# **CADvent plugin for MagiCAD**

for version 1.8



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# Manual for Lindab CADvent plugin for MagiCAD

### **General Information**

The Lindab CADvent plugin is developed to support CADvent advanced production orientated features on top of MagiCAD using the production orientated objects in MagiCAD.

Additional to this, the plugin offers features that are also available on computers without MagiCAD.

Please read more about this in 'List of functions and User Interface'

### Installation and activation

The latest version of the CADvent plugin can be downloaded from <a href="http://itsolution.lindab.com/downloads/cadventplugin/cadventplugin.exe">http://itsolution.lindab.com/downloads/cadventplugin/cadventplugin.exe</a>

#### Installation requirements

The CADvent plugin supports AutoCAD 2010 to 2015 on 32 or 64 bit computer.

For the extended version the plug in requires MagiCAD 2013.11 which runs on AutoCAD 2010 to AutoCAD 2014 or MagiCAD 2014.4 for AutoCAD 2010 to 2015 on 32 or 64 bit computers. The plugin supports Windows 7 and Windows 8.

# NOTE: You need to have local administrator rights to install the plugin on your computer.





#### Installation process



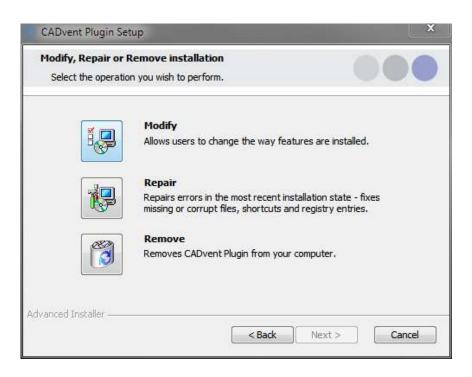
Download the installation file and save it on your computer for later installation or install it by pushing the "Run" button. If you have an earlier version of CADvent plugin installed the installation process first likes to uninstall the current version of the plugin.



Press Next and in the following Window Remove to uninstall the current version.







Now you can install the software. Please activate the installation file again. The newest features can be listed up with the link you can find in the middle of the popup window.







The next dialog ask you to select a market area. The selection includes certain translations and local settings for the production such as standard duct lengths and flange types:

Market Dia Please sel	<b>log</b> ect the market you are interes	000	
	<ul> <li>Norway</li> <li>Sweden</li> <li>Finland</li> <li>Denmark</li> <li>Czech Republic</li> <li>Poland</li> </ul>	<ul> <li>Russia</li> <li>Estonia</li> <li>Lithuania</li> <li>Latvia</li> <li>Hungary</li> <li>Romania</li> </ul>	
ivanced Insta	ller		

At the end of the installation process you will be asked to register the software. Enter your contact details and press "Activate", the green tick confirms the activation. Then close the dialog by pressing the "Close" button.

NOTE: You need to be online for the registration process.

Register and activate software	e	x
To extend the use of the sol out the user information belo	tware beyond the evaluation period, you must fill w.	
Company name:	Lindab Ventilation AB	×
Company reference:	Max Mustermann	×
E-mail:	MaxMustermann@Lindab.com	×
Address:	Järnvägsgatan 33	×
Zip code:	269 82	×
City:	Båstad	×
Phone:	+4643185000	×
Fax:	+4643185395	×
~	* = Required fileds Activate Close	e

Now the installation is completed and you can launch MagiCAD including the CADvent plugin.





#### List of functions and User Interface

#### Graphical User Interface for CADvent plugin with MagiCAD

The CADvent plugin on computers with MagiCAD contains two possibilities to access the commands. A right-click menu and a Ribbon palette. Both types of interface contain full functionality. The Ribbon palette is available from AutoCAD 2010 or newer versions.

#### **Ribbon palette**



#### **Right-click menu**

	CADvent Plugin	•	Import Duct Series
	Isolate Objects Basic Modify Tools Clipboard AEC Modify Tools	> > >	Update Properties Model Checker Manage Ducts Optimize Fittings Set Length
ZŅ	Select Component		Piece Labels Bill of Materials
28	Object Viewer		Webshop Upload
Ŷ	Pan		About

#### Graphical User Interface for CADvent plugin without MagiCAD

The CADvent plugin on computers without MagiCAD contains a Ribbon palette to access the commands.







### List of functions

		This function allows the user to import non-generic, will say "real products" into an existing MagiCAD Duct Series or to create a new Duct Series with Lindab products.
Products	QST	Opens a web browser to Lindab lindQST web selection tool. Here you can select or calculate Air and Water products and export them to MagiCAD. The side also presents all product documentation, electrical wiring schemes and more
Proc	DIMcomfort	Opens a connection with DIMcomfort to select air devices.
	Select Silencer	Opens a connection with DIMsilencer to select silencers.
	Update Properties	The Update Properties function allows MagiCAD to update MagiCAD objects with additional information.
	Model	The Model Checker checks the drawing for ventilation objects which do not fulfill the demands to be a real product. These objects are filtered out when you upload products from the drawing into the LindabWebshop.
Edit	Manage Ducts	With Manage Ducts you can cut ducts into standard lengths and insert connectors and flanges.
	Set Length	This function allows the user to set a specific length to a new or existing round or rectangular duct.
	Optimize Fittings	Optimize Fittings allows the user to "absorb" short pieces of duct to optimize the production.





	Piece Labels	Piece label allows you to give each ventilation product a unique identifier which is also shown in the Bill-of-Materials.
Tools	Webshop Upload	The webshop upload to Lindab's Eshop is only supported for Denmark and Sweden at the moment. This feature offers our customers to upload products which follow the production model to order them online.
	Leakage Area	Leakage and Leakage Area Calculation according to EN 14239 standard
Ce	Add Space	Create a 3D space object to add room information for uploading to lindQST, to calculate air devices or water products optimized for the specific room requirements
Space	QST lindQST Upload	Upload the 3D spaces to lindQST
nCapsa	Wall Panels	Draw an InCapsa wall panel system. The cost effective system that makes it easier to mount and cover ventilation systems in buildings
InCa	Free Panels	Draw an InCapsa fee hanging panel system.
Common	Bill of Materials	Generates reports for all ventilation products.
Cor	About	In the About button you can find information about market settings, contact information and CADvent plugin version number.





# Functionality of the Lindab CADvent plugin

The CADvent plugin is designed to complete the production model in MagiCAD which was introduced in version 2010.5 and to a similar production model as in CADvent. As requirement you should draw or convert the MagiCAD ventilation objects in your drawing in a production model.

MagiCAE	HPRV	۰.		
Change Properties	Sections	D Find & Replace	Solution Nodes +	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
			Generic to Produ	ucts
			Products to Gen	eric
		<b>"</b> []	Network Analyz	er

For more information please read the MagiCAD User Documentation -> Ventilation -> Production Model.

#### **Import Duct Series**



In MagiCAD you draw Duct Series after pre-defined templates. Setting up a Duct Series in MagiCAD with real products and prioritizing them correctly can be time consuming and contain errors which do n ot appear before creating a Bill-of Materials with the CADvent plugin.

In order to simplify this for our customers they can import Lindab products into an existing Duct Series or create a new one for Lindab Safe ducts and for rectangular ducts.

With the function "Import to all" you can automatically attach Lindab products for air duct systems to all existing Duct Series in MagiCAD seperately for round ducts and for rectangular ducts. CADvent import Duct Series dialog box

Import Serie	\$	11110	Project Serie
Lindab Rekt	inport		Lindab Rektangulära Försinkade
Lindab Sale	Import		Lindab Rektangulara Förenkode
whether all	-Journa		Undab Rektangulara Förzinkade
a fuction of the	10400		"NEW" Undeb Rekt
	20100		"NEW" Undeb Rekt
	lencu.		Undeb Hektangulars Forzinkade "NEW" Undeb Rekt
	1940		Undeb Hektongulars Fordinkade - "NEW" Undeb Rekt
	1000		Undeb Hektongulars Forzinkade - "NEW" Undeb Rekt
	Leace		Undeb Hektonguars Jorzinkade - "NEW" Undeb Rekt
7) Change products in dra			Undeb Hektongulars Jorzinkade - "NEW" Undeb Rekt

Import to all duct series

Import Serie	->
Lindab Rekt	Import 💌
Lindab Safe	Import 👻
	Nothing Import
	Import to all





Check "Change products in drawing" to convert existing generic objects in the drawing.

This way you draft automatically with "real" products which follow the standards for a Production Model similar as in CADvent.

#### NOTE:

Only these products can be shown correct on the BoM and can be ordered in the webshop! Change products in drawing

#### Duct Series product selection dialog

Ministry         Ministry         UserCode         LIND/MI SAFE           Connection type symbol # product code:         National code         National code         1           Driv reflecting two structs         Default -         National code         1           Driv reflecting two structs         Default -         National code         1           Driv reflecting two structs         Product doe         National code         1           Driv reflecting two structs         Product doe         National code         1           Driv reflecting two structs         Product doe         National code         1           Star         Beed BR-D         Rt mile         Beed Struct         Star         Doed to         Star         Star         Star         Doed to         Star         Star         Star         Star         Doed to         Star		and the second	Liviteb SAFE, For		( Name	1000010			Geranai
Connection have symbol in type deviced         Default         National code:         National         1           Only detoched limiting type adjunct         Disk detoched limiting type adjunct		210.008							
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Bend BU BU** Circular M	Medum	Orcider	80.**	ĐU .	Bend				
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# **Update Properties**



The Update Properties command should be used after you have drawn your MagiCAD production model objects to add information.

When you are finished drafting or to update information in-between just push the Update Properties button, select a MagiCAD ventilation object and open the AutoCAD Properties as shown to the left.

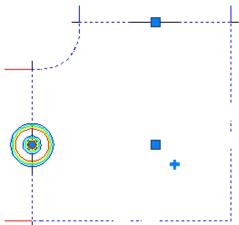
Parameters for Update Properties:

- Custom String: Allows you to set manually a text string which is shown in the **Bill-of-materials**.
- Material: Sets a material which is used in the **BoM** and necessary for product upload to the **LindabEshop**.
   Alternatively the material stated in the MagiCAD Duct Series can be used.
- Piece label: Gives a unique ID to each product.
- Piece label lock: Locks the ID you set manually. The ID will not get overwritten by the automatic **Piece label function** in the CADvent plugin.
- Order Length: Give a rectangular duct another length value manually to be able to cut the duct on site.
- Flange Index: Position of flange on an object. The Index is also marked per product in the drawing. By default "All" are selected and the marker is deactivated.
- Flange type: Select a standard flange type according to your market settings.
- Flange attachment: Set a flange type "Normal" or "Loose" if you want to be able to cut the duct on site.
- Flange lock: Lock the setting of this flange, then the CADvent plugin will not change the flange type or attachment using the **Manage Ducts** function

<b>^</b>
Galvanized
Off
1
OTHER
Normal
Off

CADvent plugin Properties

Flange Index mark in drawing







### **Manage Ducts**



The **Manage Ducts** function allows you to cut ducts into standard lengths, set flange type and insert connectors automatically.

💽 Manage Du	ucts			<b>X</b>
Circular				
D	luct cut length	3000		<b>•</b>
(/m		3000 6000		
D	luct to duct couplings	Insert	Erase	Ceave
F	itting to fitting couplings	Insert	Erase	Leave
Rectangular				
	Duct cut length	1200		•
	Couplings	Insert	Erase	Ceave
	🕼 Assign flange type	LS		<b>~</b>
ОК				Cancel

Manage Ducts dialog

In the Round Selection you can set parameters to insert duct to duct and fitting to fitting couplings and select a standard length to cut round ducts into standard lengths. You can select a market dependent standard length or manually type a standard length.

The buttons **Insert**, **Erase** and **Leave** define whether you want to cut or re-cut the ducts (Insert), whether you want to remove existing duct cutting (Erase) or you want to leave the round duct cutting as is, f. ex. if you want to change only the rectangular settings.

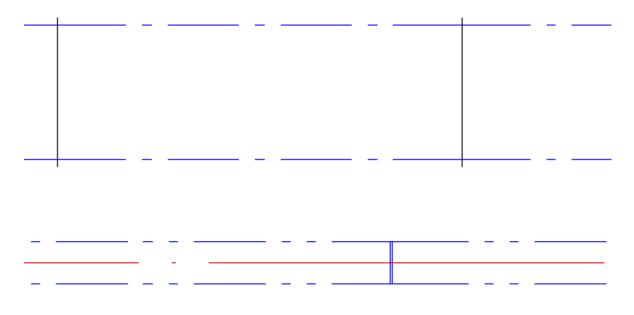
In the Rectangular selection you have similar functions for duct cutting and insertion of flange types as in the round selection. In addition you also have a selection of





market specific flange types and a check button to assign the selected flange type to the rectangular ductwork.

Now you can select the products to be cut by dragging a window or press right mouse click or Return/Enter to select all products in the drawing.



Round and rectangular ducts with inserted flanges and connectors

# Set Length



The **Set Length** command shorten or stretches the length of a duct to a user given length, just click on the command button, enter the length value in the below shown dialog and select duct you want to set:

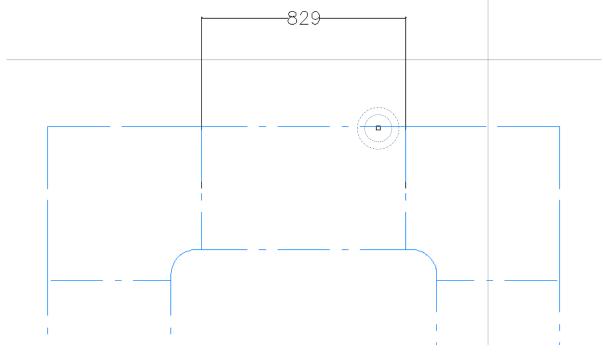
Duct Length	
Duct Length	1500
ОК	Cancel

Set Length dialog

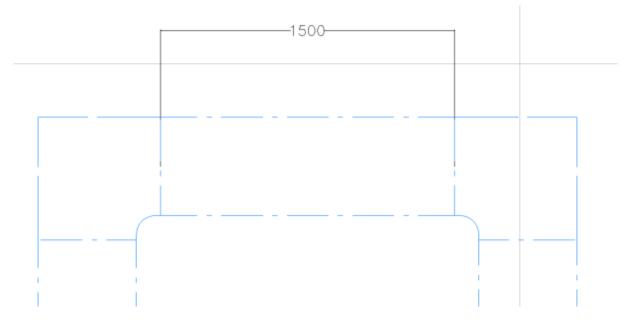
Depending on where you click on the duct, the opposite end will be stretched/ shortened:







Set Length dialog with fixed end on right side before stretchening



Set Length dialog with fixed end on right side after stretching

# NOTE: The Set Length command has a restriction: if the movement should interfere with MagiCAD safety functions, then the command is not executed.





## **Optimize Fittings**



The **Optimize Fittings** function checks the drawing for short rectangular duct pieces to "absorb" them into the leg length of a fitting to minimize product and installation costs.

🔘 Optimize Fittings	X
Max duct length to absorb	250
☑ Loose Flange	
Extra Order Length	100
Round Order Length to nearest higher	50 -
ОК	Cancel

Optimize fittings set length dialog

Enter the maximum length which should be optimized and push "Ok". The CADvent plugin will check the drawing for short ducts and open a dialog for each duct that is found.

Loose Flange will add a loose flange information to the prolonged leg of the fitting as default. It is always possible to add a loose flange on each optimization manually if the option has not been activated when the command has been started.

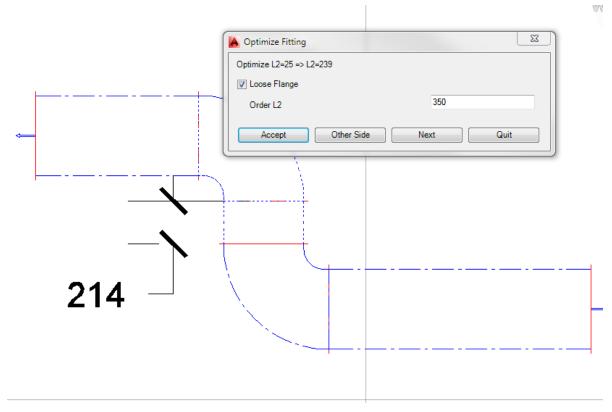
*Extra Order Length*: Adds a certain length to the fitting leg, used to cover tolerances on building site.

*Round Order Length to nearest higher:* Makes the order of components smarter. You can choose a round up value of 50 or 100.

Sample:







Absorb short pieces of duct to fitting

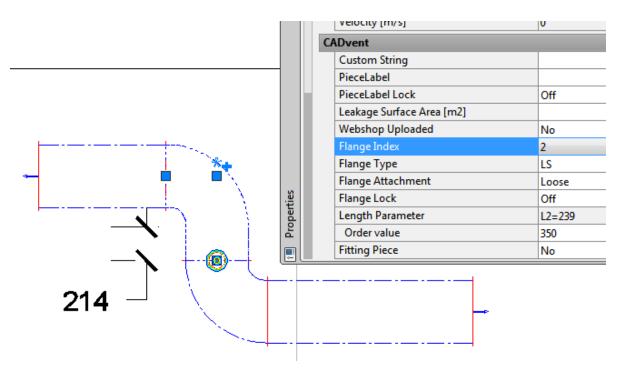
The duct and fitting which shall be optimized will be shown with dashed outlines. Press "Accept" to execute the optimization or "Other Side" (only possible when the duct is between two fittings as shown above) to switch the optimization to the other side.

The current fitting is made with a 25mm standard leg length. After optimization, following leg length will be activated at the fitting:

Not activated Loose Flange option:	239mm (= 214mm + 25mm)
Activated Loose Flange option and extra order length of 100mm:	339mm (= 239 + 100mm)
Round order Length to nearest higher 50mm:	350mm
Round order Length to nearest higher 100mm:	400mm







Short duct piece absorbed to bend

The properties of the fitting can be visualized in AutoCAD Properties. Activate the flange Index to show the properties of each connection side separately and activate the connection point with the prolonged leg.

#### **Model Checker**



The **Model Checker** is a function that controls all ventilation objects in a drawing if they fulfil the demands for the **CADvent Production Model**.

This function is essential to check whether all products can be shown in the **BoM** and can be uploaded in to the **LindabEshop**.

The Model Checker checks following details:

- Generic object that cannot be ordered.
- Order parameter is less than drawing parameter.
- Duct length is longer than cut length
- Space without name

CADvent Model Checker	
All   Scan  Clear	
Part cannot be ordered - Product Data is not complete	
Part cannot be ordered - Product Data is not complete	
Part cannot be ordered - Product Data is not complete	
Part cannot be ordered - Product Data is not complete	
Part cannot be ordered - Product Data is not complete	
Part cannot be ordered - Product Data is not complete	

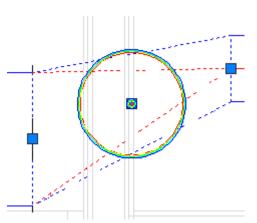






Push the Model Check button to open an AutoCAD Dashboard on the side of your screen and push the "Scan" button to check the drawing for products which can't be ordered.

Click on one of the parts to move the object into scope and mark it.



Non production model object marked with Model Checker

#### The marking can be shut off in the Dashboard – Options...

CADvent Model Checker	[+][Top][2D Wireframe]
Scan Clear Options	
Duct length 5978 is longer than cut length 3000 Generic object that cannot be ordered: Bend 400x200 Generic object that cannot be ordered: Bend 400x200 Generic object that cannot be ordered: Bend 80 Generic object that cannot be ordered: Bend 80	Model Checker Options
Generic object that cannot be ordered: Bend 80 Generic object that cannot be ordered: Duct 400x200	Edit Forced Products
Generic object that cannot be ordered: Duct 400x200	Show selection marker
Generic object that cannot be ordered: Duct 400x200	
Space name is not set	OK Cancel

Model Checker Dashboard with marker function

#### **Edit Forced Products**

Activate this option if you like to force products to be another type of product. The image below shows a bend with a 3° angle, which is a not existing product. On building side this can be handled inside the tolerances of a duct connector NPU.

Activate Edit Forced Products opens an edit column in the model checker table.





CADvent Model Checker		[+ [Top320 Winforme]
Scan, Dear Options.		
Duct length 5978 is longer than cut length 3000	N/6 (	
Forced product: 8U-200-90	Edit	
Forced product: 80-200-00	Esét	
Generic object that cannot be ordered: Bend 400x200	NOA 2	
Generic object that cannot be ordered. Bend 400x200	1973.	
Generic object that cannot be ordered: Bend 80	Select-	
formers, original their surmer his restances. Hereit We	Select.	
Generic object that cannot be orderesk Duct 400x200	34/4	
Generic object that cannot be ordered: Duct 400x201	16/4	
Generic object that cannot be ordered: Duct 400x200	406	0
Space name is not set	N/A	
escapero a construction de la const		

Product with the possibility to be a forced product get the option Select...

# To use this function, the product to copy the properties from, has to be available on the drawing!

Mark the product in the *Model Checker*, press *Select...*, select the product the generic object is forced to be.

Generic object that cannot be ordered: Bend 80	Select	
Forced product: NPU-80	Edit	
Constitution of the constant of the ordered Duct (00v200	N17A	

# **Piece Labels**



The Piece Labels function allows you to assign a unique identifier to each product or to group several products with similar identifiers using a running index of numbers.

You have different parameters to group and number products and to show the text of the identifier in the drawing and the report:



Group by	System	
Numbering method	Individual parts	
Piece Label Format	Edit Piece Number	
Part categories	Round Duc	twork
r an categories	<ul> <li>Rectangula</li> <li>Air Termina</li> </ul>	
Assign Piece Labels to Mag	Air Termina	
	Air Termina	
Assign Piece Labels to Mag	iCAD UserVar2	

Piece Labels dialog

#### Group by:

You can group the numbers by system or select no grouping at all. When using no grouping all parts will get individual numbers in the piece label. When you group the piece by label by system you can have a single number per system, this means that you start again with number "1" on each system.

#### NOTE: Each system cannot have more than one open end on a duct as this will be used as start for the system. If you have more than one open end a warning will be shown:

- None The piece number will only follow the numbering method and does not care the grouping.
- System Each system will get an own numbering



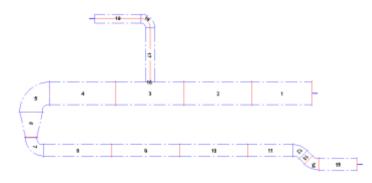




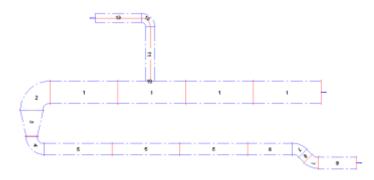
Sample: numbering grouped by system

#### Numbering method:

The numbering method decides what number will be given to the individual component: Individual parts Each component will get an individual number



Product code + Material: Products with identical product codes and identical material will get the same number

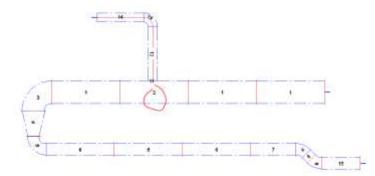


Product code + Material /Holed Duct

Same like before, but ducts with a hole inside, e.g. for grills or branches, will get an individual number.







#### Piece label format:

A piece label can be an individual number (Piece Number) or a code that is build out of several informations.

The format of the piece label can be selected in the drop down menu of the Piece label Format

Group by		System		
Numbering met	hod	Product Code +	Material / Holed Du	d •
Piece Label For	mat Edit.	System Usercod	la - Piece Number	
Part calegories		System Usercod System Type - P System Name - I	e - Piece Number lece Number Piece Number	
🛛 Assign Plec	e Labels to MagiCAD U	Floor - Piece Nu Floor - System U atri Floor - System T		
😢 Assign Plec	e Labels to MagiCAD Ut	Floor - Piece Nu Floor - System U atri Floor - System T	mber sercode - Piece Nun ype - Piece Number	
	e Labels to MagiCAD Lh 60	Floor - Piece Nu Floor - System U Hoor - System T Floor - System N	mber sercode - Piece Nun ype - Piece Number	

Piece label format selection menu

#### Edit:

The Edit function allows you to select Piece Label Formats and to edit the information you show in the piece label.

Press Edit... and the Piece Label Format window opens.

The window is structured into 3 parts:





Piece Label Formats		X
Piece Number         New         Zone - System Type - Piece Number         System Usercode - Piece Number         System Name - Piece Number         Roor - Piece Number         Roor - System Usercode - Piece Number         Roor - System Usercode - Piece Number         Roor - System Type - Piece Number         Roor - System Type - Piece Number         Roor - System Type - Piece Number         Roor - System Name - Piece Number	Item Types Free Text PieceNumber Material System Sy	Format Items PieceNumber
Add Remove	Insert Translations	Remove Up Down
ОК		Cancel

Piece Label Format dialog

Part 1: Piece label Formats – here you can find and safe your piece label formats.

Part 2: Item Types – Variables you can use to create your piece label

Part 3: Format Items – This is the editor area to build Piece labels

If you push the "Add" button you can create new formats. By double-clicking on an "Item Type" the value will be attached to the editor, so you can create your own piece labels.

The "Up" and "Down" buttons allow you to change the sorting of the piece label items.

Sample:

Piece label template "Floor - Piece number"







#### Translations

The button "Translations" allows the user to add specific data or values to be shown in the piece label item.

Mark an Item Type and press Translation

NOTE: For certain items – Material, System, SystemCode, SystemType and Floor - the CADvent plugin reads the existing information from the MagiCAD project.

Just click into the field for "Original value" and select one of the listed values or type your own.

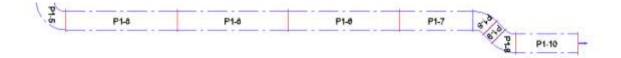
New values like a new system will NOT be created as new system in MagiCAD!

Organal Vela +	New Volum	
flen 1	17	
flen 2	12	
dan U	el l	

Translations dialog

Sample:

Piece label template "Floor – Piece number" with above "Floor Translation"



#### **Part categories**

You can select to which product types you want to assign a piece-label by selecting/deselecting the three product groups Round Ductwork, Rectangular Ductwork and Air Terminals.

#### Assign Piece Labels to MagiCAD UserVar2

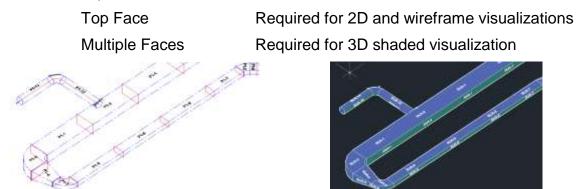
If you mark the check button for "Assign Piece Labels to MagiCAD UserVar2" they can also be shown in the drawing by texting objects with the MagiCAD User Variable 2.





#### Face Text

The Piece labels can be visualized in the drawing with a Face Text. You can chose between two options:



2D Wireframe visualization with Top Face Piece labels and conceptual visualization with Multiple Faces labels

#### Next start number

Next start number allows the user to select a self-defined start number for the numbering.

Note: The given number is used as minimum number. Does the given number already exist in the drawing, CADvent will choose the next free number!

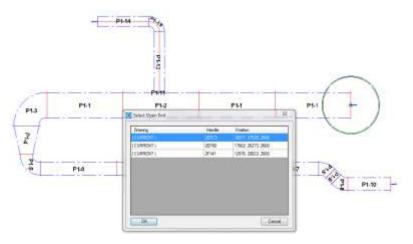
#### Add New

Press the Add New button to start the piece label process. Click on a part of the system you like to label. If the system you like to label contains more than one open end, all open ends will be visualized in a table and marked with a circle. Select the open end where the labeling shall start.

Add N







Visualization of multiple open ends to select where to start the piece labeling

Note: Add New changes not already created numbers. Once a system is numbered Add New can be used to add new components to be provided with new numbers.

#### **Modify Piece labels**

Modify

Modify Piece Labels 23 Overwrite all Clear all

To modify existing piece labels press Modify. A window with different options appears:

Clear selection Cancel

Modify options

Overwrite all Deletes all Piece Labels and creates immediately a new piece labeling for all components of the selected system. Hereby the next selected Piece Number is the next free number after the highest used number.

Clear all Deletes the Piece Labels for all components of the selected system





Clear selection

Deletes the Piece Label only for selected components

#### **Properties**

By the AutoCAD property dashboard you can find the piece label within the CADvent area. If you have selected the option *Assign Piece Labels to MagiCAD UserVar2* you can find the piece label also listed in the MagiCAD informations.

	Ξ 🕅 Σ	NegiCAD Dust	• 用品牌
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		Range Attachment	Normal
		Range Attachment Range Lock	OW
		in Frang Plant	Ho
		HI II IIIIII	

#### Manually changes of the Piece label.

Changing the piece label manually is possible inside the CADvent area of the properties.

- 1. Change the PieceLabel text
- 2. Active the PieceLabelLock (ON) to secure, that the automatical piece labeling does not overwrites your text.





	13	
	Methes	
	Object ID	line and the second second
SUA-98	IFC GUID	J1MgR05ycIndept4
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	plut (Pa)	0.
	pat (Pa)	10
	Webscity (m/z)	10
	CADvest	
	Castorn String	
	FreceLated	524-984
	Preset-shel Lock	De
200	Lindings Surface Remained	
	Webdiop Uphaded	No.

3. Activate the CADvent piece label function and press Add New

This will change the visualized piece label and writes the manual given text to the MagiCAD UserVar 2

#### Changes of the system

Changes in the system need almost an update of the piece labels. As soon as order processes have already been started, changes of existing piece labels are taboo.

How to handle changes in the system:

Sample:

Below you can see a duct system with final piece label



After the order process has already been started the middle duct shall be set a few cm down, to give some space for heating pipes. As long as the same ducts are used, the piece label will not change, not even when the duct length has been changed.

P1-32	P1-64	P1-32	P1-63	P1-32	





For situations like this, you have to use the modify option *Clear Selection* to delete the piece label of the changed duct and use Add New for this system. The new components will get a new piece label. The next free number from the highest existing will be used.

_	P1-32	P-1-04	P1-65	P1-63	P1-32

#### OR

You change the piece label manually. The sample shows a labeling according to the previous number with additional letters.

 P1-32		P1-32a	P1-32b	P1-32c	P1-32
 	-				





### **Bill of Materials**



Push the button for Bill of Materials and drag a window over the Lindab products which shall be included on the BoM reports.

Two reports will appear: One report for the rectangular ducts and another report for circular ducts and technical components.

You can decide whether you want to show the piece-label on the report or if you want to suppress it by checking/unchecking the show piece-label function

Bill of Materials							
Project	Project Behrens						
Floor	1st floor						
Date 05.01.2015							
Show piece labels	Show piece labels						
Cut all ducts to drawing ler	igth						
🔲 Separate InCapsa Systems	Separate InCapsa Systems						
Excel report ( Requires Microsoft Excel )							
Οκ	Cancel						

Dialog for Bill-of-Materials

Find more info about "Separate InCapsa Systems" at "Create Bill of Material for InCapsa Systems"

#### Cut all ducts to drawing length

Without active checkbox the BoM will summarize all round ducts into standard lengths, set in the Manage Ducts command, except the drawn ducts will have a length of 3000 or 6000mm (Lindab Standard)





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LKR	Pos. nr.	Antal	a	b	n	1	T	1	1	11	ħ/	flange 1	flange 2	flange 3	
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	<i>t</i> ,		25	25	0							OTHER			
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		1	90	400	400	90	250	25	25	100		LS	LS		
		1	90	400	400	90	250	25	279	100		LS	LS		
	17	1	90	500	500	90	250	287	25	100		LS	LS		
		1	90	600	600	90	400	25	25	100		LS	OTHER		
	5	3	90	600	600	90	400	25	25	100		LS	LS		
LDR	Pos. nr.	Antal	а	b	c	d	e	r	h	1	11	flange 1	flange 2	flange 3	
	19	1	500	250	400	150	0	0	50	450		LS	LS	3	
	15	1	600	400	500	250	-50	50	75	450		LS	LS		

Rectangular Report:

lindab | we simplify construction



CADvent Plugin 1.0.51 for MagiCA

#### Stykliste

Test MagiCAD 1st floor 2011-05-24 roduktkode		
NICKLE SATA	276778	
roduktkode	200000	
	Pos. nr.	Antal
R-160-3000		2
R-200-3000	7	3
R-250-3000		2
R-315-3000	3	5
ENERIC Fitting 400x250 / 00x200	/ 400x250 /	1
ENERIC Reducer 160 / 2	00	1
ENERIC Reducer 160 / 2	50	1
	R-200-3000 R-250-3000 R-315-3000 ENERIC Fitting 400x250 00x200 ENERIC Reducer 160 / 2 ENERIC Reducer 160 / 2	R-200-3000 7 R-250-3000 R-315-3000 3 ENERIC Fitting 400x250 / 400x250 /





Products which are not following the rules for a production model are listed with their connection information and type as generic objects.

The reports can be exported as PDF or to Excel.

#### Lengths on BoM

Without active checkbox the BoM will summarize all round ducts into standard lengths, set in the Manage Ducts command, except the drawn ducts will have a length of 3000 or 6000mm (Lindab Standard)

Sample 1:

- 1. Draw a 22m long duct
- 2. Activate the duct cut length to 2500mm, without placing connectors.

	22000	
Manage Ducts		<b>—</b> ×
Circular		
Duct cut length	2500	•
100		
esult on Bill of Materials.		
ndab		
alv. Metal		

SR-200-2500

The material list summarizes all ducts per size and divides the total length into 2500mm pieces.

Sample 2:

3.

- 1. Do the same process like above and activate a Duct cut length of 3000mm
- 2. Insert connectors.
- 3. Change the Duct cut length to 2500 mm without inserting any connector.



9



#### 4. Result on Bill of Materials

Lindab		
galv. Metal		
	SR-200-2500 1	
	SR-200-3000 7	
Lindab		
galv. Metal		
	NPU-200 7	

The material list summarizes all ducts per size and divides the total length into 2500mm pieces, except all pieces with 3000 and 6000mm, these will be listed separately.

				3000 -	
/		2200	o		
1					1

# Note: The division of the lengths in standard and special lengths does only work with 3000 and 6000mm lengths.

Sample 3:

- 1. Do the same process like above and activate a Duct cut length of 2000mm
- 2. Insert connectors.
- 3. Change the Duct cut length to 2500 mm without inserting any connector.
- 4. Result on Bill of Materials

Lindab galv. Metal SR-200-2500 9 Lindab galv. Metal NPU-200 10

The material list summarizes all ducts per size and divides the total length into 2500mm pieces, except all pieces with 3000 and 6000mm, these will be listed separately. In the last sample we do not have 3 or 6m ducts, only 2m ducts.

Note: The BoM process does not read the "real" duct lengths, except for 3 and 6m long ducts, therefore the 2m splitting has no effect on the order list for ducts, but it has direct effect on the amount of connectors!





#### Cut all ducts to drawing length

This option	s will list ALL real duct length on the Bol	Л.
BoM from S	Sample 1:	
Lindab galv. Metal	SR-200-22000	1
BoM from S	Sample 2:	
Lindab galv. Metal		
	SR-200-3000	7
	SR-200-951	1
Lindab <i>galv. Metal</i>	NPU-200	7
BoM from S	Sample 3:	
Lindab galv. Metal		
<b>J</b>	SR-200-1930	1
	SR-200-2000	10
Lindab galv. Metal		
	NPU-200	10

# Webshop Upload



The webshop upload is currently only available in DK, SE, NO, UK. Push the button and select the products which you want to upload, then a selection dialog and afterwards a login dialog will open:





The connection to the webshop requires a login account. Please contact Lindab or fill out the New User Request form in your local Webshop: <u>https://eshop.lindab.com/</u>

Webshop Upload Selection	×
Part categories	
<ul> <li>Round Ductwork</li> <li>Rectangular Ductwork</li> <li>Air Terminals</li> <li>Other</li> </ul>	
Objects	
Current drawing	
ОК	Cancel

Selection for Lindabs Webshop Upload

Select the part categories you want to upload to Lindabs Webshop. The option "Select objects" allows the user to select the products manually for the upload and "Current drawing" will upload all products from the current drawing, which are in the activated part category.

Press OK

In case of several uploads it can happen that you pick already uploaded objects which will be shown in a dialog.

Vebshop Upload Scope	L
20 parts of total 162 parts have already been uploaded.	
elect upload scope:	
Additional - Upload only parts that have not been uploaded a	Iready
Everything - Upload all including previously uploaded pa	irts
Cancel	

Mulitple product upload dialog





You can then upload only additional products which have not been uploaded before, all products again or cancel the upload procedure.

## The Webshop Upload window appears

Type in your Username and Password and press "Connect"

Username	Jan.Behrens@lindab.com	
Password		]
[	Connect	
Customer		•] Add
Project		
Project Sub Project	Upload Products	

Lindabs Webshop Upload window before Connect

If the combination of Username and Password is not valid, following message appears:



For a valid combination the project fields get active:





User			
Username	demo@Lindab.dk		
Password			
	Connect		
Project Customer	Demokunde	•	
	Demokunde Basic School Gym	•	Add
Customer		•	Add
Customer Project	Basic School Gym	•	Add

Lindabs Webshop Upload window after successful connection

Select "Customer" and "Project" or create a new project using the "Add" button.

With "Sub Project" you can add the order name for this upload in your project.

Push "Upload Products".

A dialog shows that the transaction was successful:

	×
Products in dra	awing uploaded
	ОК

Upload OK dialog for Lindab Eshop

Push the button "Open Webshop" to open Lindabs Webshop on your web browser.





## Lindab Webshop

https://eshop.lindab.com/

This chapter will explain how to handle project uploads in the Lindab Webshop.

## Note! The following images are based on Lindab Webshop Denmark. Other markets may have a different Webshop layout!



Lindab Webshop Frontpage

## Press "CADvent" (Import)

#### A project list presents all your projects



Lindab Webshop Project List

## Click on your current project

The project opens and all sub projects will be presented





Children - Propieter							
	Basic School Gym						
	See.	Slatur	(include)	Gented	 Deated by	Lost edit	* 148
	There I	Iters to Carl	HC2012-11 Test for competition with DV-he		densilji.volat.ok	09/107/2014	10.00
		Hacamud	Balic Billard Byth deg	00070004	Antenido A	00/07/3514	10.4

Lindab Webshop Sub Project List

You have following options:

- Name: Name of the sub project, activation of the link opens the product list
- Status: Received = A product list has been uploaded

Approval settled = The products have been checked by the order system

Sent to cart = Products have been added to the order cart

- Drawing: Name of the drawing that is used for the upload
- Created: Date when the project has been created
- Created by: Username
- Last edit: Date of last modification
- Edit: Change Name of sup project or delete the sub project

#### Activate the name of your sub project to open the material list

tatus: Received Drawing Back Tubo extent by menodEcrelal JB Cleared: 12/17/201					
h					
Sat Resident To Distance I Last An	11.044 ( # 1.04444				
Name	Generati	ally	Pos. in drawing	States	Debel
ACR0 350 JUN		37	8	Gaussiand	
40Pu 315 184		1	0	Received	
ALFV 315 238		4	0	Peopled	
NEU 488 313		1	0	Received	
04PU 990 159		40	0	Received	
CAU 200 125		14		Generat	
66 101 Di00			0	Received	
DR 100 3000			0	Received	*****
Define and water		10	121	(Densiliant)	

Lindab Webshop product list

This list contains all products from the upload.





The next step is to verify all products. Pressing "Approve" starts a verification process if all products are according to the Lindab order rules.

Ар	proval completed	:
Ø	The result of the approval are as follows Approved lines: 28 Failed lines: 0 Missing information: 3	
	Ok	//.

Lindab Webshop product verification

The window above appears and tells the user, that 28 products fit to the order rules, no product upload failed and 3 products contain missing information!

The result is automatically transferred into the specific tables:

Asses Constant Op Posted and State	
Name Consument (Dy Pos. in drawing Status	
	Deis
ACTIV 200 00 I D Approval	
1/10/11/2/10/10/10/10/10/10/10/10/10/10/10/10/10/	*****
N79.212.250 1 1 Approved	*
RCI 488 315 3 6 Approved	×
5840 586 500 50 50 Approved	
18.115.000 8 P Aproved	

HORV INS DOES IN WHEN

The sub project status is changed into "Approval settled"

All applied products can now transferred to the order basket with "Transfer to cart"

6





ing between

LACE 400 1000

H607 135 166 S



3-11-1 ( 1740 9 8 4 4 10 10 10				Chose a	er deter 🏠 🖽 bradut.	100
+ 17 mile (48)	discount in the second	( AZIDIAL)				20 Lindab
The law of the second second		HEN TIL BILLOW				and the second second
olida Saidteerto	CADVest Instally Video pairies					
ADVeni						
Messfullatory						
	Basic School Gym # Floor 2					
	Statur Sant Is Can Drawing State Street St	27.23				
	Distant period and a store with the					- Forster 18.00
	The Date of the Da	Albearable Ditter				
	Norm	Convert	Øy	itos. in drawing	Skatus	Delete
	40710-200 (008				Then in based	<b>A</b>
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	8050.313.218		3.	1.410	tiers to haven	A
	RED 490 202		. W.		Sent to passat	
	GMBO 364 138		10		Service business	
	1010 100 100		14	10.1	there are harried	
	58 125 mm				Sent In Second	
	G#1.660.3806			. 4	Sect to barlet	*****
					Galler 1 1 1 1 1 1	

Now all products that have been verified from the order system have been placed in the order basket. The project status is changed to "sent to cart"

The value of the current basket is presented in the top bar. The basket can be opened with "show cart".

The Shoppingbasket is the current order list. You can add components, change the amount of products or add comments to the products.

Products that have been appeared on the table "Incomplete" can be manually added to the order list. Type in the product code in the "Quick entry" field:

tiave order to	erçüte	Load order terra	V Clerar & statel	
Dala entry	101	Contraction ( participation of the second	Ma Li Contan de la Interna	1
Product no.	Description			Group Price Met Price Discount% Qip Met Annount
107723	KSU LOD. Exhemit all \$50.0	00 valve w/o hame		95.00 W5.69
110412	TCPU 400 200 Fee-places TCPU 4			229-00
H9403	YON: 400 348 Femaletee YON 4	claia, u		
H8772	TUPO 3US 208 Film-placing TUPU 3	data w		
10701	7076 315 125	GAUY .		
10/10	File pieces TOPU 1 TOPU 250 125	GAUY		
14822	Templecas TOPU ( TOPU 200 AND	CHLV		
14662	Tom-process TCPU 2 TCPU 200 125	datar		
THAT IS NOT	Film-pinces TCPU 3 RCPU 200 346			the second s
Date:	Reducer's ROPU 20 ROPU 200 129			and the second
Quick	entry [	S Irca400	x	
		LRCA40010	000	
Produ	ict no. I	De Silencer LRC	A 400.1000	
50723	-	KS LRCA40050		





Type in the amount and press "Buy". The selected product will be listed in your basket.

1	IN THIS

Product no.	Description
278903	LRCA 400 1000 GALV Silencer LRCA 400.1000
507233	KSU 100 Exhaust air KSU 100 valve w/o frame
249812	TCPU 400 200 GALV

Press "Next" to go ahead with the order.

Press the Excel Symbol to transfer the list to Microsoft Excel.

Press "Clear cart" to delete all products from the basket.

Press "Delete selected order lines" to delete individual products from your order list.

Reducers RCFU 250.200	44
Total	25,621.00
Clear cart >> Next	Delete selected order lines 👗

You can find this features at the end of your order list.

"Next" forwards you to "Order Information"

Please fill out all relevant fields and select a "requested shipping date"





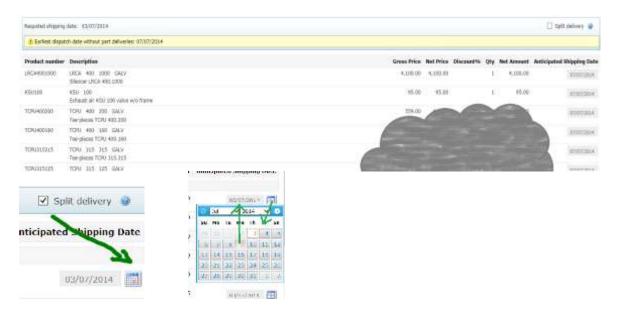
1. Shoppingbas	sket 2. Order informat	ion 3. Delivery	4. Confirmation	
Delivery address	3	Invoice addres	s	
<ul> <li>○ Same as invoice adr</li> <li>● Select existing adres</li> </ul>				
Lindab	$\checkmark$			
○ Enter address ○ Pickup address				
Lindab, Haderslev	$\checkmark$			
Name Linda	b *	Name		
Address Test	*	Address		
Full Valid Postcode 7000	**	Full Valid		
City		Postcode		
Country Storb	ritannien 🔽	City		
□ s	ave delivery address	Country		
Order informatio	on			
Project name	Basic School Gym	Customer contact person	demo	~
Contact Phone No		Customer order number		
Requsted shipping date	e 03/07/2014 * 🔟	Customer reference	Jan Behrens	
		Customer project number		
Comment				~
				$\sim$
« Prev » Next				

The system checks the delivery time of each product and offers a dispatch date without part deliveries. Activate Split delivery to deliver into parts.

Split delivery allows to change the delivery date for each component:







NOTE! A part delivery always contains a higher delivery cost!

All products with same delivery time will be summarized in the order table:

Product number	r Description	Anticipated Shipping Date
Anticipated Ship	oping Date: 03/07/2014	
FCPU250125	TOPU 250 125 GALV Tee-pieces TOPU 250.125	analises 🔚
TCPU280150	TOPU 200 160 GALV Tee-pieces TOPU 200,160	83/97/2654
TCPU200125	TCPU 200 125 GALV Tee-pieces TCPU 200.125	85032004
RCFU200160	RCFU 200 160 GALV Reducers RCFU 200 160	analises 🖸
ROFU200125	RCFU 200 125 GALV Reducers RCFU 200.125	100002014 E
BU16090	BU 360 90 GALV Benute pressent BU 160 90	83/07/2004
RCF1013160	RCPU 215 100 GALV Reducers RCPU 315.140	03/07/28(4)
		(830072066C) (201 (830072066C) (201
RCFU250208	Raducers RCFU 315.160 RCFU 250 308 GALV	
RCPU230208	Raducers RCFU 315.160 RCFU 250 300 GALV Reducers RCFU 250.300	
RCFU230200 Anticipated Ship LRCA4001000	Radocers RCFU 315.160 RCFU 250 200 GAUV Roducers RCFU 250.200 sping Date: 99/07/2014 URCA 400 1000 GAUV	11.007/2014. 🚮
RCFU230200 Anticipated Ship LRCA4001000	Raducers RCFU 315.160 RCFU 250 200 GALV Reducers RCFU 258.200 pling Date: 09/07/2014 URCA 400 1000 GALV Silencer LRCA 400.1000 RSU 100	13497/2014 () () () () () () () () () () () () () () () (
RCPU236200 Anticipated Ship (RCA4081000 KS0100 TCPU488200	Radocers RCFU 315.160 RCFU 250 200 GALV Radocers RCFU 250.200 sping Date: 89/07/2014 UKCA 400 1000 GALV Silencer IACA 400.1200 KSU 100 Exhaut All KSU 150 value w/5 fram TCPU 400 200 GALV	113497/2014
RCFU250200 Anticipated Ship (RCAN01000 KS0100	Radocers RCFU 315.160 RCFU 250 200 GAUV Reducers RCFU 250.200 sping Date: 99/07/2014 URCA 400 1000 GAUV Silencer LRCA 400.1000 KSJ 100 Exhaust ar KSD 100 valve sejti fram TCFU 400 200 GAU TCFU 400 200 GAU	11/47/2014 (1) 19407/2014 (1) 19407/2014 (1) 19407/2014 (1)





Activate the checkbox "Approve order" and press "Approve order" to activate the order of the list of components.

Reducers RCFU 200,200	
Total	
Approve order	
« Prev » Approve order	





## Add Space

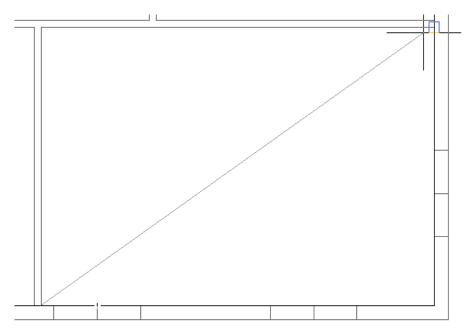


The 3D Space element gives the user the possibility to create 3D objects in the drawing to create zones. The zones can be created as simple rectangular boxes (default) or as Polylines (Type P in the command Line, or activate Polyline on the right click menu) to create zones which follow the architecture.

The Space object allows the user to divide the drawing into several rooms or zones which can be uploaded to LindQST, the Lindab Quick Selection Tool, for selecting and calculating water and air products.

Rectangular rooms:

- Activate the Add Space command.
- Click on one edge of the room
- Click on the opposite edge of the room



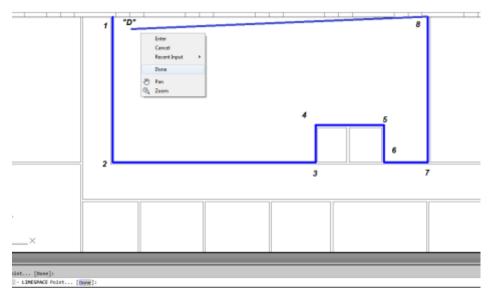
Define a rectangular space object

Non rectangular room:

- Activate the Add Space command.
- Type P in the command line to activate the polyline command
- Click on one edge of the room
- Follow the walls of the room, by clicking on each edge
- Stop at the last edge and type D (done) to close the Polyline

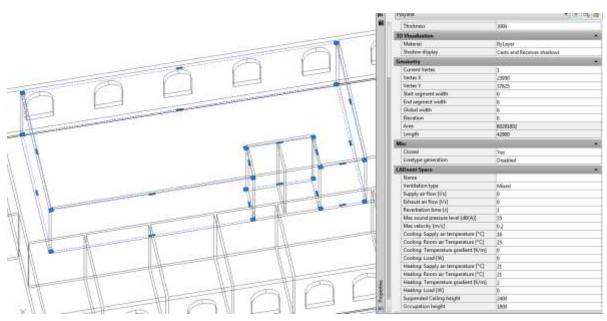






Define a non-rectangular space object

When you have created a zone you can change the parameter in the AutoCAD Properties to define the requirements for the room.



CADvent Space in drawing with AutoCAD properties

Thickness:	Height of the space object
Name:	Name of the Room/ Zone (required)
Ventilation Type:	Mixed, Displacement or Chilled Beams
Supply and Exhaust air flow in I/s:	Total air volume for this room/space





Reverberation time in s:	Sound reverberation time
Max. sound pressure level in dB(A):	Max allowed sound level in the occupied zone
Max. velocity in m/s:	Allowed average air velocity in the occupied
zone	
Occupation distance: the air veloc	Max. distance from displacement unit where city is allowed to prevail
Cool./Heat. Supply air temp. in °C:	Temperature of the supply air
Cool./Heat. Room air temp. in °C:	Temperature of the room air
Cool./Heat. Load in W:	The required power for the room
Suspended ceiling height:	Distance from floor to suspended ceiling
Occupation height:	Height of the occupancy zone

You can edit the zone afterwards by dragging on the AutoCAD Grip points in the corners or on the lines.

## lindQST Upload



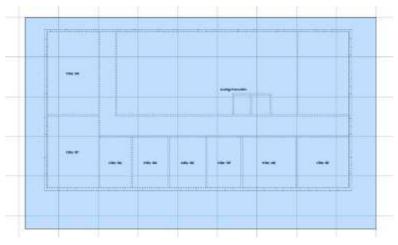
After creating rooms / zones with the Add Space command you can upload the spaces into lindQST.

Note: The upload is not limited to a single room. You can upload multiple rooms in one process.

- 1. Activate the lindQST Upload command
- Mark all spaces you like to update to your project in lindQST.
   Note: You can all time add more spaces to your project in lindQST







Mark multiple CADvent spaces for the upload to lindQST

- 3. Accept your selection with Enter
- 4. A browser window opens and ask you to log in.
- 5. Please enter your login data or register for the project area in LindQST

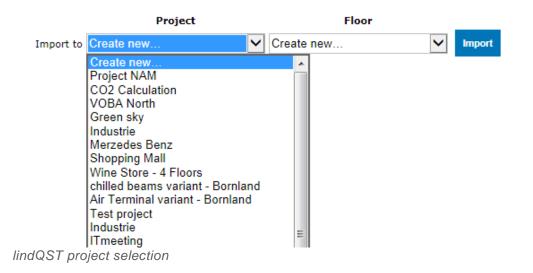
	Labelet Land Bellicher Tox		water the lines	-
	tited mentilizer.co. (deet context)		Dindab 🖉	
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Bannet	Welcome to BacQS71 Please logist or register to use the advanced functionalities	of livelOd T.		
Bapt	First torses in Lianda Indexi Cheate Designe	Logis Elites		
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lindQST welcome page for non registered or logged out users

6. The following window allows you to add the spaces to an existing or a new project. Please select your choice from the drop down menu If you chose an existing project, you can select from existing floors or add a new.







7. If you select ,Create new...' for project and floor. Lindqst will automatically name the project and floor "AutoCAD", which you can rename in a later state.

Import AutoCAD Space	e				
		Import	completed. Project He	meder	

lindQST verification of the project upload and link to Project Manager

8. The import complete message confirms the correct upload process. Using the Project Manager link jumps you directly to your project in lindQST.

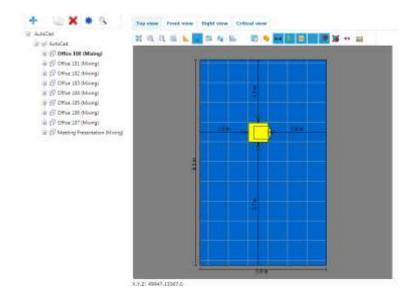
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+ LX + S	1						
Autofad							
🗟 🛒 ActoCad							
Stars 101 (Married							
in G Office 101 (Weing)							
si 🕼 Office 102 (Maing)							
in Conce 101 (Money)							
🗟 🚭 Office 104 (Moling)							
A CT Office 105 (Weinig)							
Conce 100 (Mulhg)							
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स 🚭 उत्तर माठा (Muing) स 🚭 Meeting Presentation (Muing)	Nixing Require			Bugglied thermal power Bugglied thermal power / area	0	đ	w

lindQST project tree





9. Here you can define a suitable diffuser or chilled beam based on the fiven room size and technical requirements.



## Leakage and Leakage Area Calculation

Ventilation systems have to be defined and build with low leakage values.

Air leakage can have following negative effects:

The AHU has to deliver X% more air then calculated. That effects

- a worse SFP value
- higher air velocity
- higher pressure lost
- higher energy costs for air conditioning

(heating, cooling, (de-)humidifying, filtering)

- higher soundvalues (+ sound values from leakage points like whistle sound)
- necessary to build bigger system sizes
- higher system producing costs







- higher Life Cycle Costs
- more inefficient real estate

with all resulting problems.

#### Leakage classes

The leakage classes according to the EN 13779 are defined in 4 classes: A to D, whereby D is the best class. The measurement procedures are defined in EN 12237, EN 1507, EN 1751 and EN 15727

- A (Class A not mentioned anymore in newest norms)
- B is the general minimum requirement
- C in a lot of situations the required minimum class
- D Lindab Safe = Lindab required leakage class

#### Definition of the leakage classes

The leakage classes are defined in leakage air flow per m<sup>2</sup> surface area at a specific static system pressure.

Leakage class	Max. leakage per m <sup>2</sup> (f <sub>max</sub> ) I /(s·m <sup>2</sup> )
A	0,027 x pt <sup>0,65</sup>
В	0,009 x pt <sup>0,65</sup>
С	0,003 x pt <sup>0,65</sup>
D	0,001 x pt <sup>0,65</sup>

Pt = test pressure

The leakage area has to be calculated according to EN 14239.

You can find more details about the leakage test process here:

http://itsolution.lindab.com/lindabwebproductsdoc/pdf/documentation/ads/lindab/mounting/ manual-ltest-1082\_en-de-fr-se.pdf

( If the link below does not work, please go to <u>www.Lindab.com</u> and search for "Manual-Ltest")





#### Leakage Area Calculation:

1. Activate the command leakage area.

System	Supply Air	•
Leakage Class	D	•
Test section	Floor 1	
Test Pressure	40þ	Pa

- 2. Select System in the drop down menu.
- 3. Select the required Leakage Class in the drop down menu.

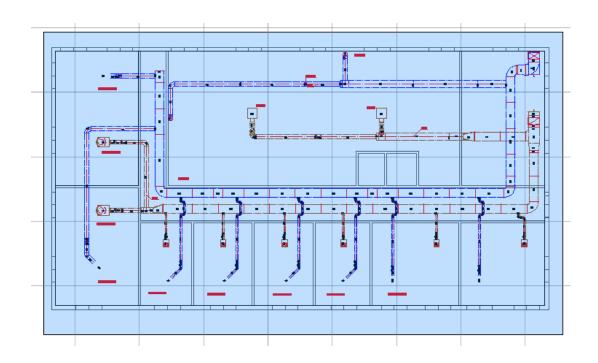
#### Note: The test area needs to be at least 10m<sup>2</sup> (EN 12237)

- 4. Define the name for the Test section and the value for Test Pressure
- 5. Mark the system that shall be calculated and accept with ENTER

Note: Air Terminals are not part of the calculation and will be listed with a suface area 0m<sup>2</sup>. We recommend to freeze the air terminal layer before selecting the system. This will order the system to create a virtual plug, which will be part of the calculation. (see Leakage Plug)







6. A calculation report according to EN 14239 will be generated: All pages of the report contain a head with all necessary test informations and the calculated Area according to EN 14239, named as "Leakage Area in section" as well as the max. Leakage in the test section totally in I/s and I/s m<sup>2</sup>.

Pos. nr.	Calculation (mm)	Area (m <sup>2</sup> )
3,50 l/s		
71,166 m²		
0,049 I/(sm²)		
D		
Floor 1		
Supply Air		
	Floor 1 D 400 Pa 0,049 I/(sm <sup>2</sup> ) 71,166 m <sup>2</sup> 3,50 I/s	Floor 1 D 400 Pa 0,049 I/(sm <sup>2</sup> ) 71,166 m <sup>2</sup> 3,50 I/s

The content of the product lines is:

Produkt	Pos. nr.	Calculation (mm)	) Area (m <sup>2</sup> )
BU-100-90	356	314*200	0,063
/			/
Product name	Piece Label	Circumference * Length	Area





## Leakage plug

Open ends will be closed by a virtual leakage plug. The plug is named with TEST Leakage Plug, which is calculated and included in the list.

TEST Leakage Plug 500x300 150000 0,150

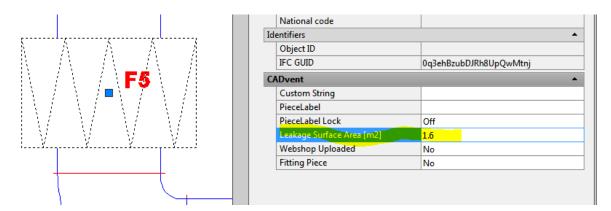
## **Special Components**

Self defined components or components with a different surface then calculated by the CADvent Plug can get a forced Area.

	Max Leakage in section	0,27 1/s		
	Produkt	Pos.nt	Calculation (mm)	Area (m²)
$\Lambda \Lambda \Lambda \Lambda$	F5			0,000
	LKR-500-300-125-*		1600*125	0,199
	LBXR-500-300-500-90-100-*-25-25		1600*750	1,200
$\lambda = \lambda = \lambda = \lambda = \lambda = \lambda$	LKR-500-300-640-*		1600*640	1,024
V V V V	LKR-500-300-1264-*		1600*1264	2,022
V V V V	TEST Loukage Flug 500x300		150000	0,150
	TEST Leakage Plug 500x300		150000	0,150

This can be changed by the CADvent property area in the AutoCAD properties dashboard.

- 1. Mark the product
- 2. Open the properties dashboard
- 3. Add the Leakage surface Area in m<sup>2</sup>



4. The manual changed area is shown in red in the report.





Produkt	Pos. nr.	Calculation (mm)	Area (m²)
F5			1,600
LKR-500-300-125-*		1600*125	0,199
LBXR-500-300-500-90-100-*-25-2	5	1600*750	1,200

## InCapsa Design Tool – Draw a wall panel system.



InCapsa is a cost effective system that makes it easier to mount and cover ventilation systems in buildings. InCapsa is developed to be used in building that were built in the 50's, 60's and 70's in large scale.

InCapsa consists of different parts that is easy to combine to find solutions for most apartments. In a few simple steps the ventilation system is mounted and covered behind panels made of sheet metal.

InCapsa is adapted to rooms with straight walls and corners. In other cases traditional covering of the ventilation system is recommended.

The system is adjusted to function with Lindab's Safe system and Lindab's assortment of air terminal units and valves.

Push the button "Wall Panels"

Following window appears:

#### Fill in the System Name

Each InCapsa installation is called a system. A system has a start and end point, but can contain consoles for different duct sizes.

Select the **Duct Size**. Available sizes are 100, 125 and 160. The suitable consoles will automatically be selected. The duct sizes can be changed during the drawing process.

160	
160	
🕐 Open	Gable
🔘 Open	Gable
🔘 Left	Right
Mittered	1
2700	
	160 ⓒ Open ⓒ Open ⓒ Left Mittered

Select the **Panel Size**. The panel size is dependent on the duct sizes





Panel dimension	Duct dimension
100	100
125	100
125	125
160	100
160	125
160	160

Decide if the Start and the End of the System shall get a Gable or stay Open

Gable: A gable is used when the start or end of the system shall get a visible closing

Open: The open end is used when the duct leads thru the endpoint e.g. to transfer into the next room.

## Alignment defines the drafting direction



Alignment Right

Alignment Left

## **Steel Rails**

Steel rails which are held in place by consoles have a fold in which the panels are attached. You can define if you like to get the rails mitered or straight.

## **Ceiling Elevation**

Type in the elevation of the room ceiling. The system will be drawn directly below the ceiling. While drawing the z coordinates will be ignored. The system will automatically draw with upper side = ceiling elevation.

Accept the selection with OK

Select the start point of the system. We recommend to use the ACAD snap functions. Move the mouse along the walls, the InCapsa System will follow the mouse.

Click with the left mouse button to fix a **change point**.

A change point can be a corner to change direction or a point to change the duct dimension.





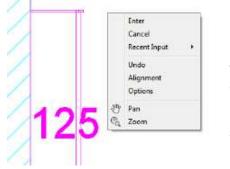
#### Corner

Click with the left mouse button into a corner to define a change point. We recommend to use the ACAD snap functions.

Move the cursor to the next direction. Only 90° angles are possible.

## **Right Click Menu**

During the drafting process, the InCapsa drawing tool offers a right mouse click menu



**Undo**: Undo the drawing until the last change point **Alignment**: Change the alignment direction

**Options**: opens the InCapsa property window to change

Duct size (offers only duct sizes, that are available for the selected panel size)

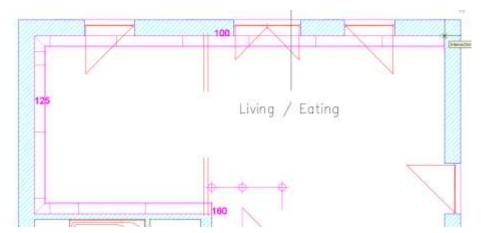
The changing of duct size, will create a size note. The note will be more specified after finishing the system. A symbol marks the click point of the change point. The symbol can be used as a snap point when implementing the duct work.



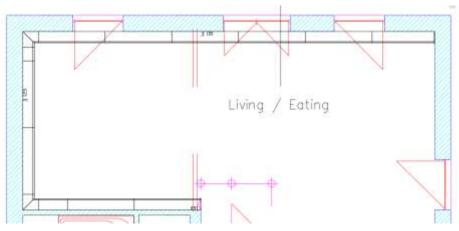
Finish the drafting process with a last change point (left mouse click) and press Enter



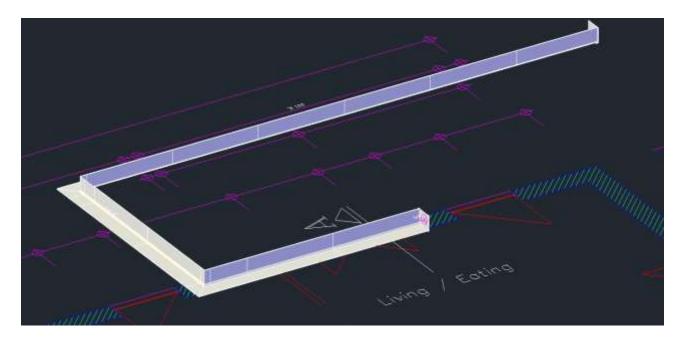




View before finish. The drawing process uses the current Layer.



View after finish with Enter. The system gets the CADventInCapsa Layer, dimension changing points get a symbol and marker with new dimension size.







## InCapsa Design Tool – Draw a Free Panel system.



A Free Panel is a U-Panel that can be mounted at the ceiling or the wall.

Activate the button Free Panels

Following window appears.

Fill in System Name and Ceiling Elevation.

System Name	Convidor	
lust Size	100-160	
Parnel Size	160	
Start	Brie C	Galia
End	Stam D	Carlos
Bool Rail	Stragte	
Derling Elevation	2700	

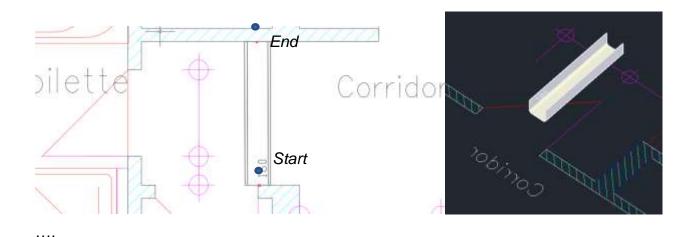
Note:

Only Duct Size and Panel Size 160 is available. Whereby the consoles are usable for duct sizes 100, 125 and 160.

## Press OK

Select start and end point with the left mouse button.

Only straight systems can be drawn - angles are not available!







## **Create Bill of Material for InCapsa Systems**



Activate the BOM command.

Bill of Materials	×
Project	Testproject
Floor	
Date	05.01.2015
Show piece labels	
Cut all ducts to drawing le	ngth
🔽 Separate InCapsa System	IS
Excel report ( Requires M	icrosoft Excel)
ок	Cancel

Fill in in the information for Project name, Floor and Date (actual date auto selected) Select your option:

Separate InCapsa Systems: Creates a detail list per system if selected or a summary of all components if not selected.

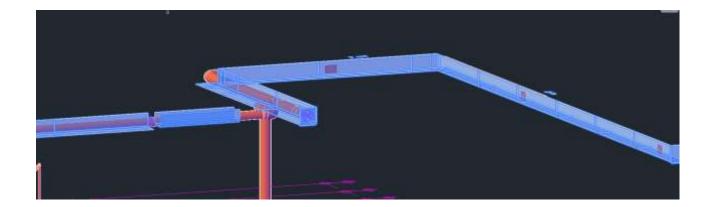
Excel report: Create the BOM in Microsoft Excel format. This option eliminates the option for the separation of the system

Press OK

Select all InCapsa Systems you like to add to your BOM.







#### Press Enter

Projekt	Testpro	(##		Materiais	specificat	tion	
Dei				Projekt		Testarcied	
Detun	25-01.2	ne		Det			
Typ / Tiltxencere / tilateriat	Produkt	Pes. er.	Antal	Ceture Typ /	Produkt	05.01.2016 Pas.m	Artal
Chid				Tillverkans/			
UNDAB				10000			
District.				UNDAtt			
	CC 126 125		4				
	CP 126 1636		1		CC 125 125		
	CPvI		4		CC 180 105		1
	CRUC 128		2		00-160-128	•	
	CSR 1900		6		CC 160 160		
	FTR		4		2021 100		I
Living/Entire			107		CIG 190		1
B					CP 128 190		1
LINDAR					CP 150 150	10	
					OR/A		24
	CSR 1800		3		CRUO (28.		1
	CUC		2		CRUO 180		15
	CUP		1		CSR 1606		38
LivingExting					057111600		1
UND/8					C 5752 1800	6	1
			62		000		1
	GC 169 100		7		CUP		1
	CC 160 125		8		TTK		68
	CC 160 160		9				
	CCi 180		2				
	CO 190		2				
	CP 160 1800		<u>11.</u>				
	CP/I		30				
	CRUO 180		16				
	CSR 1000		20				
	CBR1 1600		1				
	C5R2 1600		2				
	FTR		80				
Lindab Seen	os Atl	Tallefort 5431 85000 Telefax 5431 85065	10	Lindah Sewi	je së	Telefox 0421 65000 Telefox 0431 65000	1

BOM with activated "Separate InCapsa Systems" and not activated option





Projekt	Testproject	Material	Tillverkare	Тур	Produkt	Antal	Pos. nr.	Comments
Del			LINDAB		CC 125 125		6	
Utfort av			LINDAB		CP 125 1500		3	
Datum	05.01.2015		LINDAB		CPJI	-	4	
			LINDAB		CPJO 125		2	
			LINDAB		CSR 1500		6	
			LINDAB	-	FTK		8	
			LINDAB		CSR 1500		2	
			LINDAB		CUC		2	
			LINDAB		CUP		1	
			LINDAB		CC 160 100		7	
			LINDAB		CC 160 125		8	
			LINDAB		CC 160 160		9	
			LINDAB		CCI 160		2	
			LINDAB		CG 160		2	
			LINDAB		CP 160 1500		11	
			LINDAB		CPJI		30	
			LINDAB		CPJO 160		15	
			LINDAB		CSR 1500	-	20	
			LINDAB		CSR1 1500		2	
			LINDAB		CSR2 1500		2	
			LINDAB		FTK		60	
			- WORLDW		2.00000			

BOM Excel report for InCapsa

# InCapsa Design Tool – Draw the ventilation ductwork with MagiCAD

The ductwork, mounted into an InCapsa system has a specific mounting height, related on the InCapsa mounting consols.

After drawing the incapsa System you can find the "Duct Start center elevation" inside the ACAD Properties.

Select the InCapsa System

**Open ACAD properties** 

General		- 5
Color	<ul> <li>ByLayer</li> </ul>	- Deede
Leyer	CADventin Capsa	
Linetype	ByLayer	
Linetype scale	1.000	
Ptot style	3)(210)	
Lineweight	ByLayer	
Transparancy	ByLayer	
Hyperink		Dates and the second se
1D Viscalization		
Material	ByCayer	
Geometry		
Position X	42031.098	
Position V	40349.223	
Position Z	2700.000	
Scale X	1.000	4
Scale Y	1.009	_
Scale Z	1.000	
Misc		
Name	*U17	
Rotation	0.00	
Annotative	No	
Block Unit	. Oriting	
Unit factor	1000	
CADvent Incapia		
System Name	Living/Exting	
Duct Start center elevation	2563	
Advanced		
Bound spares	Yes	





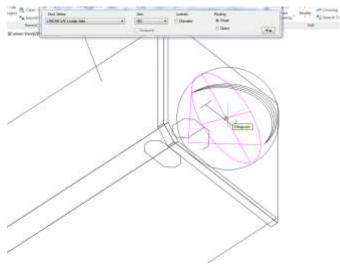
#### Properties for IncapaSystem

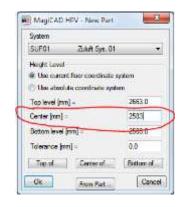
Select the MagiCAD duct command

Select the Lindab Safe Duct series and the needed duct size

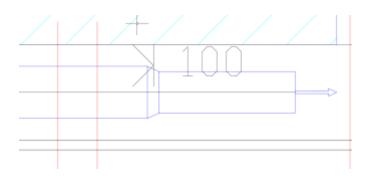
Snap the start point of the InCapsa system

The MagiCAD New Part Window appears, type in Duct Start center elevation as Center height:



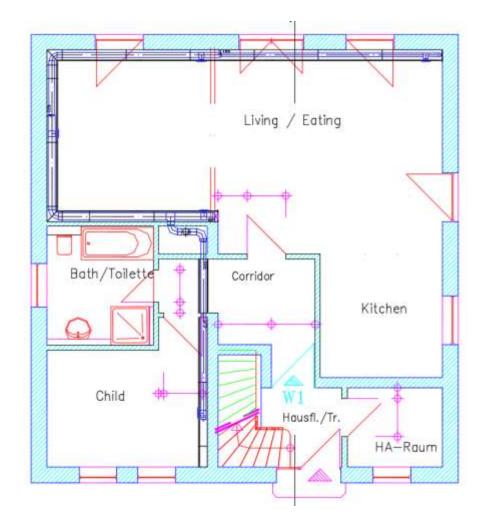


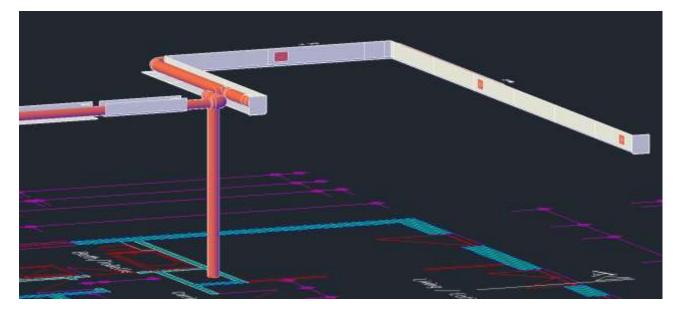
Draw the ductsystem with MagiCAD drawing commands. Use the InCapsa size notes for the duct size changes









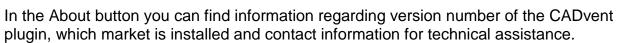


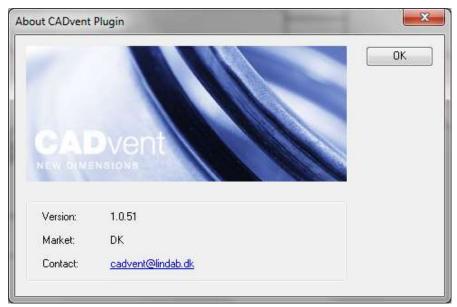


## About



About





CADvent plugin About dialog

