



# **Bevent Rasch**

MagiCAD plugin for AutoCAD – User guide

18/02/2021

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## 1 General

### 1.1 About this document

This document contains instructions on using Bevent-Rasch MagiCAD for AutoCAD plugin. Bevent-Rasch MagiCAD plugin integrates Dimensio calculation tool into MagiCAD allowing users to insert roof cowls, roof inlets and silencers into MagiCAD project and drawing. Plugin enables also proper support for handling the combination roof cowls and roof inlets.

### 1.2 Installing the software

#### 1.2.1 Required third-party software

Bevent-Rasch MagiCAD plugin works with the following MagiCAD and AutoCAD versions:

- MagiCAD 2021 and AutoCAD 2017-2021
- MagiCAD 2022 and AutoCAD 2017-2022

**NOTE:** MagiCAD 2020 UR-1 includes significant bugfix for calculating ventilation systems that include roof inlets. Earlier MagiCAD version do not support roof inlets in calculations properly, causing the flow summation and balancing calculation to ignore roof inlets and the parts following it in the ductwork. In addition MAGICAD 2020 UR-2 includes fix for considering the sound attenuation of roof inlets in sound calculations.

#### 1.2.2 Before installation

1. Workstation administrator privileges are recommended for installation.
2. Notice if you have several AutoCAD versions on your workstation. Before you run the plugin installer, start MagiCAD to make sure that the plugin installs on the same AutoCAD platform as MagiCAD. When using MagiCAD plugin manager, the plugin is installed on the currently active AutoCAD version.

#### Installation

1. Use MagiCAD plugin manager to install the plugin or download the plugin installer from MagiCAD portal:

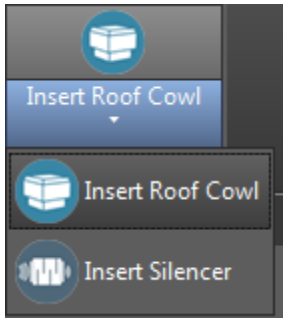
<https://portal.magicad.com/Download/ProductSearch?searchStr=Bevent-Rasch&categoryId=3>

2. Run the installer on your workstation.

### 1.3 Starting the program

The plugin is automatically loaded and is ready to be used once MagiCAD is started next time after the plugin is installed. If you installed the plugin with plugin manager, the plugin is ready to be used without restarting the MagiCAD / AutoCAD.

Bevent-Rasch MagiCAD plugin ribbon panel can be found from MagiCAD plugins tab:

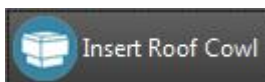


## 2 Functions

Bevent-Rasch plugin contains two operations:

- Insert Roof Cowl
- Insert Silencer

### 2.1 Insert Roof Cowl operation



This command opens Dimensio calculation tool for selecting available Bevent-Rasch roof cowls. User can choose which roof cowl to insert, and optionally include the roof inlet to be inserted along with the roof cowl.

#### 2.1.1 Detailed insert operation in MagiCAD for AutoCAD



Follow these steps to insert roof cowl from Dimensio calculation tool to MagiCAD drawing:

1. Click the "Insert Roof Cowl" -button from the MagiCAD Plugins tab. Once the operation is started the plugin opens the Dimensio calculation tool.

Bevent Rasch MagiCAD Plugin for AutoCAD 2020.1.1.0

## Roof cowls

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### Step 1 – Sizing ?

Get suggestions for suitable products based on desired values or select a specific product.

Suggest suitable products
 Select a specific product

**MANDATORY** (Select the type of cowl and fill in the desired air flow):

SELECT THE TYPE OF COWL ? EXHAUST AIR  OUTDOOR AIR  COMBINATION COWL

AIR FLOW ?  l/s

**OPTIONAL** (Select the desired pressure drop and/or the desired size):

PRESSURE DROP ? from  to

and / or

SIZE ?




**CALCULATE**

2. Proceed by selecting the wanted type of the cowl (exhaust, outdoor, combination cowl) and enter the required airflow and other wanted search parameters. Optionally you can choose to size a specific product, which allows you to directly choose from list of available products within the cowl type. After that click the calculate -button, and Dimensio will show list of suitable products:

Step 2 – Suitable products

The following products meet the values you have chosen. Select the product to complete your sizing.

Is within the recommended areas of use  
Is not within the recommended areas of use

Product	Specifications	Buttons		
 <p><b>DELTA-AH</b></p> <ul style="list-style-type: none"> <li>Sizes for flows from 100 l/s to 15000 l/s</li> <li>Design similar to outdoor air cowl DELTA-UH and combination cowl DELTA-KH</li> <li>Water separation class A according to EN13030</li> <li>Very low pressure drop</li> <li>With adjustable outlet as an accessory</li> <li>Integrated lifting points</li> <li>Available in MagiCAD</li> </ul> <p>Low pressure drop, available in stock in the most common sizes</p>	<p>Size 200 gives pressure drop 321 Pa at 500 l/s Exhaust air velocity 7,4 m/s</p> <p>Size 300 gives pressure drop 43 Pa at 500 l/s Exhaust air velocity 4,6 m/s Sound power level: 47 dB(A)</p> <p>Size 400 gives pressure drop 21 Pa at 500 l/s Exhaust air velocity 3,2 m/s Sound power level: 39 dB(A)</p> <p>Size 500 gives pressure drop 10 Pa at 500 l/s Exhaust air velocity 2,3 m/s Sound power level: 34 dB(A)</p>	<p>SELECT</p> <p>SELECT</p> <p>SELECT</p> <p>SELECT</p>		
	 <p><b>DELTA-AD</b></p> <p>Exhaust air cowl DELTA-AD</p> <ul style="list-style-type: none"> <li>Sizes for flows from 100 l/s to 8000 l/s</li> <li>Design as outdoor air cowl DELTA-UD and combination cowl DELTA-KD</li> <li>Water separation class A according to EN13030</li> <li>Very low pressure drop</li> <li>Integrated lifting points</li> <li>Included in MagiCAD</li> </ul> <p>Low pressure drop, designer model</p>	<p>Size 200 gives pressure drop 321 Pa at 500 l/s Exhaust air velocity 7,4 m/s</p> <p>Size 300 gives pressure drop 43 Pa at 500 l/s Exhaust air velocity 4,6 m/s Sound power level: 47 dB(A)</p> <p>Size 400 gives pressure drop 21 Pa at 500 l/s Exhaust air velocity 3,2 m/s Sound power level: 39 dB(A)</p> <p>Size 500 gives pressure drop 10 Pa at 500 l/s Exhaust air velocity 2,3 m/s Sound power level: 34 dB(A)</p>	<p>SELECT</p> <p>SELECT</p> <p>SELECT</p> <p>SELECT</p>	
		 <p><b>BRDJ</b></p> <p>Circular roof cowl for use in comfort and industrial facilities. Used for high-speed exhaust air.</p>	<p>Size 250 gives pressure drop 277 Pa at 500 l/s Exhaust air velocity 10,2 m/s Sound power level: 56 dB(A)</p> <p>Size 315 gives pressure drop 128 Pa at 500 l/s</p>	<p>SELECT</p> <p>SELECT</p>

3. Proceed by choosing the wanted product variant and click the select -button. Dimensio loads the product view:

Sizing results for DELTA-AH

Update the values of the selected cowl: ?

Exhaust air DELTA-AH

Air flow l/s 500

Pressure drop from 0 to 0

Size 300

UPDATE

PRODUCT INFORMATION DOCUMENTATION


Specification / Product code ?

Make a material selection and surface treatment below.

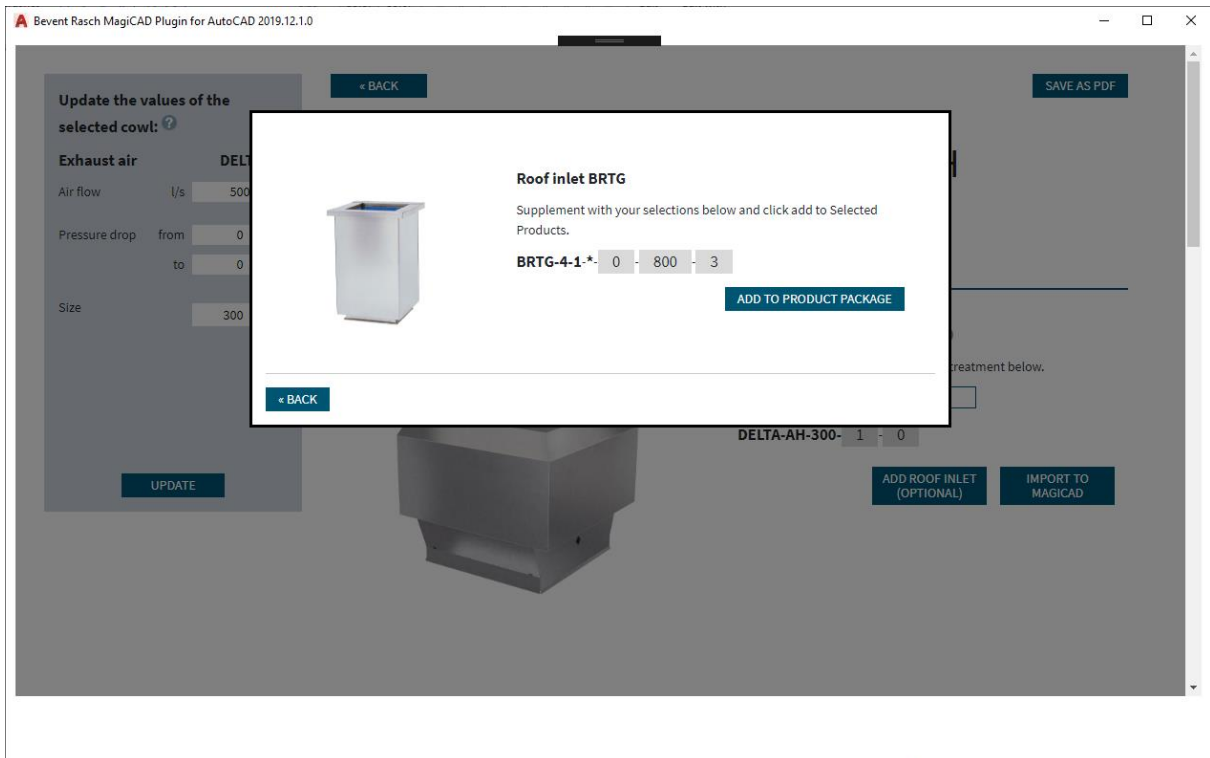
Own description for AMA-text

DELTA-AH-300 1 0

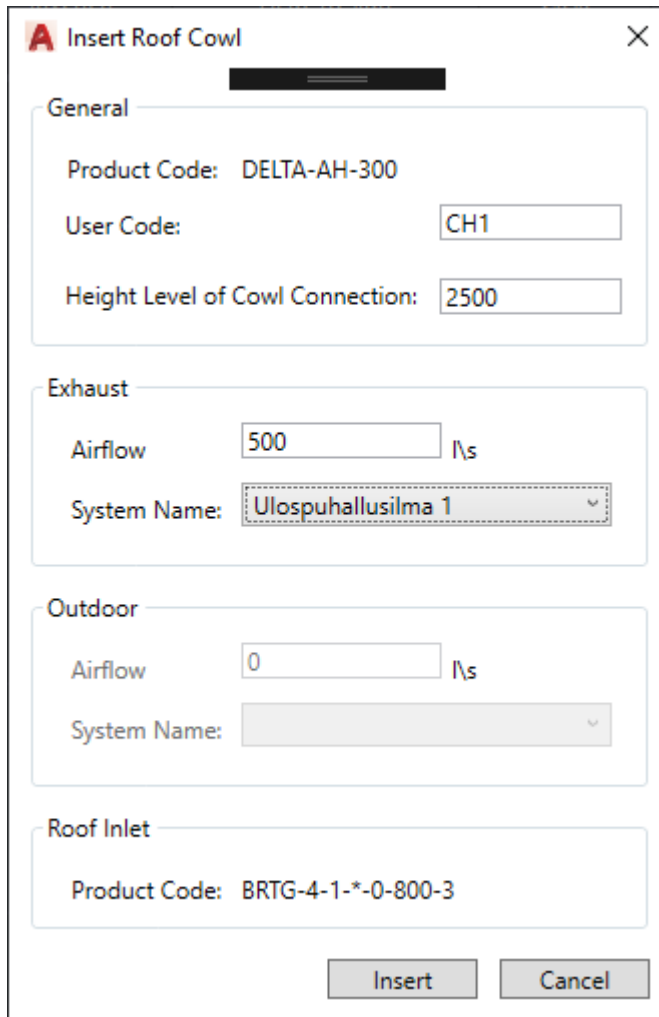
ADD ROOF INLET (OPTIONAL) IMPORT TO MAGICAD



- In product view, it's possible to still make the final selections to the product variant. Once the selection are made, you can proceed by clicking the Import to MagiCAD -button, which initiates the roof cowl insert operation to MagiCAD drawing. Optionally you can click Add roof inlet -button which allows you to insert also the roof inlet in addition to roof cowl. By clicking Add to product package users adds the roof inlet to list of products to be imported to MagiCAD and the roof inlet view is closed.



- Import to MagiCAD -button starts the insert operation. Dimensio window is closed and Insert Roof Cowl view is displayed:



**A** Insert Roof Cowl

**General**

Product Code: DELTA-AH-300

User Code: CH1

Height Level of Cowl Connection: 2500

**Exhaust**

Airflow: 500 l/s

System Name: Ulospuhallusilma 1

**Outdoor**

Airflow: 0 l/s

System Name:

**Roof Inlet**

Product Code: BRTG-4-1-\*-0-800-3

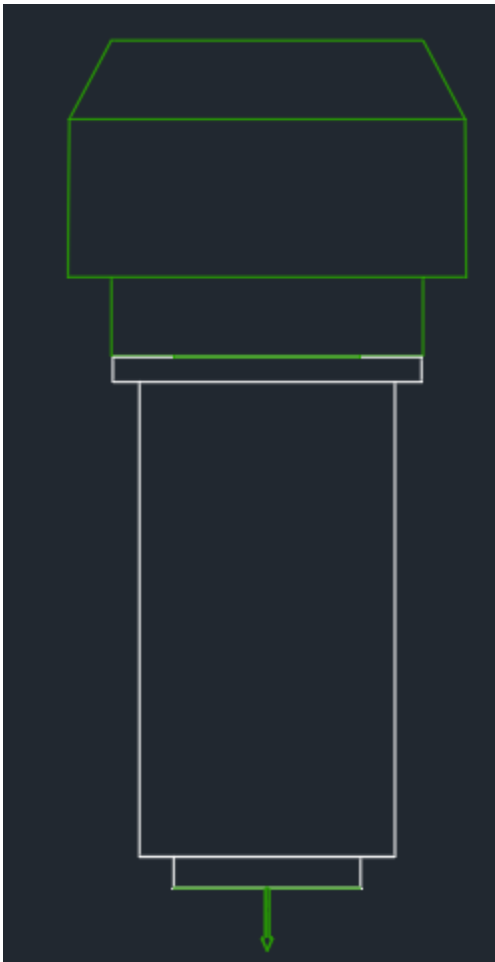
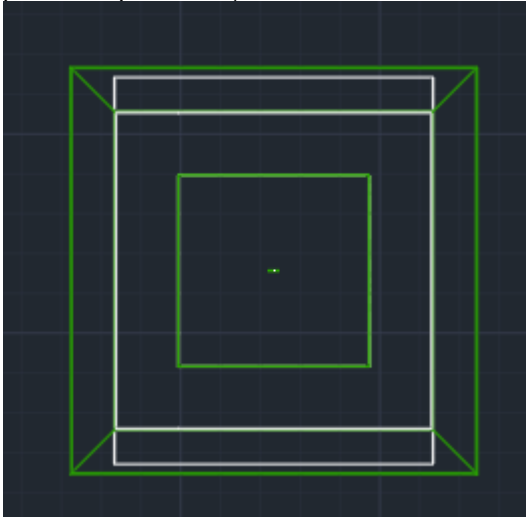
Insert Cancel

6. In insert Roof Cowl view following fields must be filled:

- **User code:** User code of the roof cowl is entered here.
- **Height Level of Cowl Connection:** Insertion point of the roof cowl. Roof inlet is installed automatically below the roof cowl and connected to it (there is duct of minimum length between cowl and roof inlet).
- **Exhaust airflow:** Airflow of the exhaust side is entered here. Disabled if the imported cowl is connected only to outdoor system. By default the field is filled with the search criteria value filled in Dimensio.
- **System Name:** Exhaust system for the roof cowl. Disabled if the imported cowl is connected only to outdoor system.
- **Outdoor airflow:** Airflow of the exhaust side is entered here. Disabled if the imported cowl is connected only to outdoor system. By default the field is filled with the search criteria value filled in Dimensio.
- **System Name:** Outdoor system for the roof cowl. Disabled if the imported cowl is connected only to exhaust system. For combination cowls both systems are enabled.
- **Roof inlet User Code:** User code for the roof inlet is entered here.

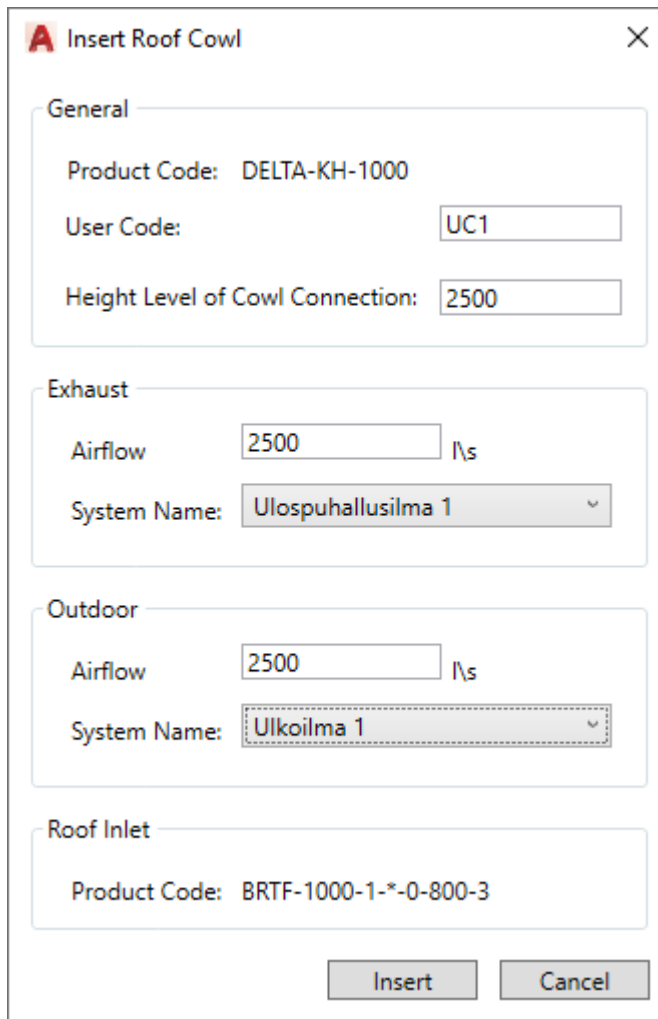


Once the required fields have been filled, proceed by clicking the insert button, which allows to place the products (cowl + roof inlet handled as one product package) to the drawing:



### 2.1.2 Combination cowls

The plugin also includes support for insertion of Bevent-Rach combination roof cowls. The workflow is similar to inserting of regular roof cowls, but in Insert Roof Cowl dialog user needs to provide the airflow and system selections for both system types.



**A** Insert Roof Cowl

General

Product Code: DELTA-KH-1000

User Code: UC1

Height Level of Cowl Connection: 2500

Exhaust

Airflow: 2500 l/s

System Name: Ulospuhallusilma 1

Outdoor

Airflow: 2500 l/s

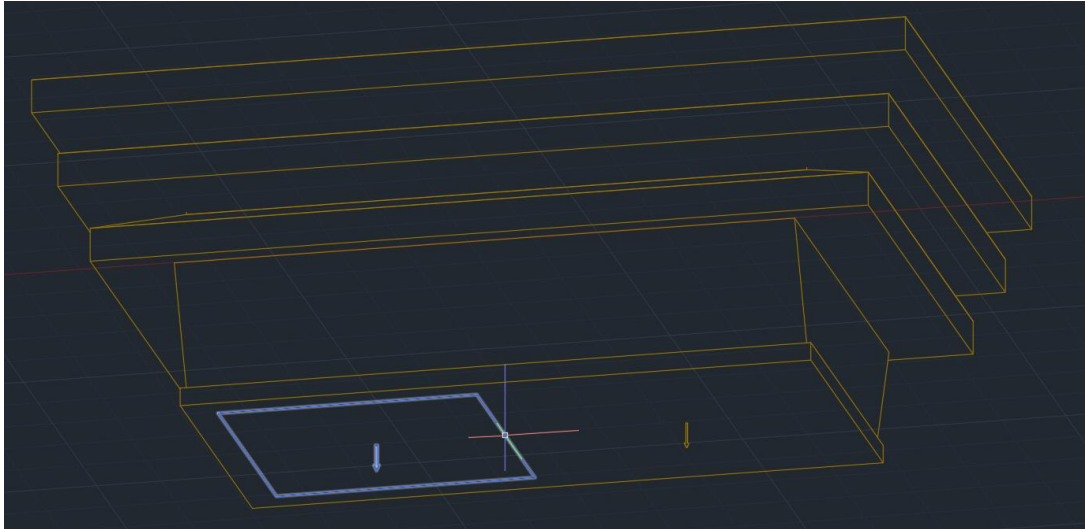
System Name: Ulkoilma 1

Roof Inlet

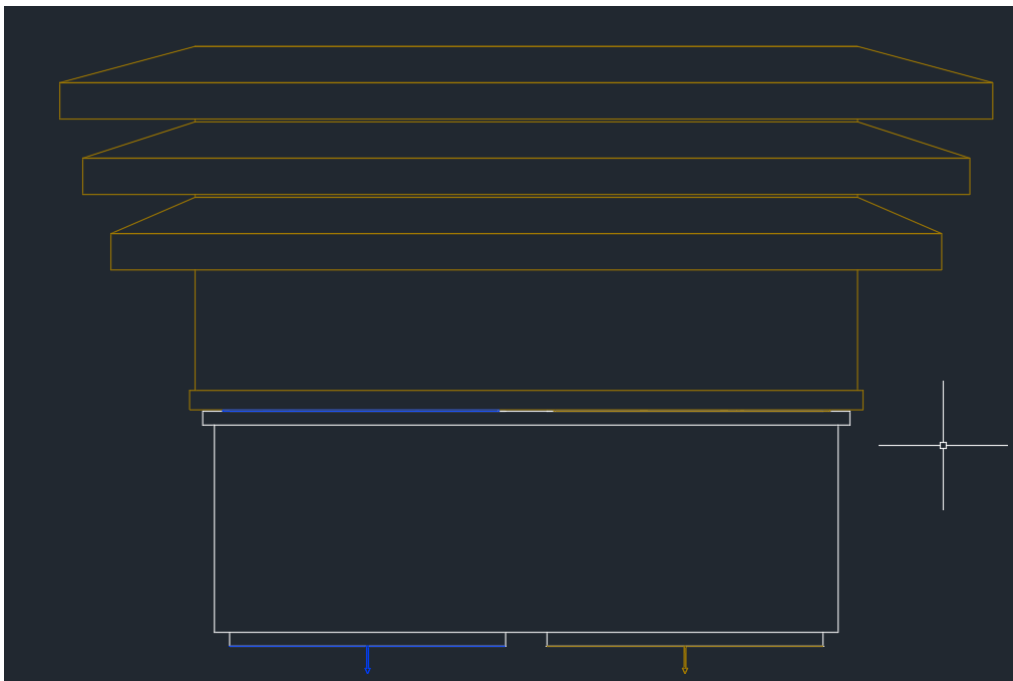
Product Code: BRTF-1000-1-\*-0-800-3

Insert Cancel

Plugin creates additional connector to the outdoor system in case of combination cowl:



Also the roof inlet for combination cowl is supported:



## 2.2 Insert silencer operation



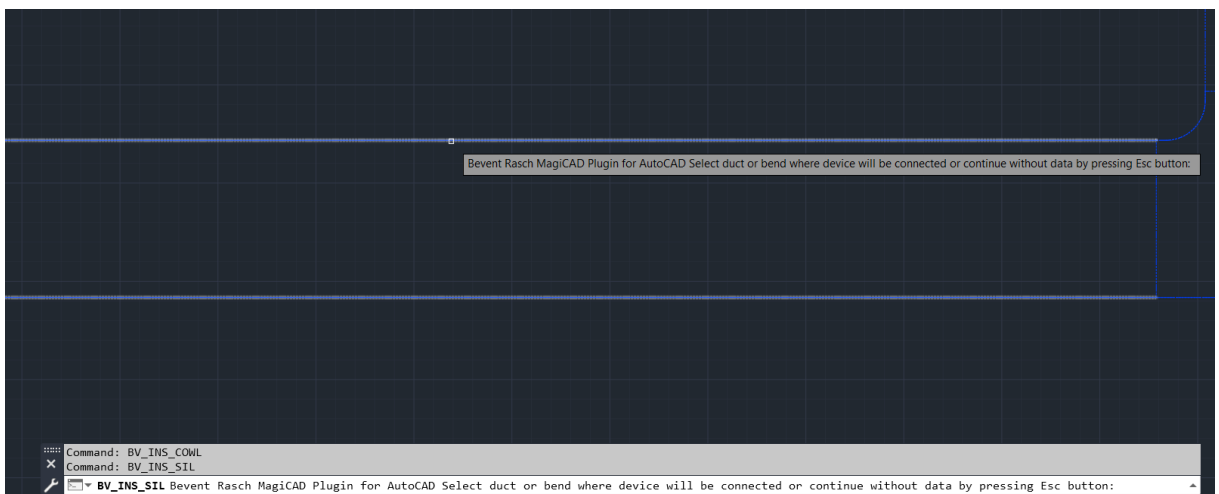
This command opens Dimensio calculation tool allowing user to search for suitable silencers and then insert the selected silencer into MagiCAD project.

### 2.2.1 Detailed insert operation in MagiCAD for AutoCAD



Follow these steps to insert Bevent-Rasch silencer into MagiCAD drawing:

1. Click the "Insert Silencer" -button from Bevent-Rasch ribbon panel located in the MagiCAD Plugins tab.
2. Plugin asks you to selected the duct where to connect the silencer to (this step can be skipped by pressing esc -button):



3. Once the duct has been selected, plugin opens the Dimensio selection tool for silencer search. Notice that most of search criteria fields have been automatically filled with the parameters read from the selected duct:

Bevent Rasch MagiCAD Plugin for AutoCAD 2020.1.1.0

Get suggestions for suitable products based on desired values or select a specific product.

Suggest suitable products  Select a specific product

**MANDATORY** (Fill in the air flow in l/s or m<sup>3</sup>/h and maximum pressure drop):

AIR FLOW  l/s  m<sup>3</sup>/h

MAXIMUM PRESSURE DROP  Pa

**OPTIONAL**

SELECT THE DESIRED SHAPE  RECTANGULAR  CIRCULAR

SIZE  Width mm  Height mm

MAXIMUM LENGTH  mm

Octave band, Hz

SOUND POWER LEVEL (LW) BEFORE THE SILENCER

63	125	250	500	1000	2000	4000	8000
54	53	52	47	44	49	52	53

**CALCULATE**

Notice though that if the flow summation, balancing and sound calculations have not been done in MagiCAD, the airflow and sound power levels are not available. If you skip selecting the duct, the wanted search parameters needs to be filled manually.

- Once search parameters are ok, click the calculate -button, at the bottom of the view. Dimensio displays list of products that match the search criteria:

Bevent Rasch MagiCAD Plugin for AutoCAD 2019.9.1.0

LFIK-1-400-400-1800	-13	-23	-40	-50	-50	-50	-50	-40	35*	16	SELECT
<b>Typ 3 ? Pressure loss: 20 Pa Inherent sound generation: 25 dB</b>											
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-3-400-400-600	-4	-7	-10	-16	-21	-17	-12	-9	50	46	SELECT
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-3-400-400-900	-5	-9	-15	-23	-28	-23	-17	-11	47	42	SELECT
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-3-400-400-1200	-6	-13	-19	-26	-35	-26	-20	-13	45	40	SELECT
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-3-400-400-1500	-7	-16	-22	-30	-40	-30	-22	-16	43	37	SELECT
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-3-400-400-1800	-9	-17	-26	-38	-46	-35	-24	-18	41	35	SELECT
<b>Typ 5 ? Pressure loss: 5 Pa Inherent sound generation: 15 dB</b>											
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-5-400-400-600	-4	-5	-7	-12	-15	-10	-7	-6	52	50	SELECT
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	
LFIK-5-400-400-900	-4	-6	-9	-15	-20	-13	-9	-7	51	48	SELECT
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	

- Proceed by selecting the product variant you want to use. When Select -button is clicked Dimensio load the product view:

Bevent Rasch MagiCAD Plugin for AutoCAD 2019.9.1.0

← BACK
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## Sizing results for LFIK

To make a tender enquiry or to create a complete product code, complete the option below.

**Update the values of the selected silencer:**

**LFIK**

Type: Typ 3

Air flow: l/s 500, m<sup>3</sup>/h 0

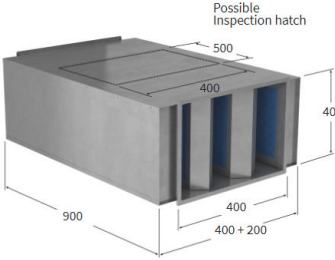
Max. pressure drop: Pa 30

Size: Width 400, Height 400

Length: 900

UPDATE

PRODUCT INFORMATION
DOCUMENTATION



**Specification / Product code**

Make a material selection and surface treatment below.

Own description

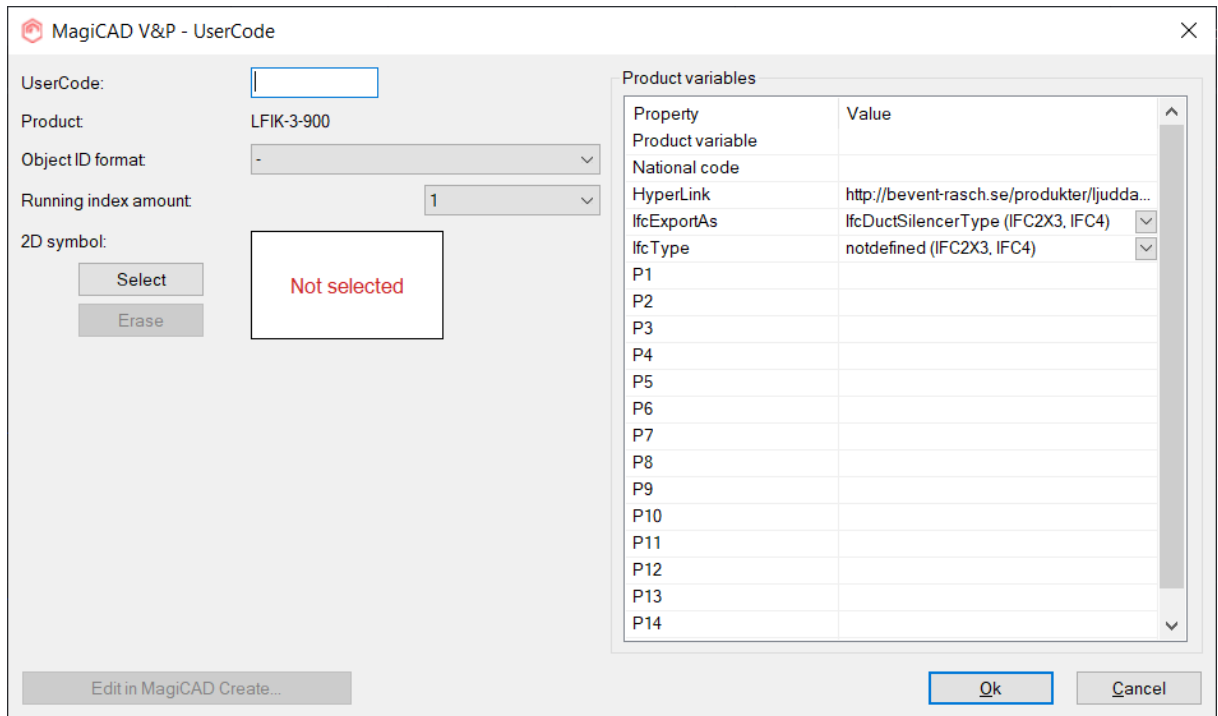
**LFIK-3-400-400-900** IMPORT TO MAGICAD

**Facts at a glance**

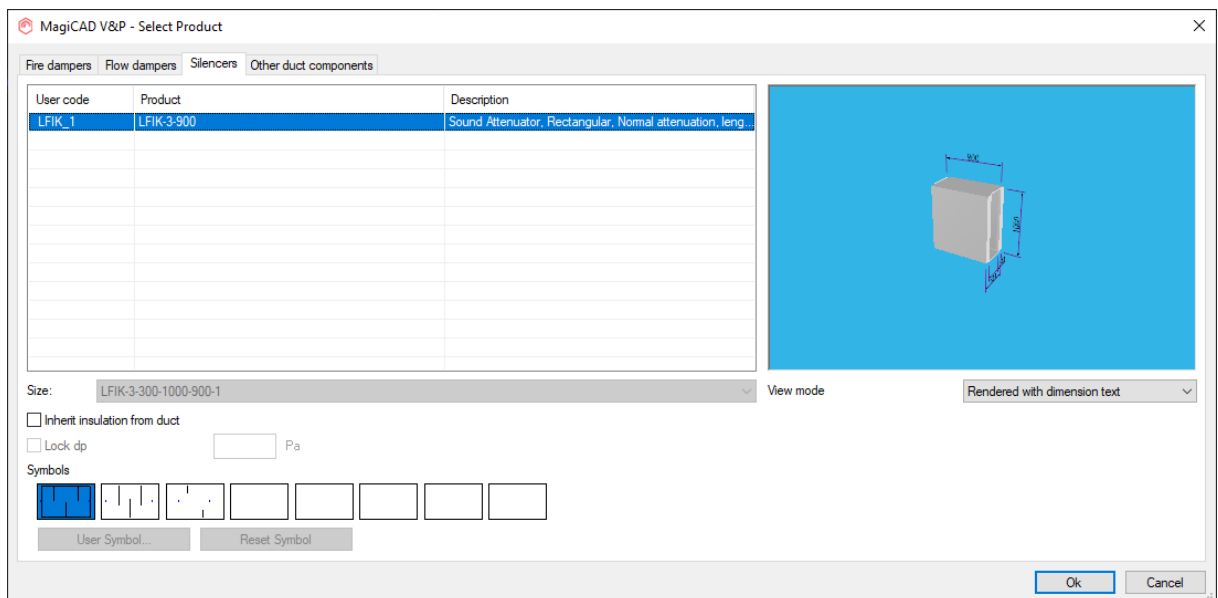
Rectangular muffler LFIK.

- Sizes from width 300 mm to 2000 mm and height from 300 mm to 2000 mm
- Three standard types with 5 different lengths
- Indented low pressure Drop Connection
- Type approved cleanable surface finish Protec
- Available with inspection hatch
- Can be manufactured in many special variants
- Available in MagiCAD

6. From product view click Import to MagiCAD -button in order to insert the silencer into MagiCAD project. Once the button is clicked, Dimensio window is closed and MagiCAD User Code dialog is loaded:



- Proceed by entering the user code and optionally choosing the 2D symbol for the silencer. Once ready, click OK -button. MagiCAD Silencer dialog is opened, and selected product is active in the view, proceed by clicking the OK -button.



- Silencer insert operation is started, place the product to the duct that you selected at the beginning of the command:



