



Swegon MagiCAD plugin for AutoCAD User guide

11/04/2022

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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

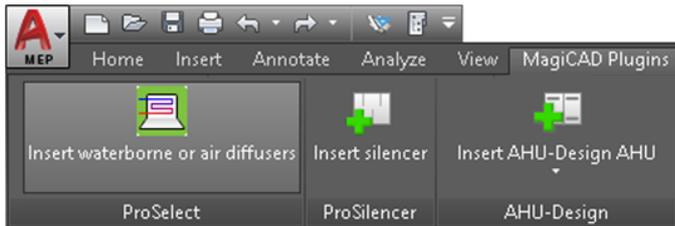
Administrator privileges are recommended for installation. **Note if you have several AutoCAD versions on your workstation:**

Before you run the installation program, start MagiCAD to make sure that *Swegon MagiCAD Plugin* installs on the same AutoCAD platform as MagiCAD.

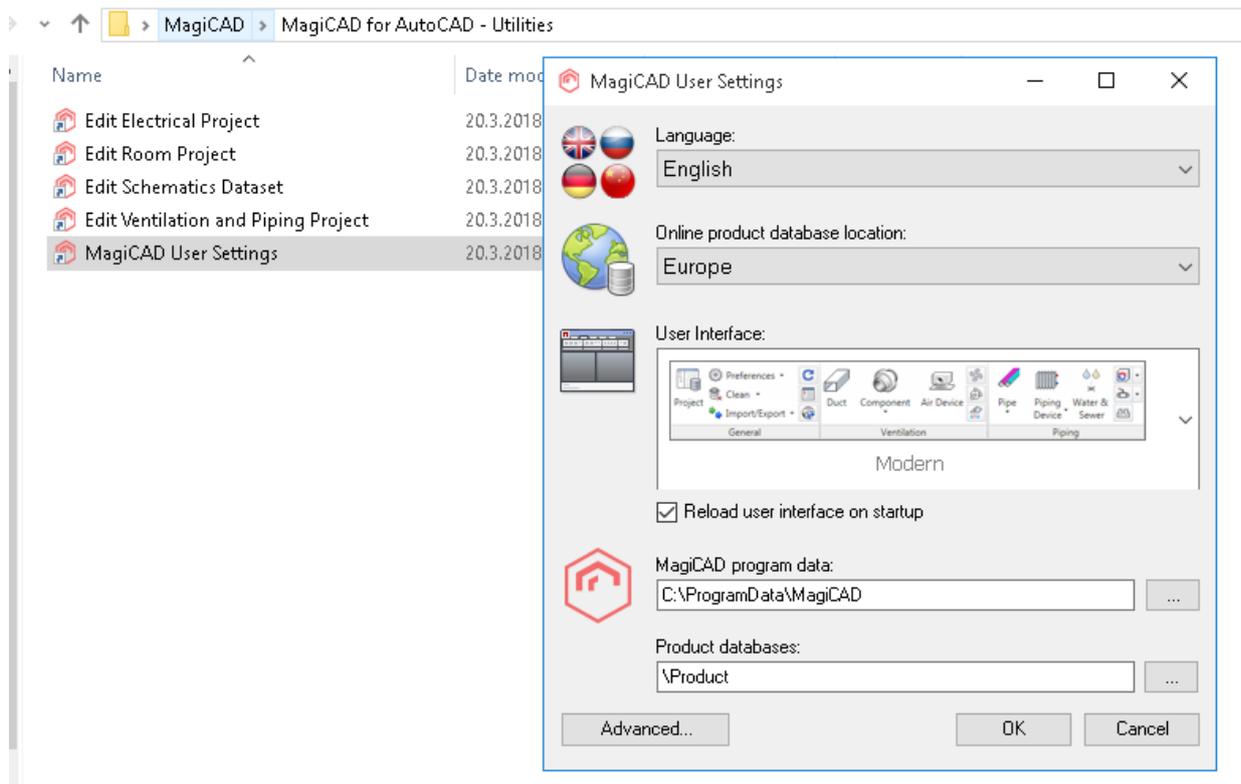
2 Starting the program

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.



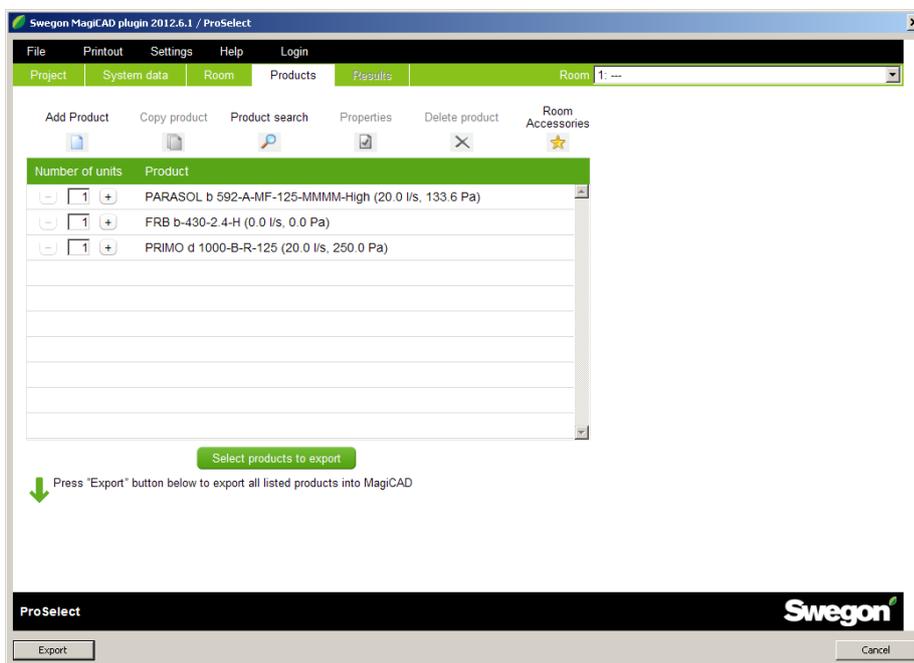
3 How to use the plugin

3.1 Insert ProSelect Waterborne Climate Systems and Air Diffusers

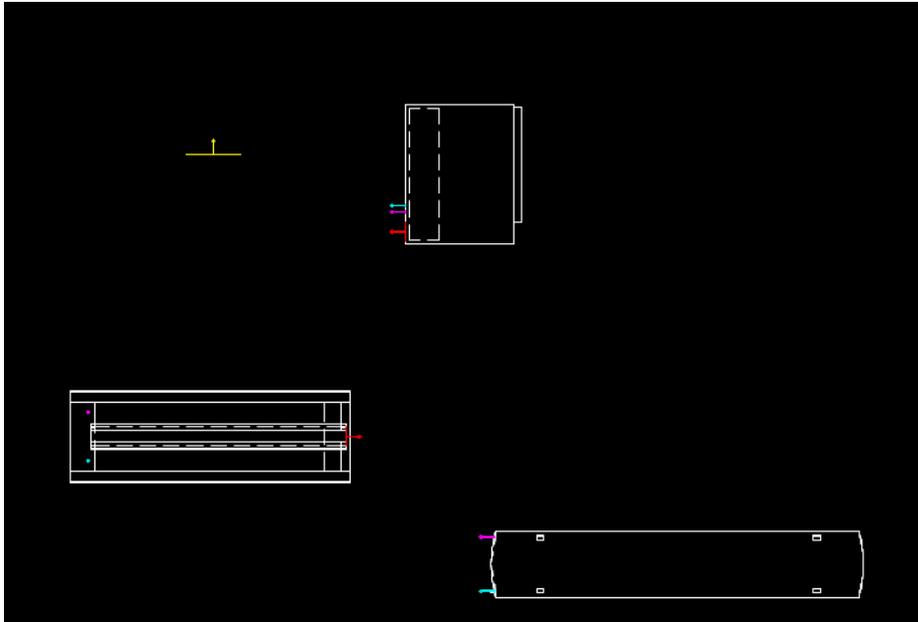
Press the plugin icon  to add unit from ProSelect. Create products to be exported.

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.

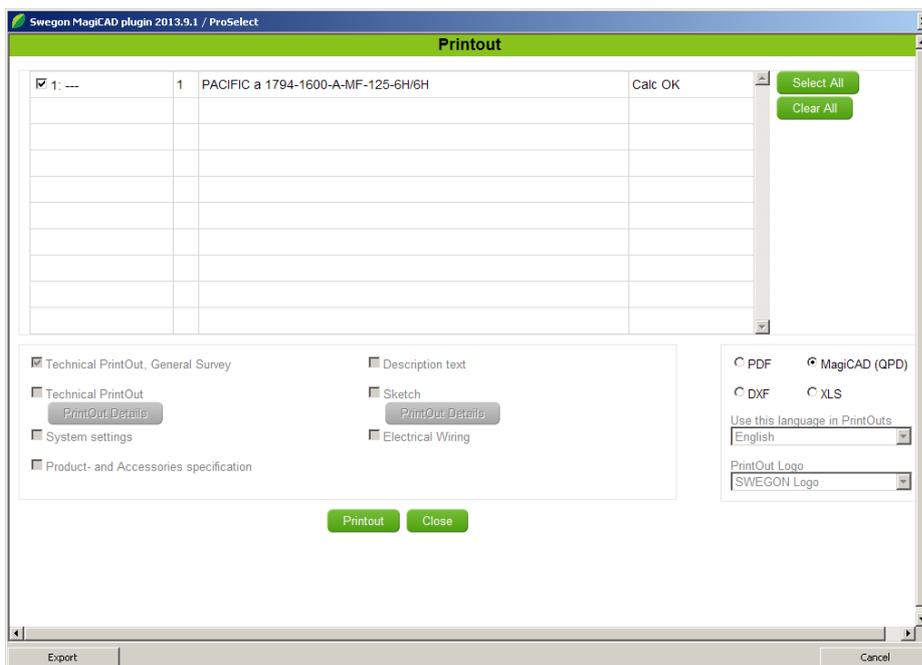


If you have multiple devices to insert MagiCAD drawing, then press Esc-button after one device type is inserted.



"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.



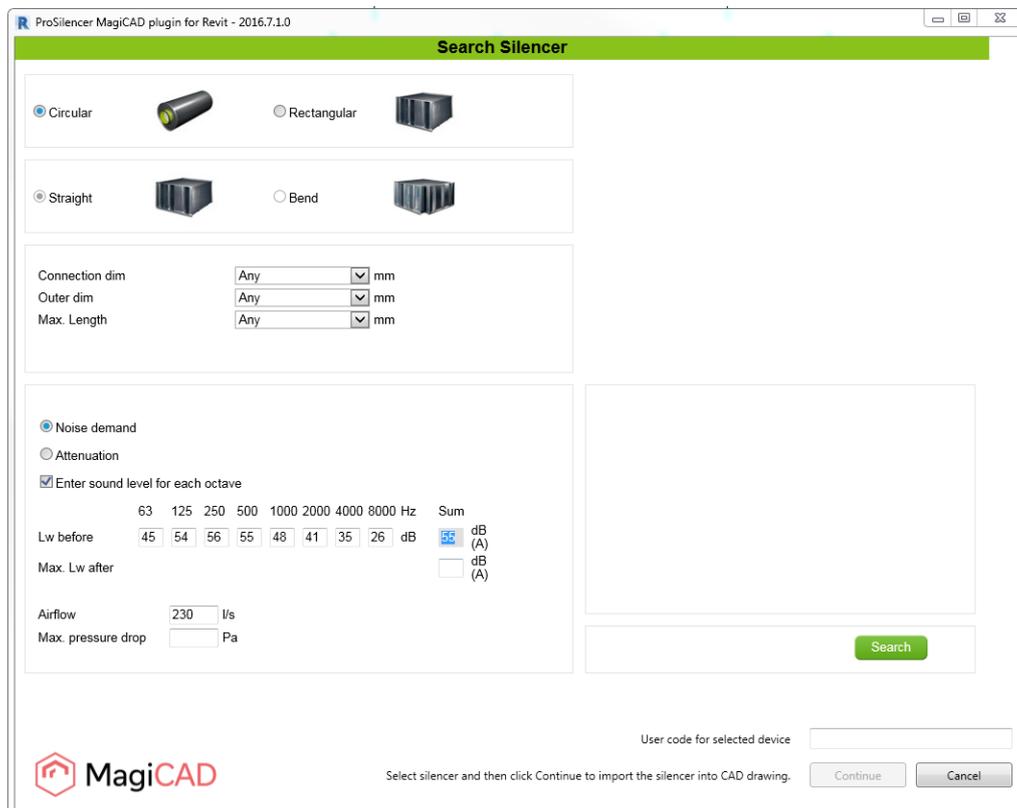
3.2 Swegon ProSilencer plugin's User Interfaces

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



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	55	dB (A)
Max. Lw after											dB (A)

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

Search

User code for selected device: _____

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

 **MagiCAD**

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

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

ProSilencer MagiCAD plugin for Revit - 2016.7.1.0

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	45	54	56	55	48	41	35	26	dB	55	dB(A)		
Noise generation	20	20	16	14	11	8	7	5	dB	17	dB(A)		
Lw after	39	44	42	29	12	8	15	14	dB	35	dB(A)		

Airflow	230	l/s
Face velocity	3.0	m/s
Pressure drop	14	Pa

Position

Notes

Back

User code for selected device

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

Continue
Cancel



Image	Rendered Picture
Wireframe sketch	Sound Diagram



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.



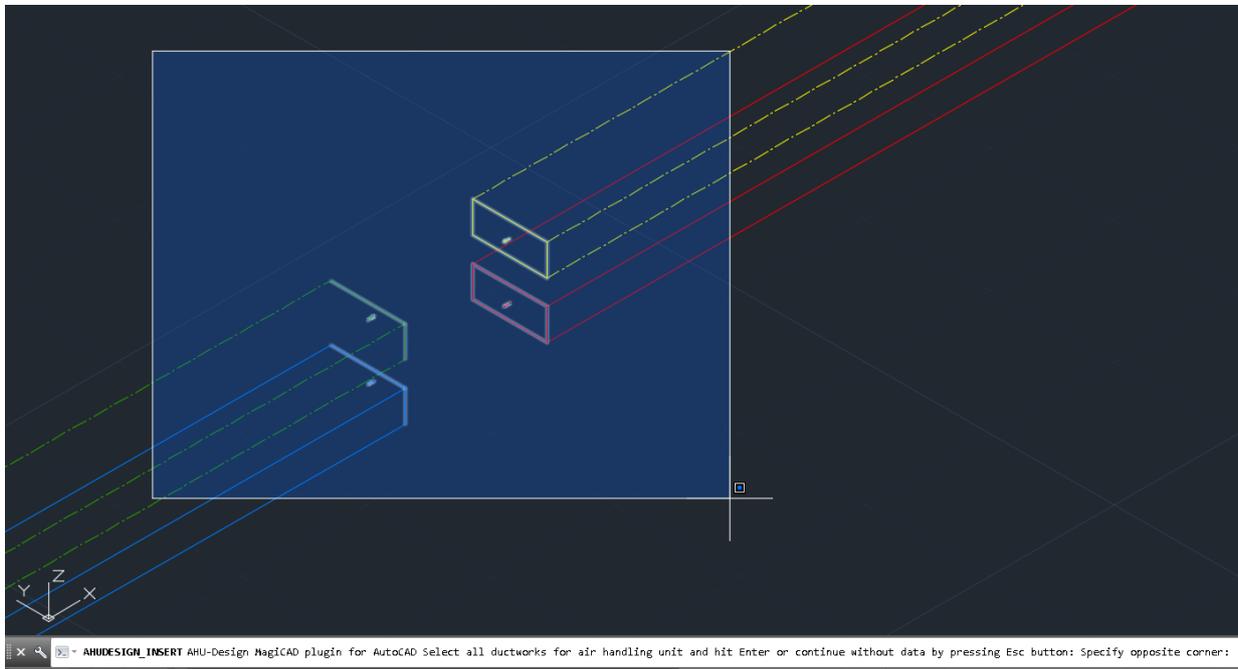
Allows user to view technical data of the selected product. The selected product can be air handling unit or duct component which is dimensioned by AHU Designer.

3.3.2 Insert Design AHU

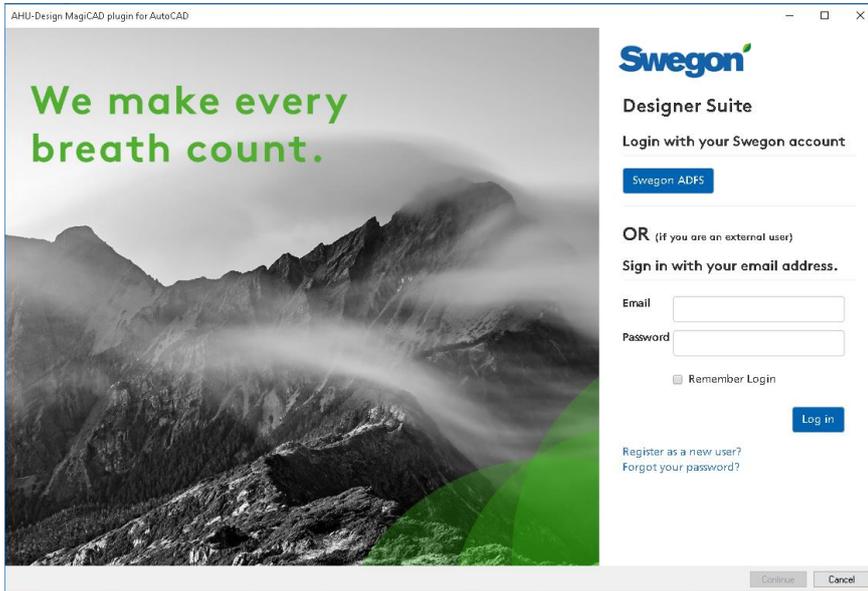


Follow these steps for Inserting Swegon's air handling unit into MagiCAD drawing:

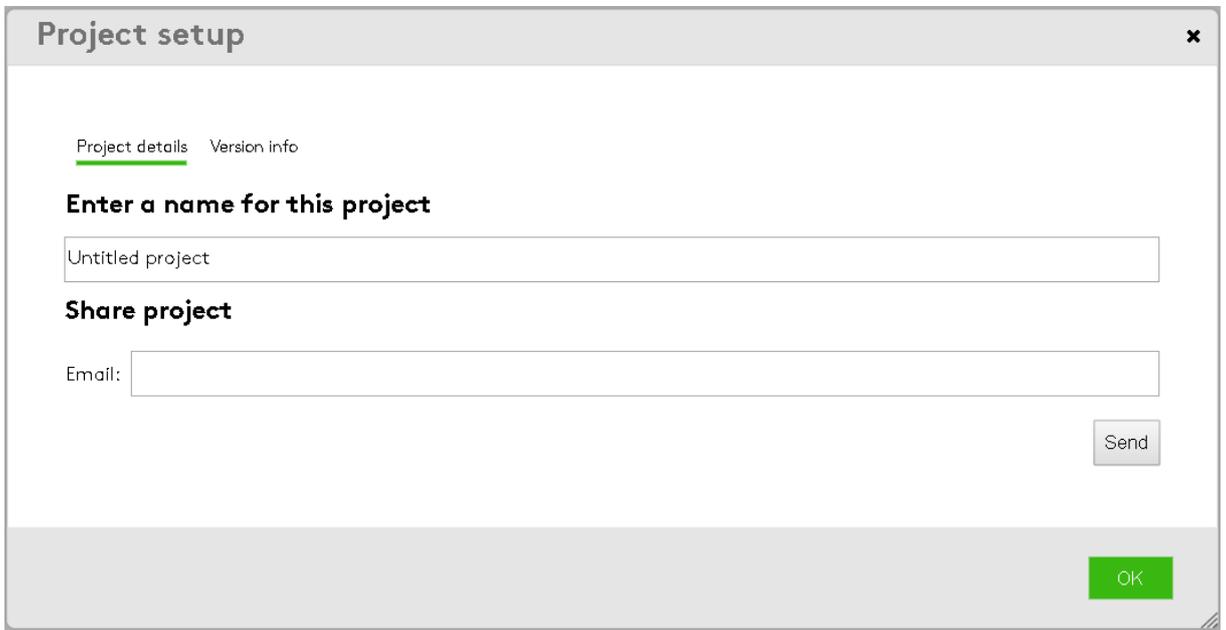
1. Click Insert AHU-Design AHU button from plugin's ribbon panel in AutoCAD/Revit.
2. User may point ductworks for getting air flows, pressure drops and MagiCAD systems and hitting enter in the end. This phase can be skipped by pressing Esc button.



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



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





My project



AHU Design



IC Design

Project content Recent projects



Status	Name	Unit type	Unit ID	Created	Size
--------	------	-----------	---------	---------	------

You have not added any Indoor Climate products yet

AHU-Design MagiCAD plugin for AutoCAD



Our applications

Air Handling Unit Designer

[Add new unit](#)

Indoor Climate Designer

[Launch](#)

Project content Recent projects

Air handling units

Status	Name	Unit type	Unit ID	Created	Size
--------	------	-----------	---------	---------	------

Indoor climate

You have not added any Indoor Climate products yet. [Click here to get started.](#)

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.

Create new unit

Tag:

Line text:

Placement:

	Supply air	Extract air
Air flow	<input type="text" value="1,000"/> m ³ /s	<input type="text" value="1,000"/> m ³ /s
Pressure drop	<input type="text" value="150"/> Pa	<input type="text" value="150"/> Pa
	Outdoor air	Exhaust air
Pressure drop duct	<input type="text" value="50"/> Pa	<input type="text" value="50"/> Pa

Type of heat recovery

Controller unit

Without
 With

Unit type

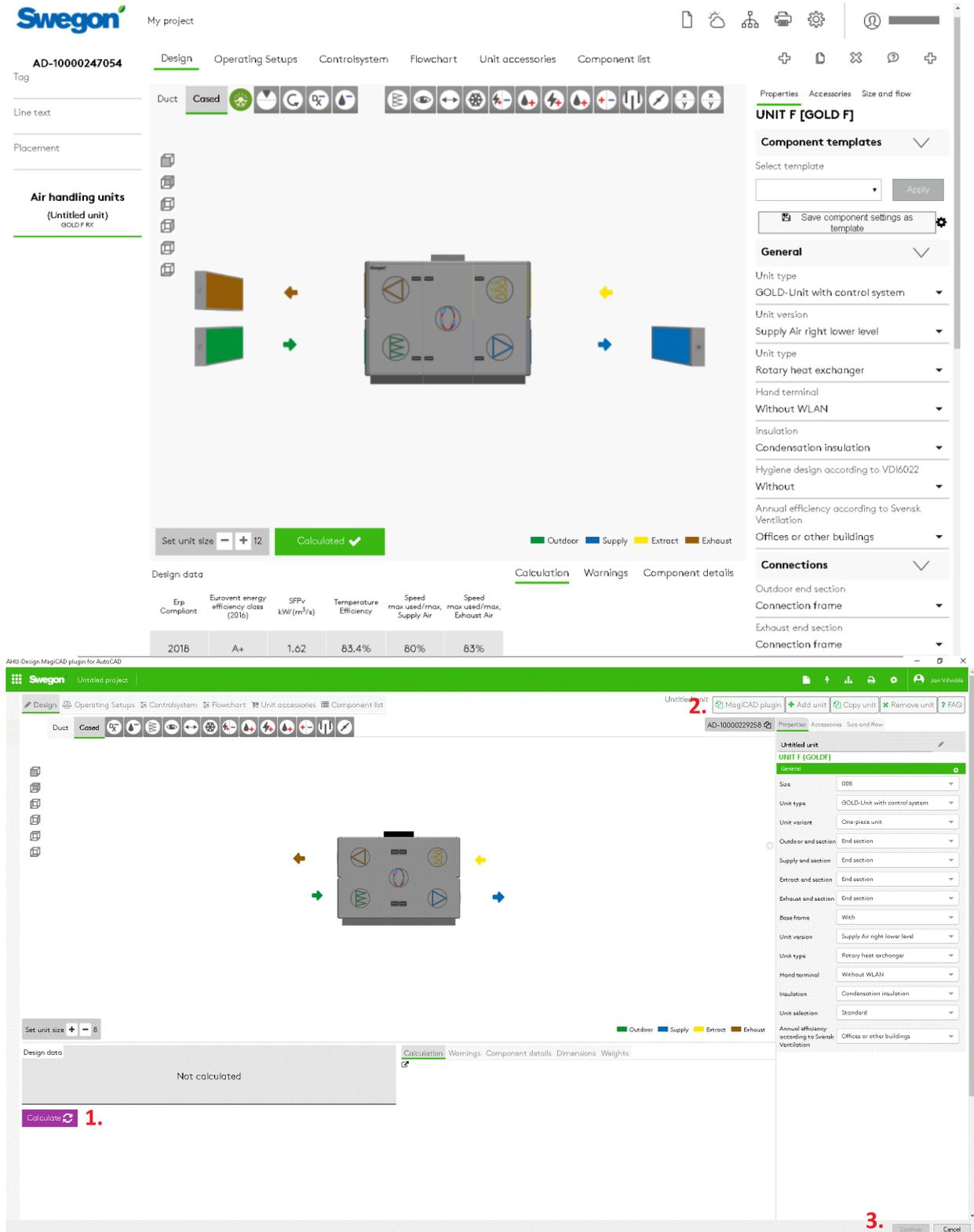
GOLD F

Installation example

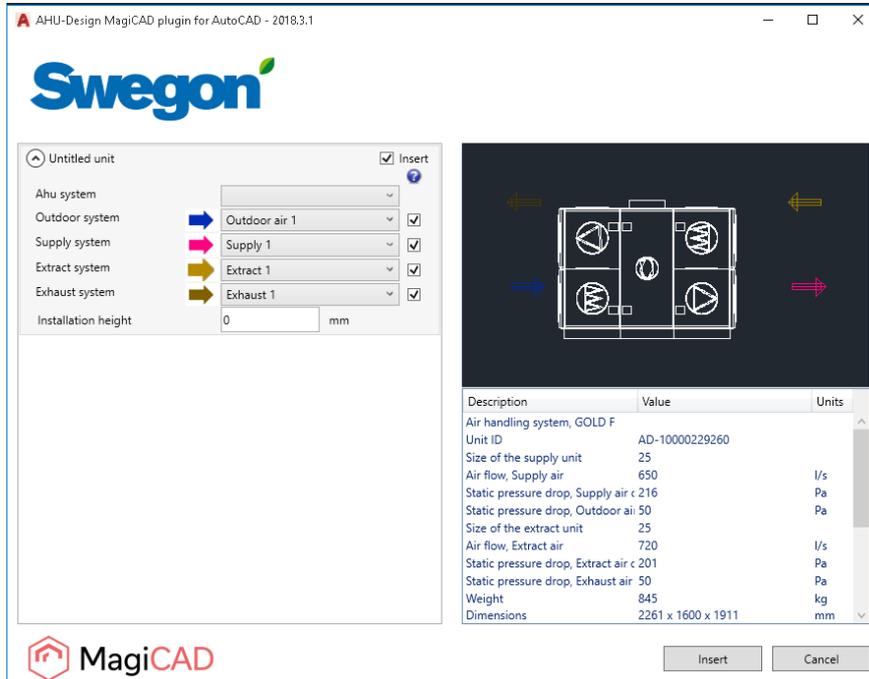
Size

	Summer	Winter
Extract air		
Temperature	<input type="text" value="25,0"/> °C	<input type="text" value="22,0"/> °C
Relative Humidity	<input type="text" value="50"/> %	<input type="text" value="20"/> %
Outdoor air	Change in climate settings	
Temperature	<input type="text" value="25,6"/> °C	<input type="text" value="-20,2"/> °C
Relative Humidity	<input type="text" value="47"/> %	<input type="text" value="80"/> %

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.



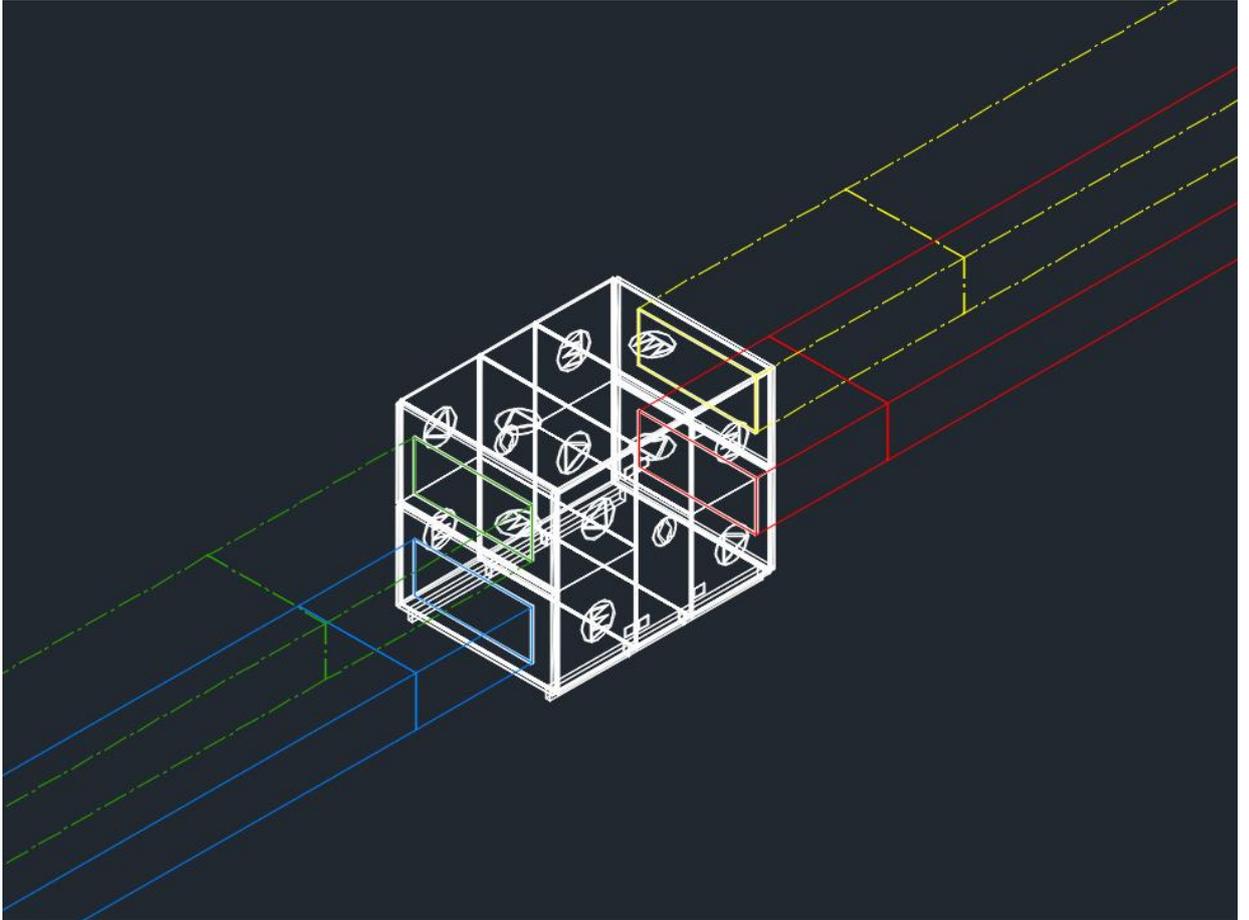
5. When *Continue* -button is clicked the following dialog is displayed for the user:



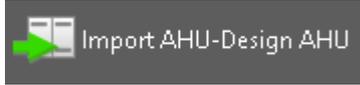
6. Available products are shown in list view on the left side of the dialog. Geometry of the product is displayed on the top right side. Before installing product to drawing, user needs to first select MagiCAD system (if MagiCAD drawing is available) for each duct connection (for each product installed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

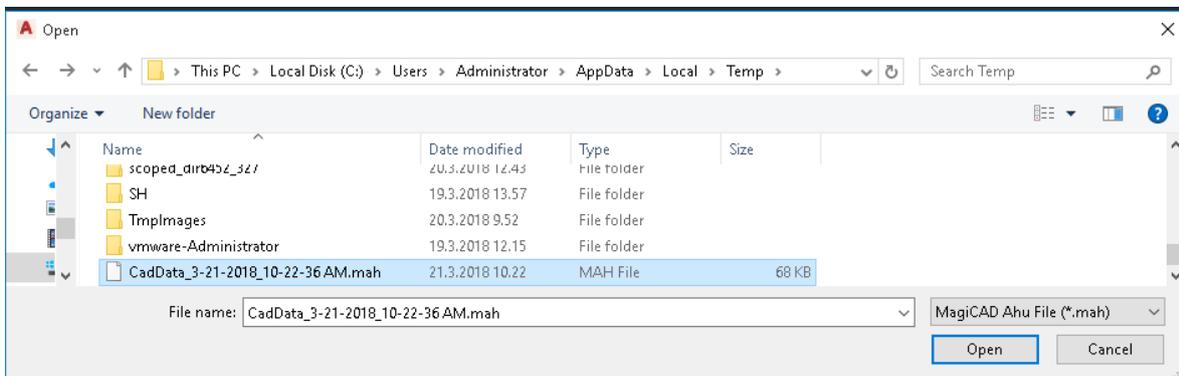


3.3.3 Import Design AHU

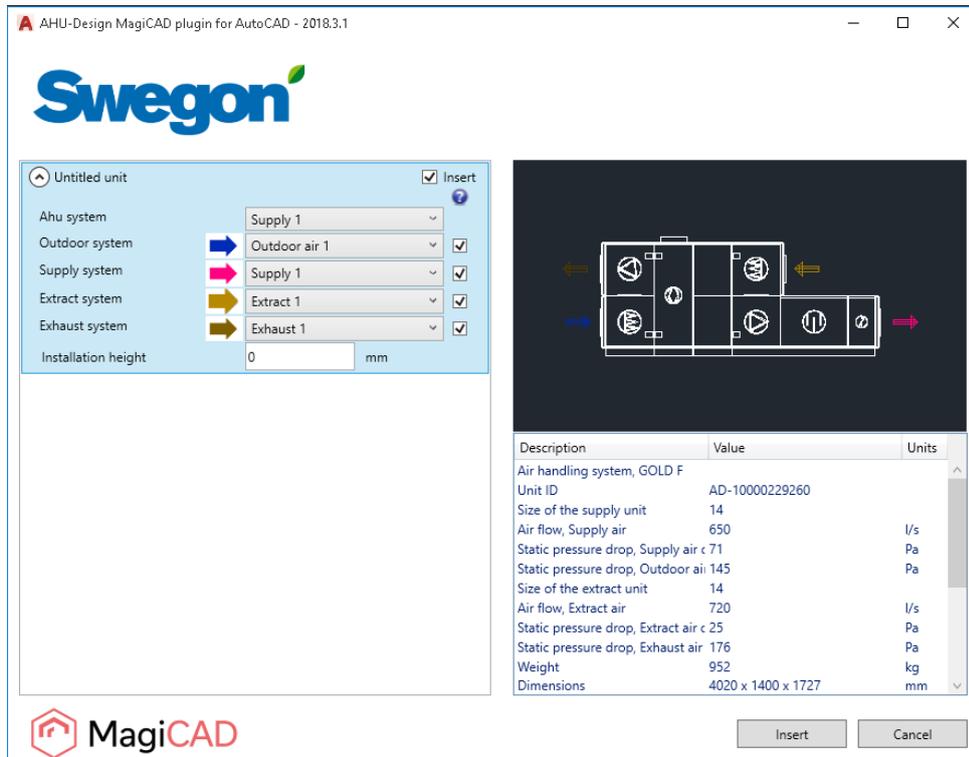


It is possible to import AHU to MagiCAD drawing without visiting the AHU Designer program. It is a quick and easy way to share and use the AHU. Before using the import command, an export file from AHU-Design needs to be requested from Swegon.

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



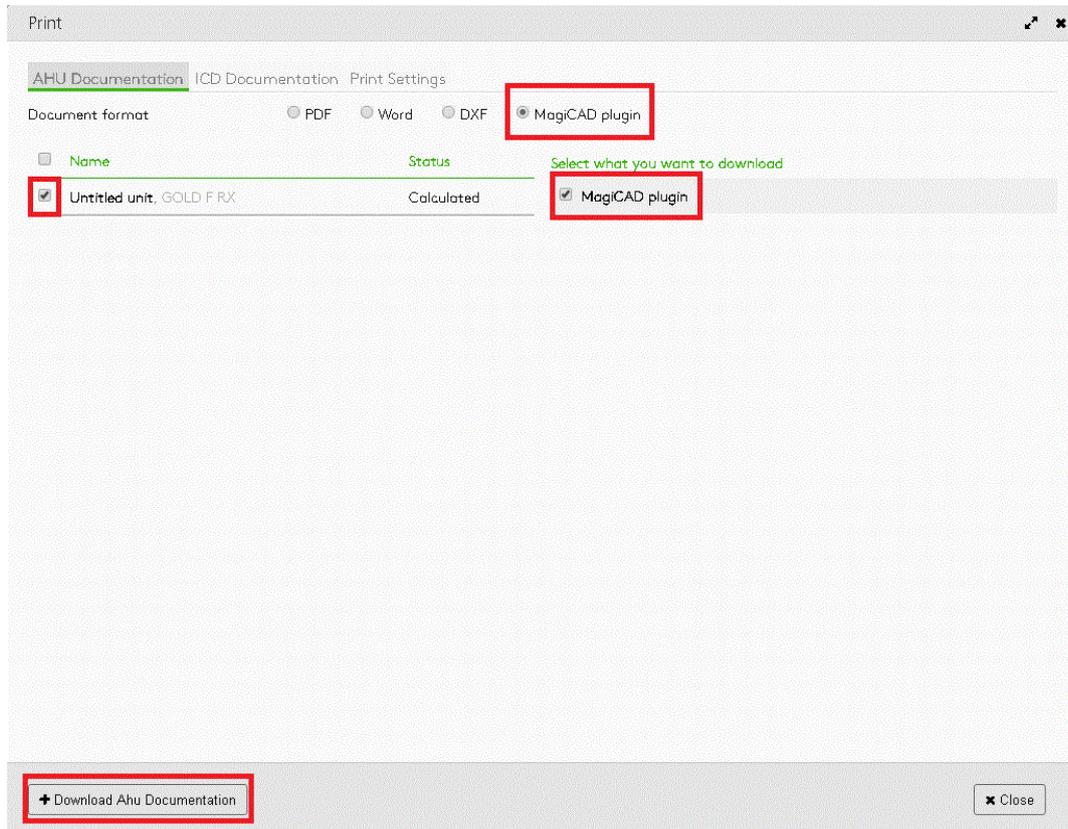
Click Open to import it to drawing. Available products are shown in list view on the left side of the dialog. Geometry of the product is displayed on the top right side. Before installing the product to drawing, the user needs to first select the MagiCAD system (if MagiCAD drawing is available) for each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



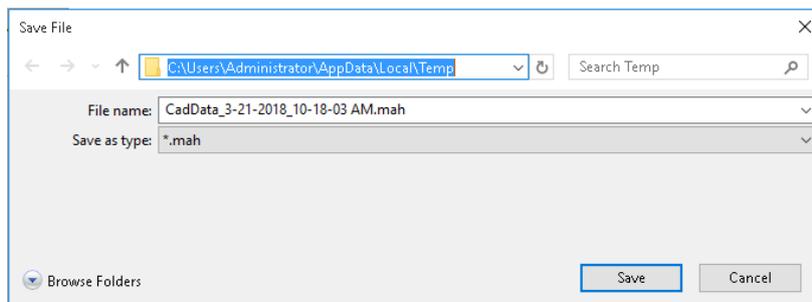
Exporting plugin file (.mah format) from AHU-Designer. After unit is calculated click Print button in right upper corner



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.



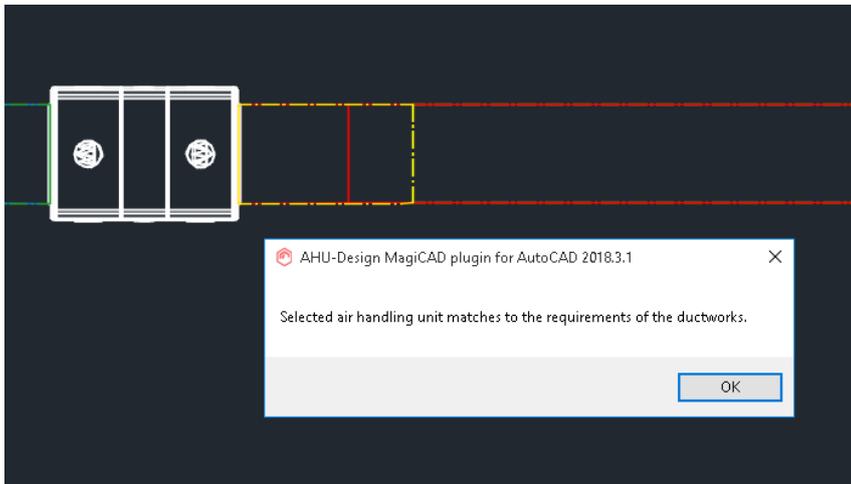
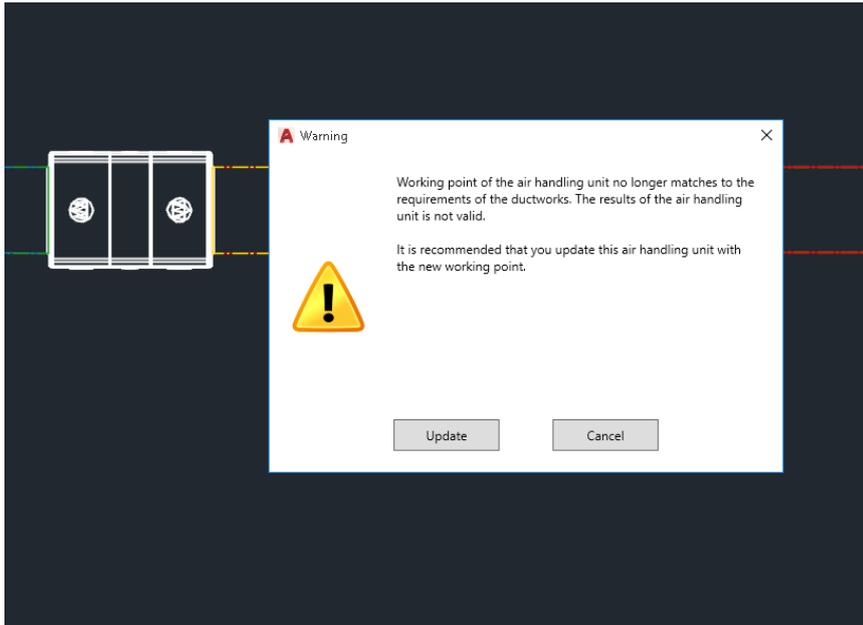
3.3.4 Validate Design AHU



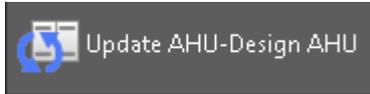
Follow these steps for Validating Swegon's air handling unit into MagiCAD drawing:

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.

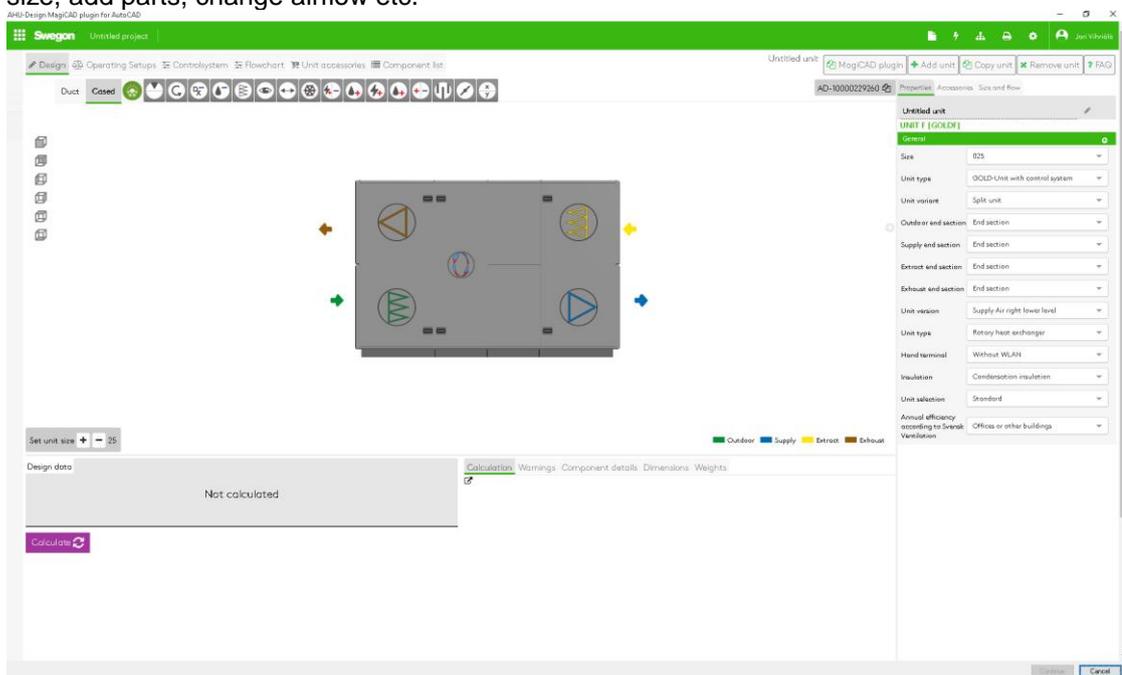


3.3.5 Update Design AHU

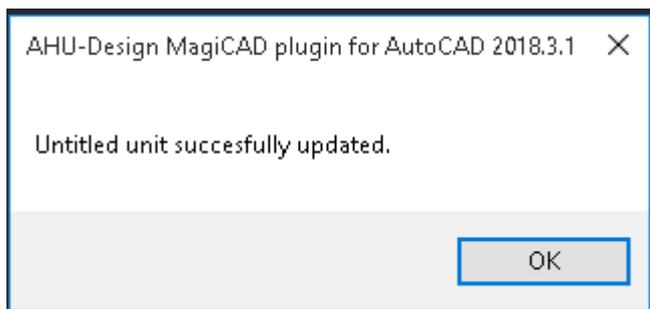


Follow these steps for Updating Swegon's air handling unit into MagiCAD drawing:

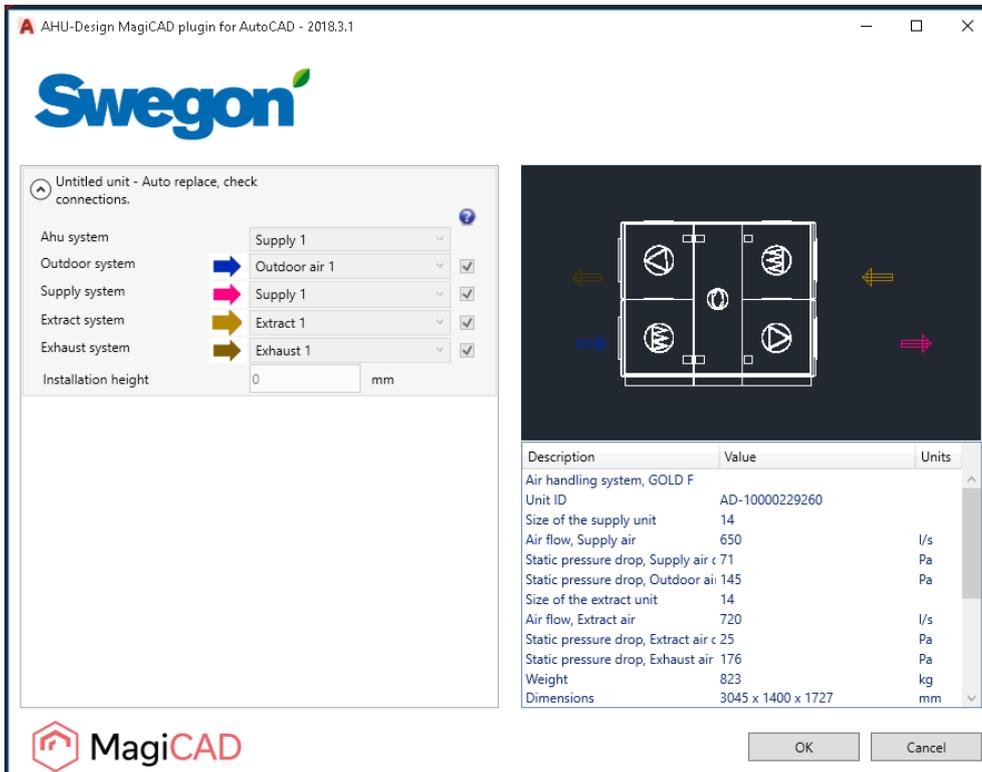
1. Click Update Swegon AHU button from plugin's ribbon panel in AutoCAD/Revit.
2. Select air handling unit from drawing which will be updated.
3. AHU Designer starts and open unit page automatically. Note that airflow and pressuredrop is read from duct connections if AHU is connected ductwork in MagiCAD.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

The screenshot shows the 'AHU-Design MagiCAD plugin for AutoCAD - 2018.3.1' dialog box. It features the Swegon logo at the top left. On the left side, there is a configuration panel for an 'Untitled unit' with the following settings:

- Ahu system: Supply 1
- Outdoor system: Outdoor air 1 (checked)
- Supply system: Supply 1 (checked)
- Extract system: Extract 1 (checked)
- Exhaust system: Exhaust 1 (checked)
- Installation height: 0 mm

On the right side, there is a schematic diagram of the AHU unit with colored arrows indicating air flow directions. Below the diagram is a table with the following data:

Description	Value	Units
Air handling system, GOLD F		
Unit ID	AD-10000229260	
Size of the supply unit	14	
Air flow, Supply air	650	l/s
Static pressure drop, Supply air c 71		Pa
Static pressure drop, Outdoor air	145	Pa
Size of the extract unit	14	
Air flow, Extract air	720	l/s
Static pressure drop, Extract air c 25		Pa
Static pressure drop, Exhaust air	176	Pa
Weight	823	kg
Dimensions	3045 x 1400 x 1727	mm

The MagiCAD logo is visible at the bottom left, and a 'Close' button is at the bottom right.