

A large, red, stylized geometric pattern resembling a series of nested, offset hexagons or a complex architectural frame, serving as a background for the top half of the page.

Swegon Revit Plugin

User guide

12/04/2022

Content

ABOUT THIS DOCUMENT	3
INSTALLING THE SOFTWARE	3
Required third-party software	3
Installation.....	3
INFORMATION FOR NETWORK ADMINISTRATORS	4
STARTING THE PROGRAM	4
ADD ROOM PRODUCTS DEVICES	5
SWEGON PROSILENCER PLUGIN'S USER INTERFACES.....	7
Insert Swegon Silencer.....	7
SWEGON AHU-DESIGN PLUGIN USER INTERFACE	9
Main functions	9
Insert Design AHU	10
Import Design AHU.....	15
Validate Design AHU	17
Update Design AHU	18

About this document

This document contains instructions on using *Swegon Revit plugin*.

The purpose of the plugin is to select different Swegon products with different Swegon selection software and export products easily to MagiCAD. The following software / product types are included

- AHU-Design – air handling units
- ProSelect - waterborne climate systems and air diffusers.
- ProSilencer - silencers

Installing the software

Required third-party software

Revit

- Revit 2018 - 2023

MagiCAD (optional)

- MagiCAD for Revit 2022 (with Revit 2018 - 2022)
- MagiCAD for Revit 2023 (with Revit 2019 - 2023)

Installation

1. Download the setup file from MagiCAD portal
<https://portal.magicad.com/download/ProductSearch?searchStr=Swegon&categoryId=3>
2. Install setup
The 64-bit version of the program is installed by running downloaded installer.

Administrator privileges are recommended for installation

Information for network administrators

Plugin requires connection to Swegon web site. Internet Explorer control is used to browse web pages from <http://proselect.swegon.se>. Embedded Chromium based engine is used to browse web pages from <https://sdscadexport.swegon.com>.

Standard HTTP GET (TCP, default port 80 should be used) method is used to retrieve files from the server. GET response includes file (mime application/octet-stream). Your network firewall should allow such connections (plugin runs inside Revit process)

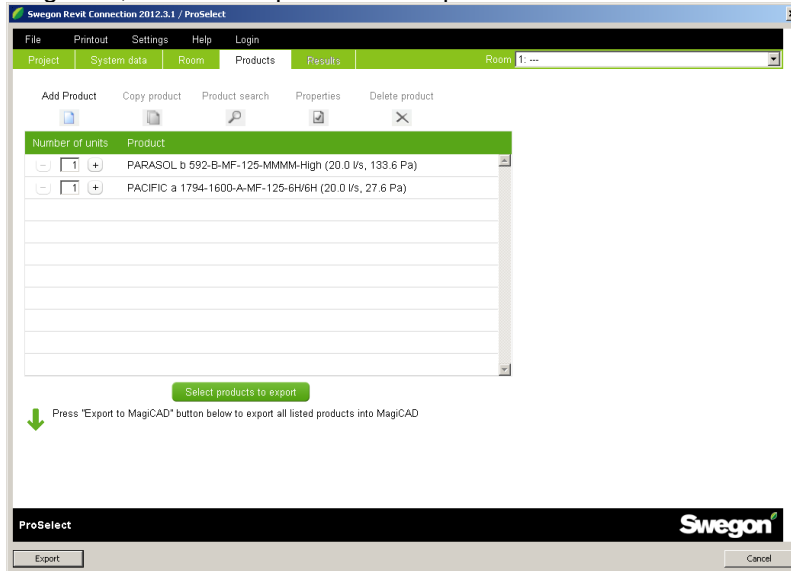
Starting the program

In order to add Swegon air handling unit (AHU-Design), waterborne climate units, or silencers, click Revit Add-Ins –ribbon tab and Room products, Insert ProSilencer, or Insert ProUnit AHU -button in Swegon panel. The plugin software will be started.

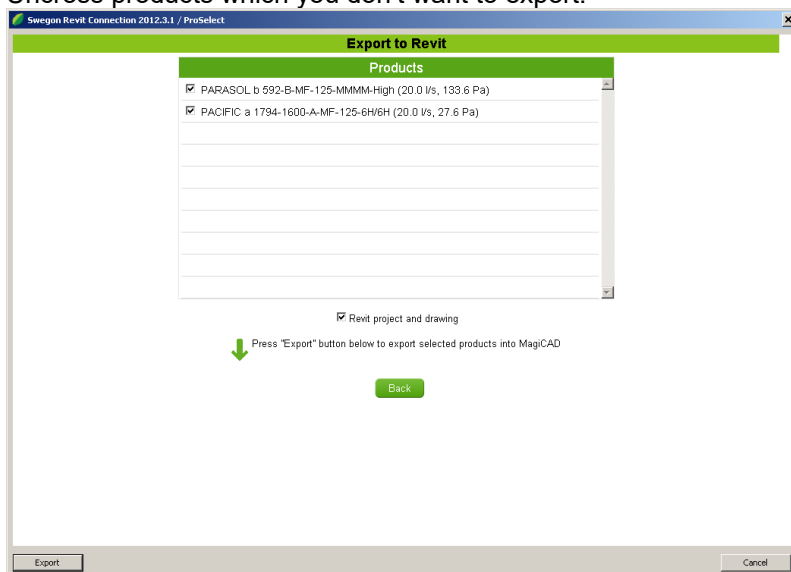


Add room products devices

1. Open project or add products to list. If there are some products which you don't want to export to MagiCAD, click Select products to export-button.



2. Uncross products which you don't want to export.



3. Insert devices into the drawing using mouse
 - By clicking left mouse button you can insert similar device over and over again.
 - To insert next product, press enter/esc to change the device.

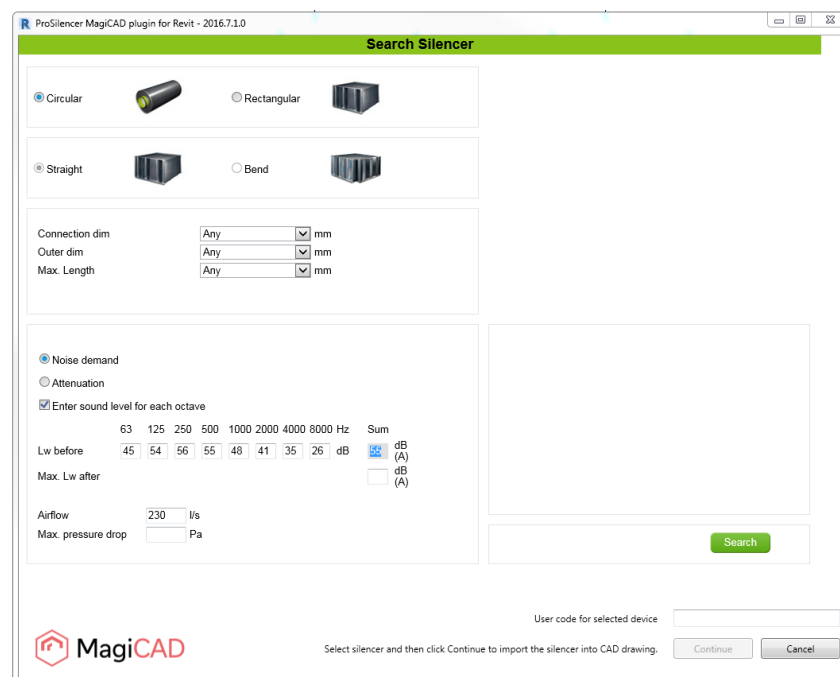
Swegon ProSilencer plugin's User Interfaces

Insert Swegon Silencer





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



1. Click Insert silencer button from Add-in ribbon panel.
2. Plugins ask to point ductwork for getting air flow, sounds and dimensions. This phase can be skipped by pressing Cancel button in left top corner.
3. Swegon ProSilencer program is started



ProSilencer MagiCAD plugin for Revit - 2016.7.1.0

Search Silencer

☒ Circular  ☐ Rectangular 

☒ Straight  ☐ Bend 

Connection dim: Any mm
Outer dim: Any mm
Max. Length: Any mm

☒ Noise demand
☐ Attenuation
☒ Enter sound level for each octave

	63	125	250	500	1000	2000	4000	8000	Hz	Sum
Lw before	45	54	56	55	48	41	35	26	dB (A)	52 dB (A)
Max. Lw after										

Airflow: 230 l/s
Max. pressure drop: Pa

User code for selected device:

Select silencer and then click Continue to import the silencer into CAD drawing.

 **MagiCAD**

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:

Search Silencer

Product	Connection	Outer	Length	Pressure drop	Lw after	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
CLA-A-315-500	315	462	500	2	46	4	6	7	9	12	8	8	5
CLA-A-400-1000	400	553	1000	1	40	5	9	12	16	23	14	8	6
CLA-A-400-500	400	553	500	1	46	4	6	7	9	12	8	6	4
CLA-B-250-1000	250	394	1000	21	33	7	12	17	30	43	40	34	16
CLA-B-250-500	250	394	500	21	42	3	6	8	14	24	32	20	9
CLA-B-315-1000	315	462	1000	14	35	6	10	14	26	45	42	21	12
CLA-B-315-500	315	462	500	14	42	4	6	8	14	25	19	14	8
CLA-B-400-1000	400	553	1000	4	36	5	9	14	23	40	24	13	9
CLA-B-400-500	400	553	500	4	42	4	6	8	14	22	16	10	6
CLA-B-500-1200	500	680	1200	1	35	5	7	16	24	30	22	16	14
CLA-B-500-600	500	680	600	1	37	4	5	15	23	29	20	15	14

Lw before

63 125 250 500 1000 2000 4000 8000

Hz

Sum

Attenuation

6 10 14 26 45 42 21 12

dB

dB(A)

Noise generation

20 20 16 14 11 8 7 5

dB

dB(A)

Lw after

39 44 42 29 12 8 15 14

dB

dB(A)

Image

Rendered Picture

Wireframe sketch

Sound Diagram

Position

Notes

Back

User code for selected device

Select silencer and then click Continue to import the silencer into CAD drawing.

Continue

Cancel

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

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

Swegon AHU-Design plugin user interface

Main functions

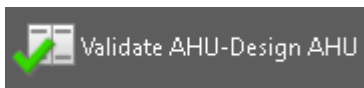
The plugin contains the following functions:



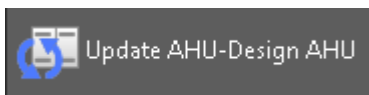
Opens the Air Handling Unit Designer web program(AHU Designer) where air handling units can be created and configured. User can choose products to be inserted to the Revit.



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



Validates Swegon's air handling unit. Checks if air flows / pressures drops are still valid for the dimensioning.



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

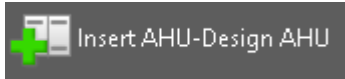
The air flows and pressure drops are read from the ducts in the Validate and Update functions if the air handling unit is connected to ducts.

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



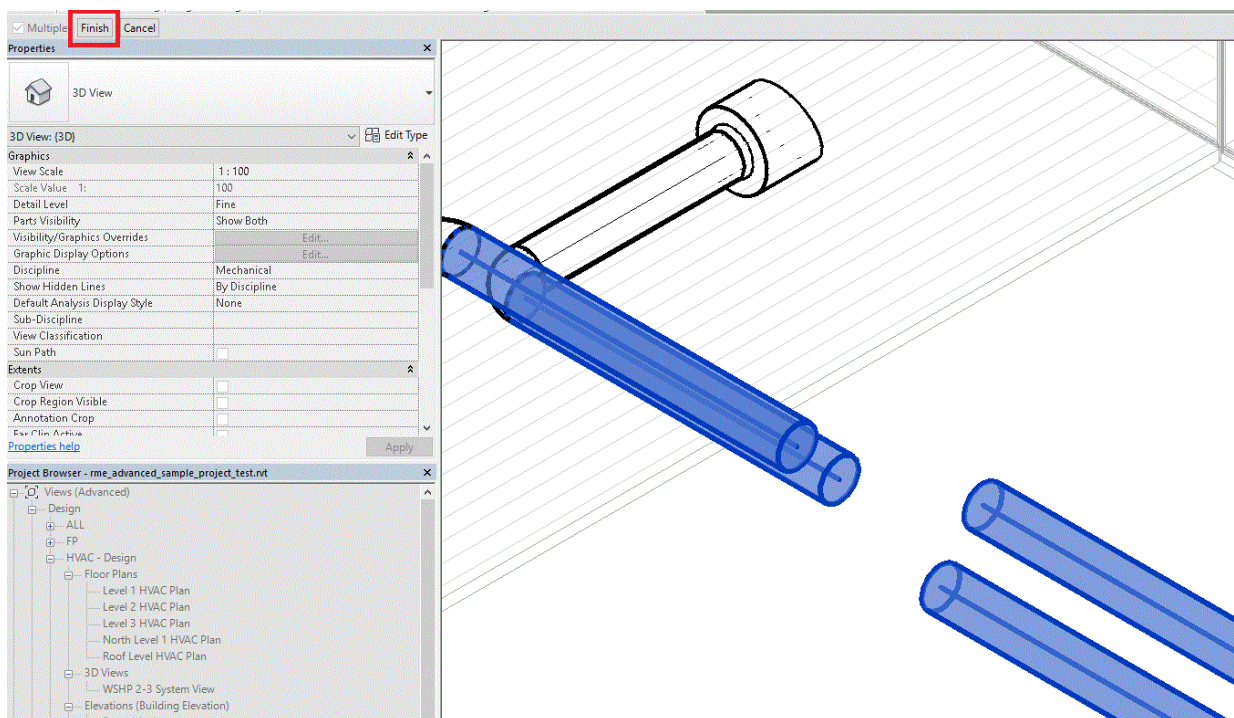
Allows user to view technical data of the selected product. The selected product can be air handling unit or duct component which is dimensioned by AHU Designer.

Insert Design AHU

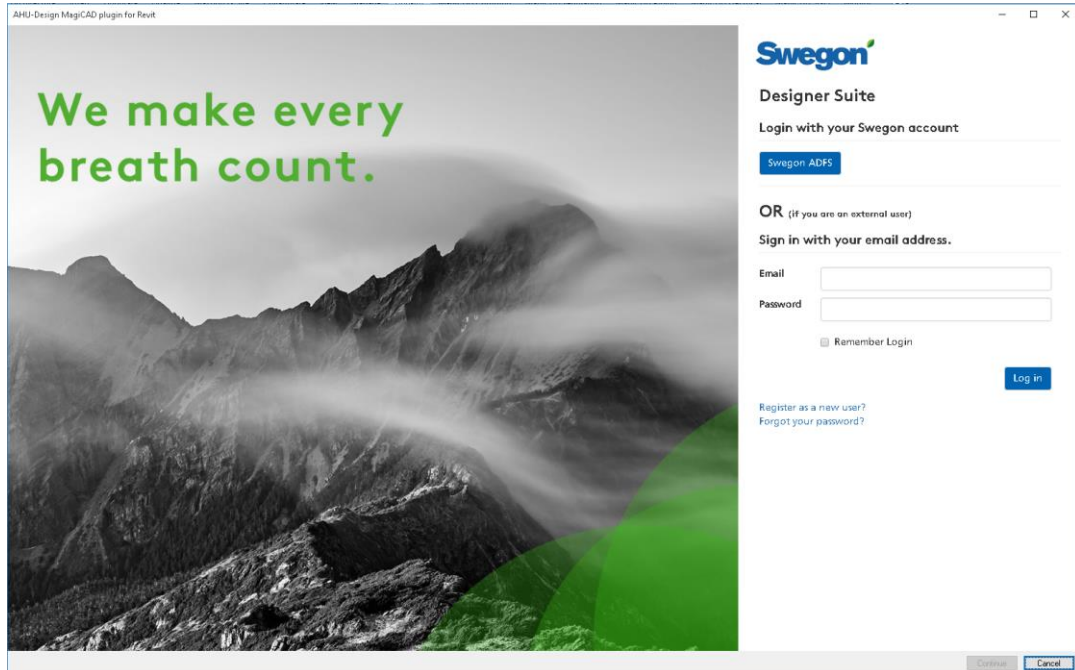


Follow these steps for Inserting Swegon's air handling unit into Revit drawing:

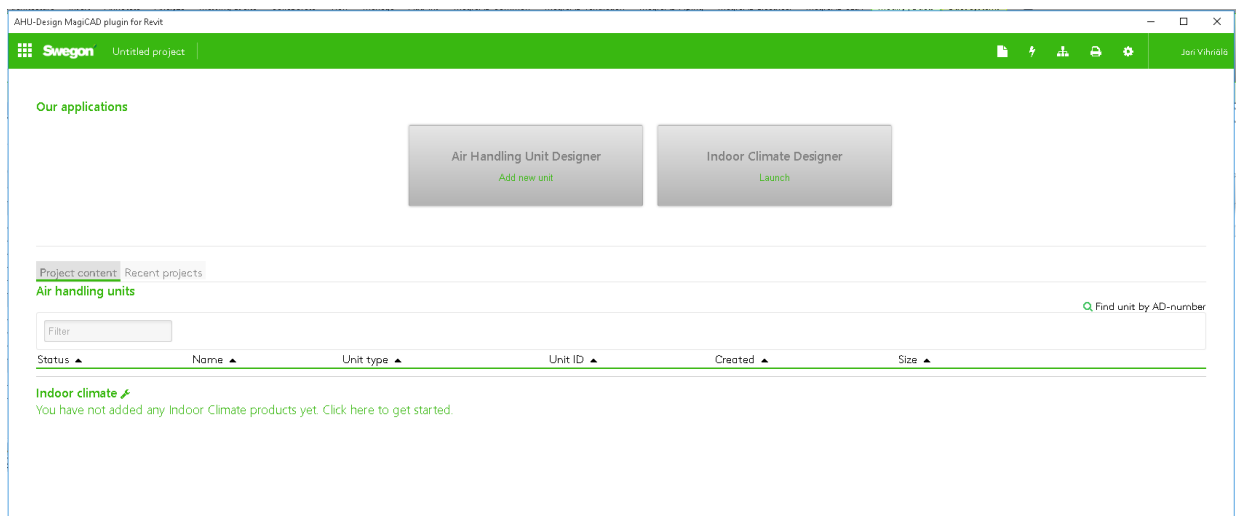
1. Click Insert AHU-Design AHU button from plugin's ribbon panel in AutoCAD/Revit.
2. User may point ductworks for reading the air flows, pressure drops and systems and hitting Finish button in the end. This phase can be skipped by pressing Esc button(or with Cancel button).



3. Swegon AHU designer program is started and user is asked to login to the application. Register as a new user if not yet account.



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



Air flow and external pressure values are auto-filled with values received from MagiCAD \ Revit. 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 drops values needs to be set manually. User proceeds by making rest of the selections and continues with Create unit-button.

Create new unit

Give this unit a name

Untitled unit

Air flow

0.800 m³/s

Pressure drop

38 Pa

Pressure drop duct

24 Pa

Supply air

0.800 m³/s

Extract air

0.800 m³/s

Outdoor air

12 Pa

Exhaust air

34 Pa

Type of heat recovery

None

Controller unit

Without With

Unit type

GOLD F

GOLD F TOP

Size

8

11

12

14

20

25

30

35

40

50

0.200 m³/s 5.000 m³/s

Extract air

Summer

Winter

Temperature

25.0 °C

22.0 °C

Relative humidity

50 %

20 %

Outdoor air

Change in climate settings

Temperature

24.6 °C

-16.9 °C

Relative Humidity

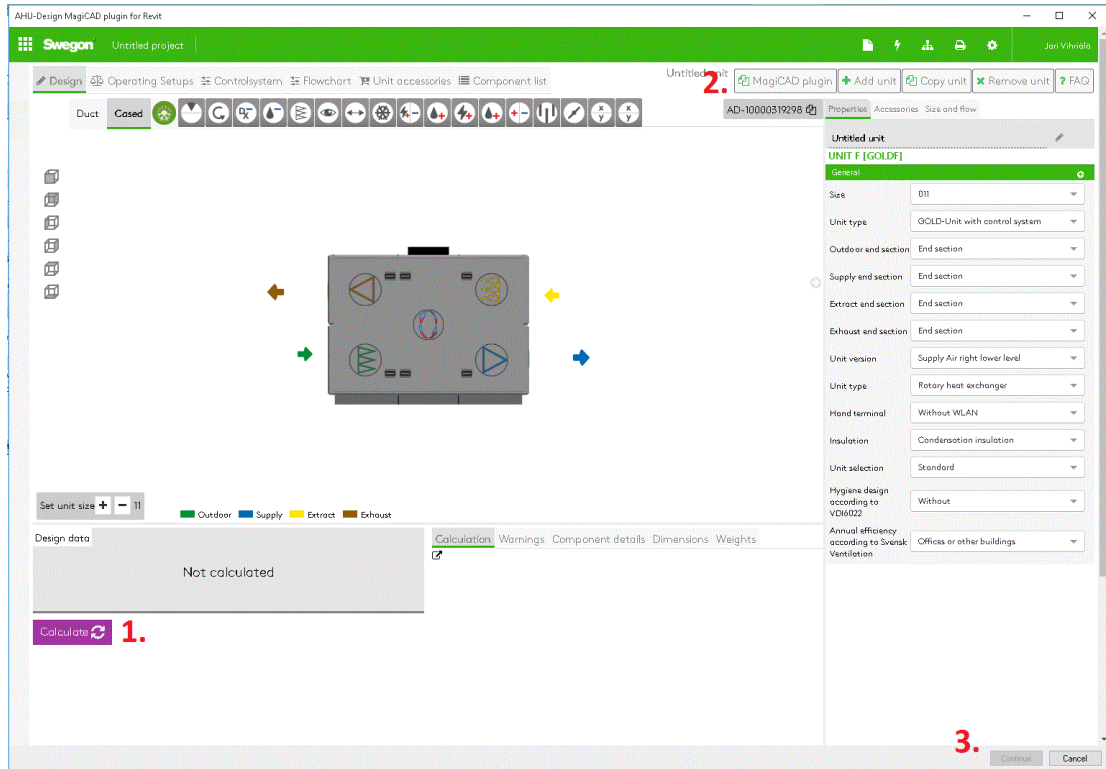
59 %

98 %

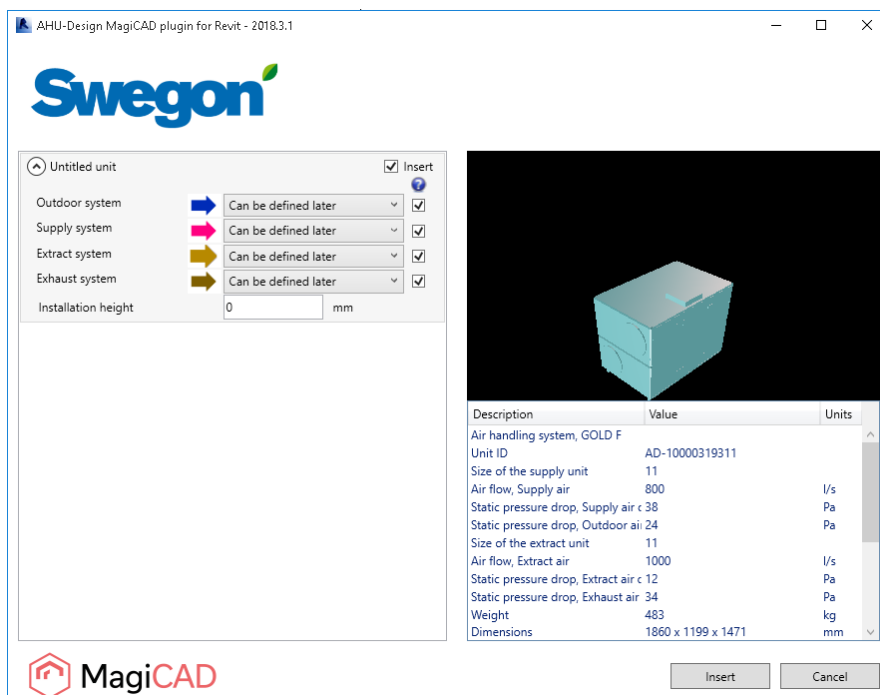
+ Create unit

✕ Close

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



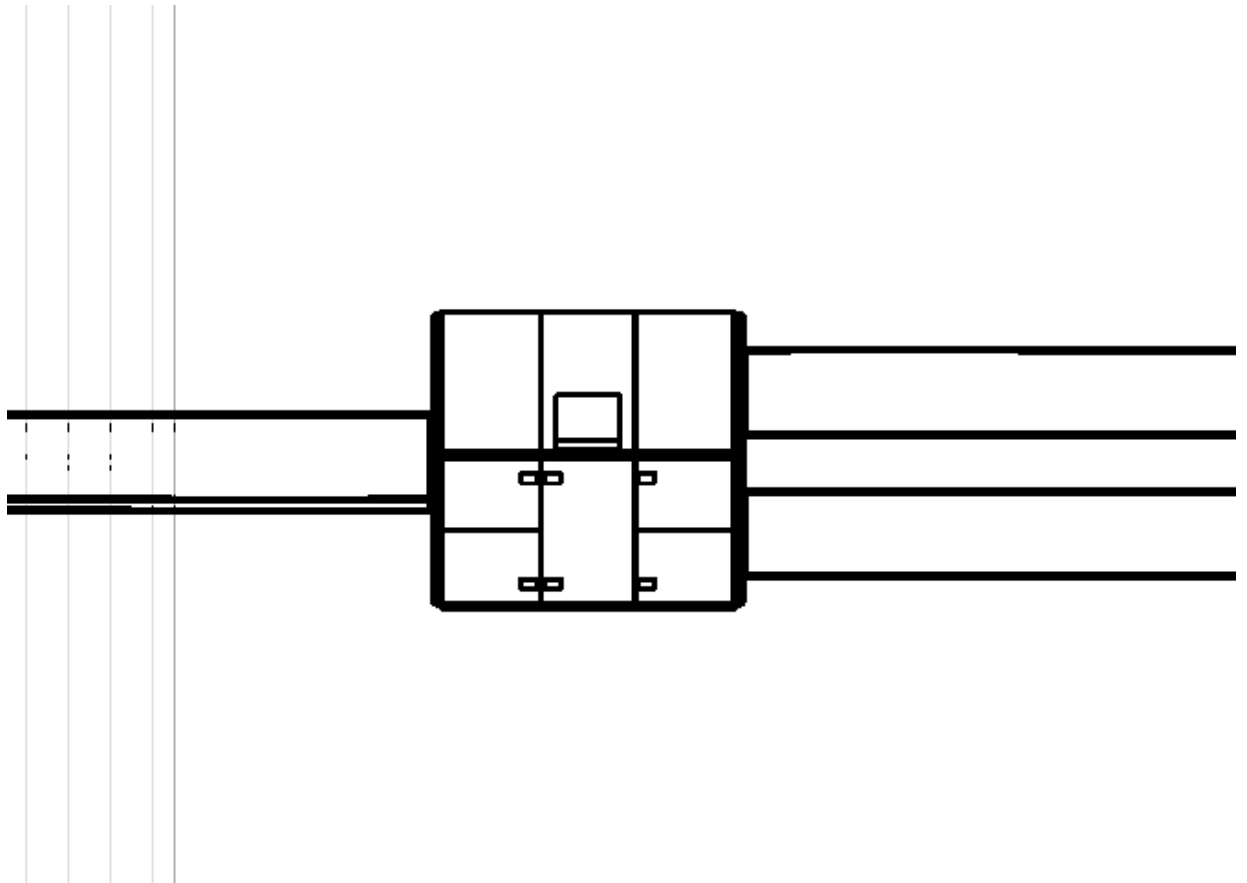
5. When *Continue* -button is clicked the following dialog is displayed for the user:



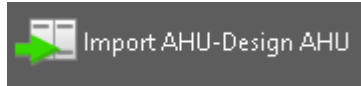
6. Available products are shown in list view on the left side of the dialog. Geometry of the product is displayed on the top right side. Before installing product to drawing, user needs to first select MagiCAD system (if MagiCAD drawing is available) for each duct connection (for each product installed 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.

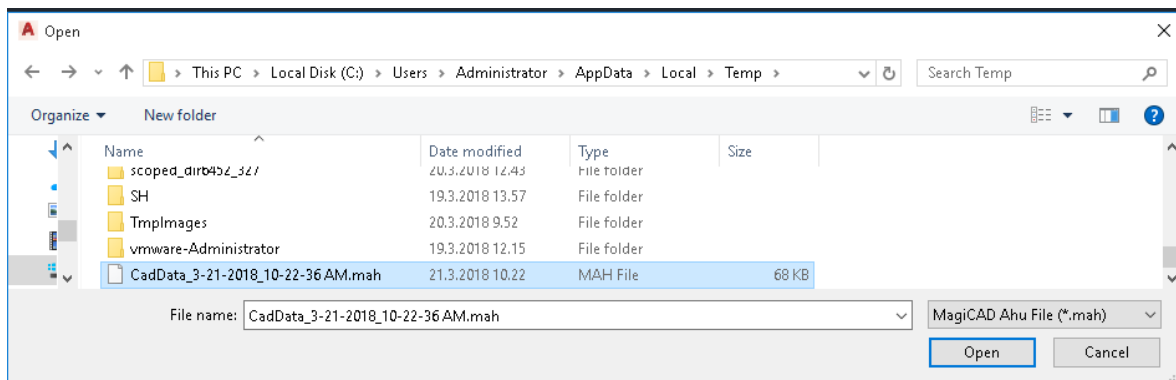


Import Design AHU

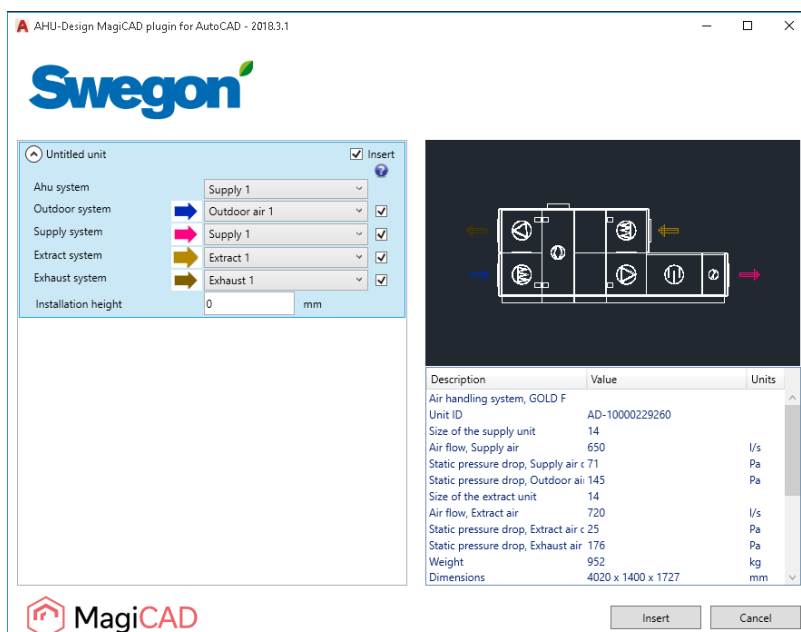


It is possible to import AHU to MagiCAD\Revit drawing without visiting the AHU Designer program. It is a quick and easy way to share and use the AHU. Before using the import command, an export file from AHU-Design needs to be requested from Swegon.

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

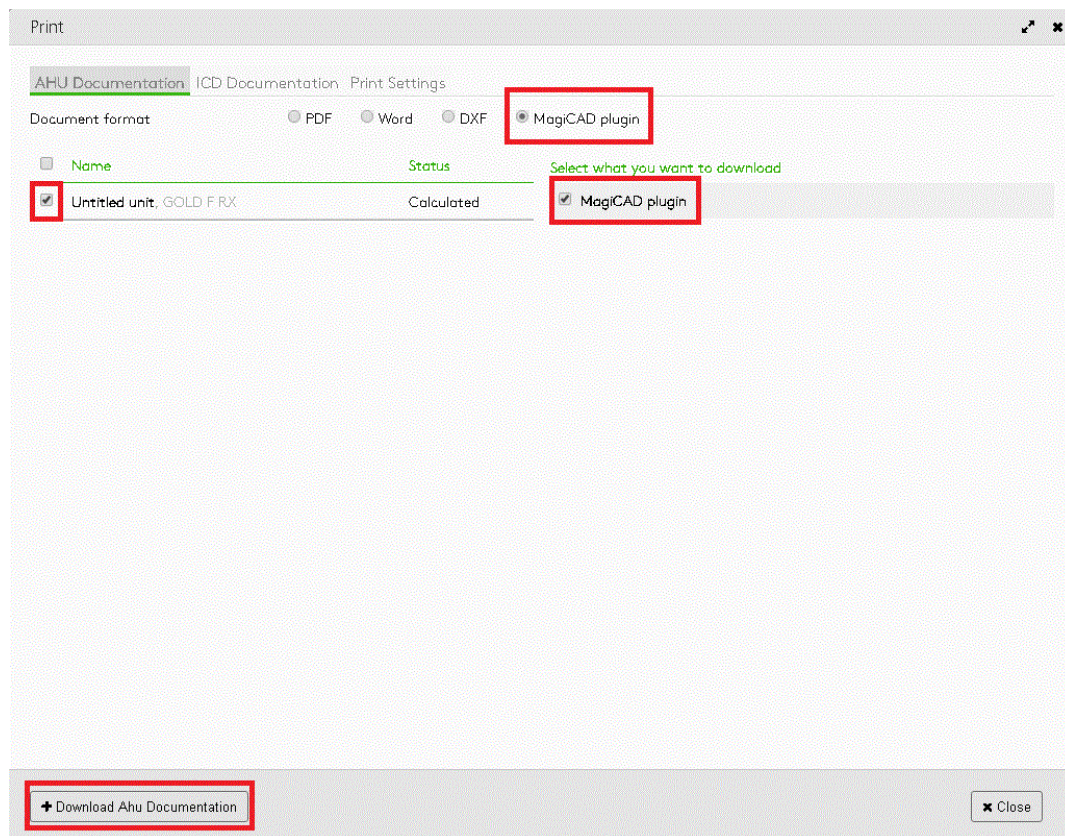


Exporting plugin file from AHU Designer:

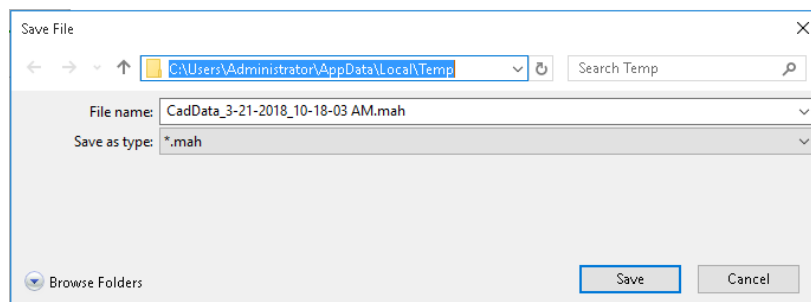
After unit is calculated click Print button in right upper corner



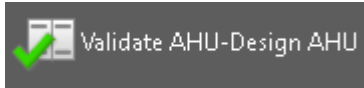
First choose the document format as MagiCAD plugin. Select one or more AHUs and check MagiCAD plugin box and finally press in left lower corner "Download Ahu Documents-button".



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

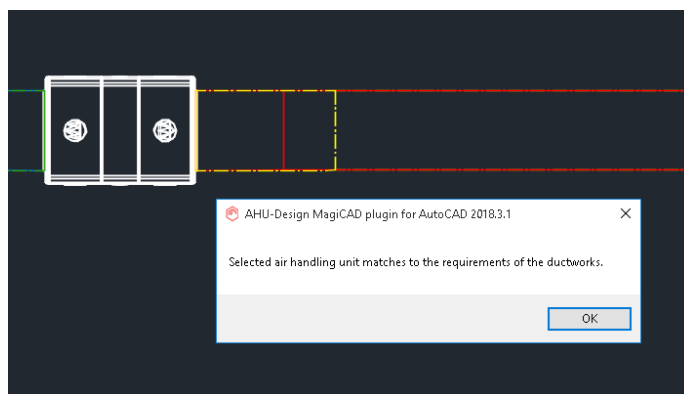
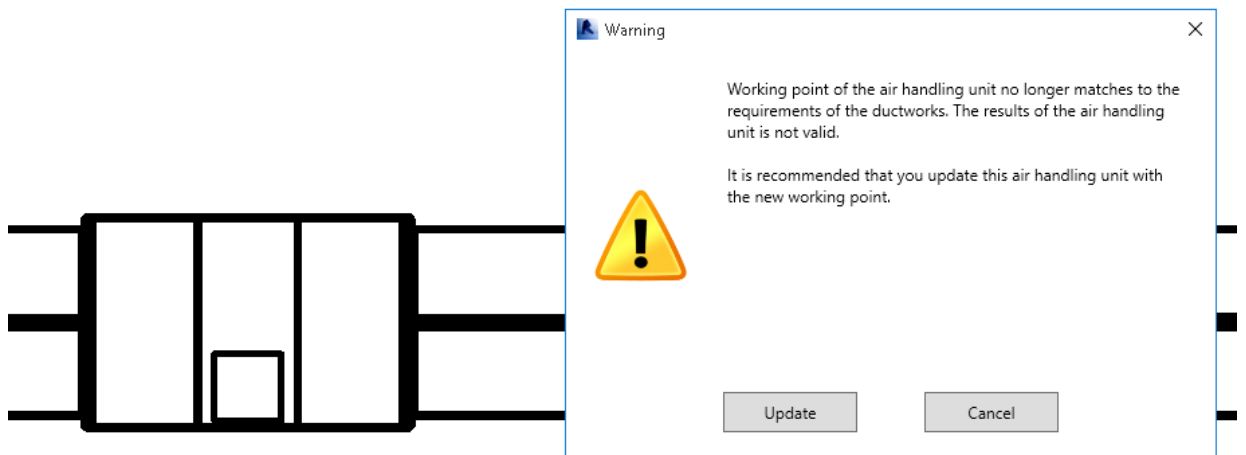


Validate Design AHU

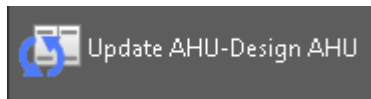


Follow these steps for Validating Swegon's air handling unit into MagiCAD drawing:

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.

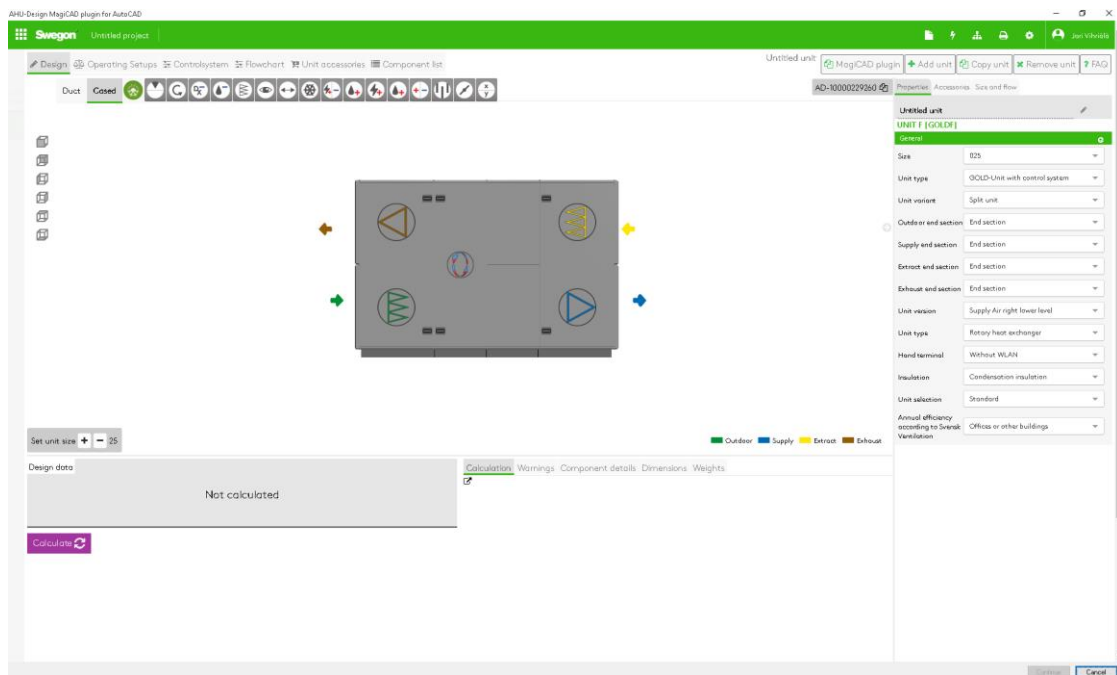


Update Design AHU

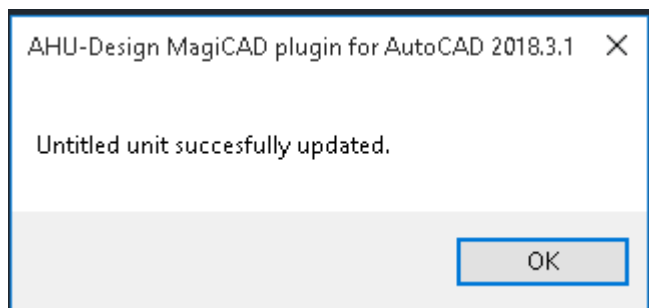


Follow these steps for Updating Swegon's air handling unit into MagiCAD drawing:

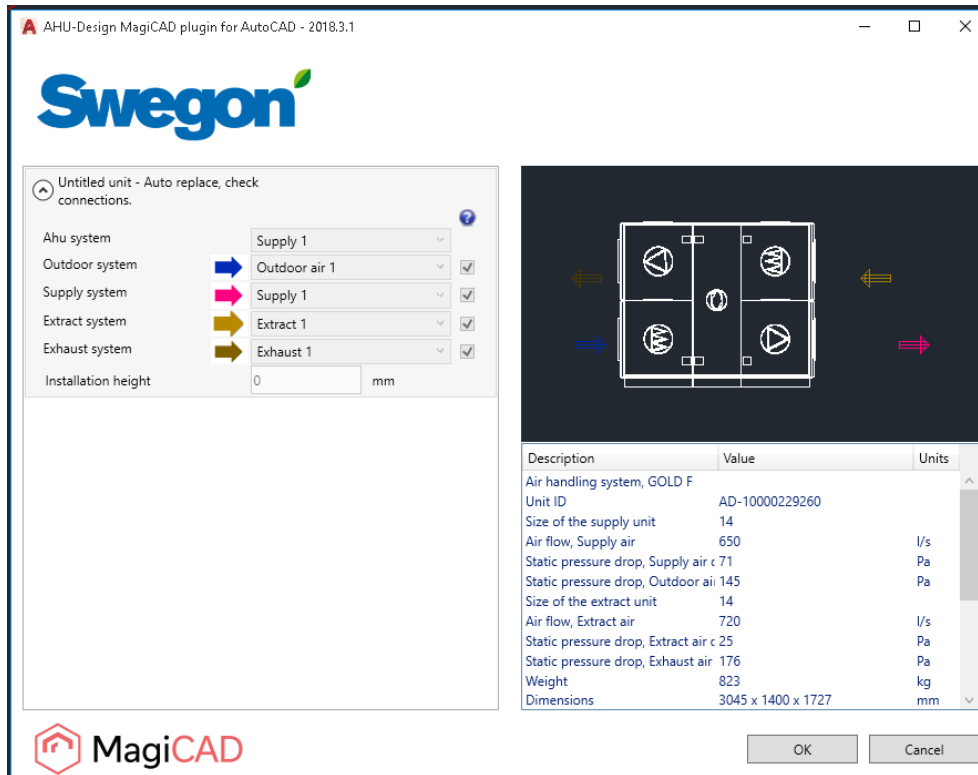
1. Click Update Swegon AHU button from plugin's ribbon panel in AutoCAD/Revit.
2. Select air handling unit from drawing which will be updated.
3. AHU Designer starts and open unit page automatically. Note that airflow and pressuredrop is read from duct connections if AHU is connected ductwork in MagiCAD\Revit. User may change unit size, add parts, change airflow etc.
- 4.



5. 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 is shown:



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.