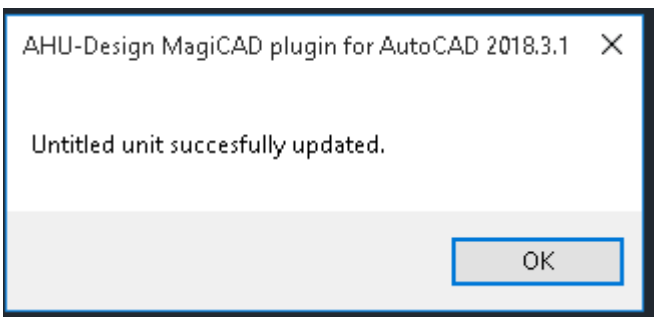
1. Click Update Swegon AHU button from plugin's ribbon panel in AutoCAD/Revit.

2. Select air handling unit from drawing which will be updated.

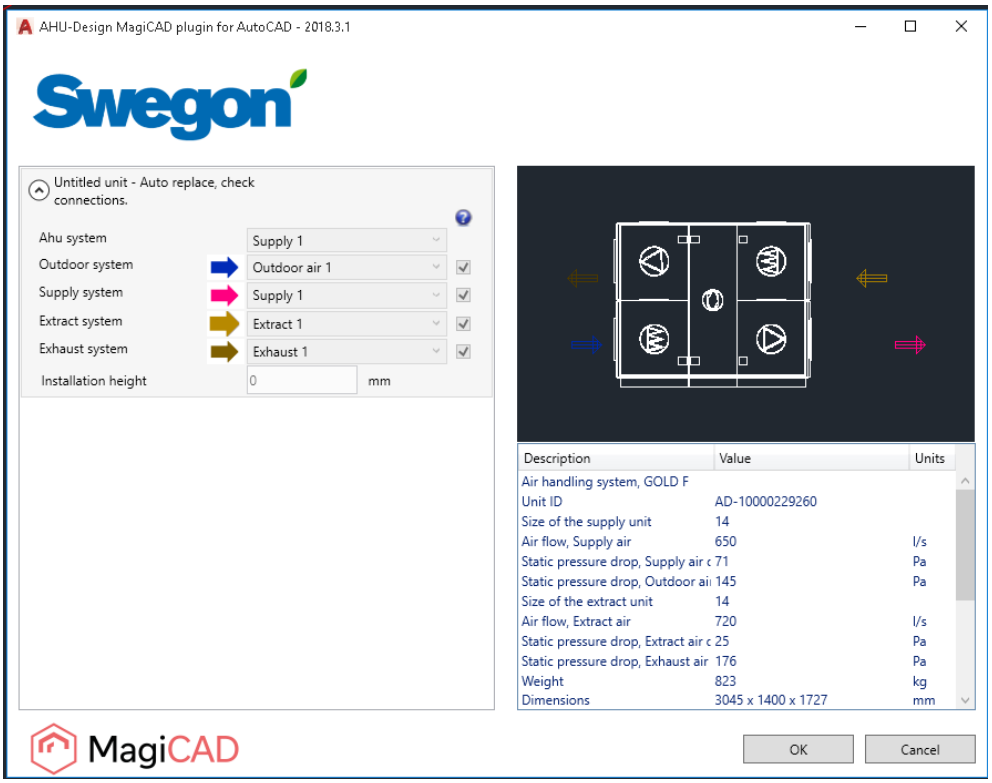
3. AHU Designer starts and open unit page automatically. Note that airflow and pressuredrop is read from duct connections if AHU is connected ductwork in MagiCAD. User may change unit size, add parts, change airflow etc.



4. After selections, user needs to calculate the AHU and press MagiCAD plugin-button and then continue-button. If AHU remains in same size, then this message comes:



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



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

3.3.6 View Design AHU data

Follow these steps for Viewing Swegon's air handling unit's data:

1. Click View Swegon AHU data button from plugin's ribbon panel in AutoCAD/Revit.

2. Install dialog will be shown. This dialog is same as in Insert Swegon AHU procedure. Only difference is that MagiCAD systems and installation height are not enabled.