

Step by step manual DIMcomfort 4.0







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Start up DimComfort 4.0

When you start up DIMComfort you see the following screen:



There are three possibilities. In the middle you can choose between the recent opened files, at right you can search in existing files and at left you can start up a new project. Click on "New project" and press enter. Now you see the room criteria.

1.6			
Information		2	
Room label	Room 1	Geometry	I know the air flow and the supply temperature required in the room
Room type	Auditorium	Geo	C I know the air flow and the supplied thermal power required in the room
Ventilation type	Mixing ventilation	Bil	C I know the max CO2 content and the supply temperature required in the room
Reverberation time Allowed sound level	0,80 sec 30 dB(A)	False ceiling	C I know the max CO2 content and the supplied thermal power required in the room C I know the supply temperature and the supplied thermal power in the room
Room temperature	22,0 C*	riteria	
Dimensions Geometry	Rectangular	Dimension criteria	
Length, L Width, B	4,00 m 3,00 m		Air flow in the room 86 m³/h 3.0 ACH
			Supply temperature (Ti) 16.0 °C Result Supplied thermal power -173 W -14 W/m² @
Storey height	3,00 m		
False ceiling height	2,40 m		
🔲 No false ceiling			
Area	12,0 m²		
Volume	28,8 m²		
Comfort zone			
Height	1,80 m		
Velocity, Vx	0,20 m/s		
, ⊢ Help			OK Cancel





Room Setup

Room information

ſ	Room Setup			toom Setup		
	Information			Information Room label Room type Venilation type Reverberation time	Reen 1	Incost the air flow and the supply tangenitue required in the room Incost the air flow and the supplied themd power required in the room Incost the rank CO2 content and the suppliet foregradue required in the room Incose the rank CO2 content and the supplied formal power required in the room Incose the rank CO2 content and the supplied formal power required in the room Incose the rank CO2 content and the supplied formal power required in the room Incose the rank CO2 content and the supplied formal power required in the room Incose the rank CO2 content and the supplied formal power required in the room Incose the rank CO2 content and the supplied formal power required in the room
	Room label	Room 1		Allowed sound level Room temperature Dimensions	30 dB(A) 22.0 C*	
	Room type	Auditorium		Length, L Width, S	4.00 m 3.00 m	Ai flow in the room 66 mP/h 30 ACH Sicely tercensive (T) 56.0 °C
	Ventilation type	Mixing ventilation		Storey height False ceiling height I [™] No false ceiling	3,00 n 2,40 n	Supplied fromal poser 122 W 34 With Q
	Reverberation time	0,80 sec		Anna Volume Comfert zone Height	12.0 m ² 20.0 m ² 1.50 m	
	Allowed sound level	30 dB(A)		Velocity, Ve	0.20 101	OK Cancel
	Room temperature	22,0 C*	/			
			/			

Room label:

The first room that is generated is named "Room 1". The name is changed by typing in the required name.

Room type:

Here you choose between the predefined room types. Your choice determine the values in Reverberation time and Allowed sound level. These values can be changed as you wish. It is also possible not to chose any Room type and set the values for Reverberation time and Allowed sound level your self.

Reverberation time:	Default value of Room Type selection
Allowed sound level:	Default value of Room Type selection
Room temperature:	The Room temperature is set at 22°, but can be changed to meet your criteria.





Dimensions

Dimensions		Ν
Geometry	Rectangular	\mathbf{X}
Length, L Width, B	4,00 m 3,00 m	Xeron Setting Item 1 Roo stad Item 1 Roo stad Item 1 Roo stad Item 1 Item 4 Item 4
		Vidh.0 100 n Arbon hite som 66 n/h 3.0 /ptil Sody threads (1) 100 n Store hegt 100 n 100 n 100 n 100 n 100 n Faller soldpart/ 2.00 n 100 n 100 n 100 n 100 n
Storey height	3,00 m	Ang TIT get Vitare TIT get Langest 2000
False ceiling height	2,40 m	Hoge 1.0 n Vector Vi 0.0 (n/
🔲 No false ceiling		Г Нар Ос Секеl
Area	12,0 m²	
Volume	28,8 m²	

Geometry:

Here you can choose between:

Rectangular: When rectangular is chosen the Length, L and the Width, B is typed in

Angle: When angle is chosen you must also type in Lv and Bv.

User-defined: When User-defined is chosen a drawing on the right side of the screen occurs, you draw in the room with your mouse.

Define room in AutoCad: Drawing can be imported from AutoCad.

Storey height: Here you tap in the storey height.

False ceiling height: Height from floor to false ceiling

No false ceiling: If there are no false ceiling you "check"this box and the height of the False Ceiling equals the Storey height.

Area: The room area is calculated automatically.

Volume: The room volume is calculated automatically



lindab comfort		
Comfort zone Height	1,80 m	Normality Normality <t< th=""></t<>
Velocity, Vx	0,20 m/s	Dorsy hopts 100 m Transcringinger 200 m F holder ching ward 200 m F hold
Displacement ver	tilation	 nedy W 0.57 W
Comfort zone	1,50 m	
Velocity, Vx	0,20 m/s	

Comfort zone

Height: Height of the comfort zone is set to 1,8 m, but can be changed.

Distance from diffusers:

Occurs only when displacement ventilation is chosen and is the distance from the unit to the comfort zone. Acceptable near zone.

Velocity, Vx: Maximum allowed velocity in the Comfort Zone is set at the Lindab standard of 0.2m/s but can be adjusted to meet your criteria.





I know the air flow and the supply temperature required in the room
 I know the air flow and the supplied thermal power required in the room
 I know the max CO2 content and the supply temperature required in the room
 I know the max CO2 content and the supplied thermal power required in the room
 I know the supply temperature and the supplied thermal power in the room
 I know the supply temperature and the supplied thermal power in the room



Dimension criteria

Depending on whether you are doing the dimension in order to remove the heat loads in the room or in order to obtain the demand for fresh air with regards to the content of CO2 and depending on which information you have, you can chose between the five different dimension criterias.

Insert the values and press OK



The menus you have on the left you use if you want to switch between Dimension criteria, dimensions of the False ceiling and the Geometry of the room. Dimension criteria are pre-selected.





Selection of air terminal devices

When you have pressed OK you can start to select your Air Terminal Devices.

When ever you want you can edit the room data by clicking on the room with the right mouse button and choose edit.







Selection of Air Terminal Devices

In order to choose respectively supply and exhaust units you double click on one of the symbols for supply or exhaust. As shown below.



Once you select the Supply or Exhaust grille you will be given the following option



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Here you have several possibilities to chose devices. One possibility is to use this menu.



Alternatively you can click on Product overview or Product search. (See next page)





Product search

If Product search is chosen you can search according to Placement, Function, Shape/form and connection.

When the parameters are chosen you can click on Show products and the products with the chosen parameters will be shown.

EZ	Lindab Select te	rminal device
	Product search	×
Product search	Placement Function	Ceiling Perforated front plate
iew	Shape / Form	Circular plate 🔹
Verv	Connection	Horizontal (including box)
Product overview		Show products



28 L	inda	b Select terminal device
Product overview Product search	Own component Lindab	E Terminal





Product overview

If you chose to click on Product overview you can find the requested device in a way very similar to when you look it up in a catalogue, meaning via product groups and pictures.

For instance click on Formo as shown below and the products that belongs to the Formo product group will be shown.

Afterwards for instance try to click on PCA.





Hereafter you can choose which plenum box type you want to combine with the diffuser or alternatively you chose without box.

In this case a MBA-1 box is chosen (diffuser one dimension larger than connection).

ESS L	nda	b Select terminal device		
Product overview Product search	Own component Lindab			
	Сог	nnection dimension 125	Q.	PCA-125 + MBA-1-100/125
	Wo	rking setup 4-way 🗸		
	Nr.	of air devices 1 x 1 = 1	<u>d</u>	

Choose yourself or let the program choose for you

If you know dimension and amount of diffusers you need you can just choose.

Alternatively you can choose dimension and let the program choose/calculate amount for you or do it the opposite way around.

Please note that the dimensioning is done is based on an approximated sound calculation since the diffuser positions are still unknown.



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Whenever you change the amount remember to click on the calculation icon beside "Flow per device" so the new airflow are recalculated.

Balancing/pressure

Also remember to tap in the balancing pressure in "Adjustment" otherwise the sound calculations will be based on the pressure loss with completely open damper. The point in the diagram is automatically moved to the resulting pressure loss. When you click on "OK" the below screen dump occurs. The diffusers are placed symmetrically in the ceiling grid.







2D view, 3D view

Now you have the possibility to work respectively in 2D and 3D view. You change between the two views by clicking here



The icons belonging separately to the two views are described later.





Room, velocity diagram and air terminal device

In the left lower corner of this screen you can change between:

Room: Here you can see the demands for the room and the actual result.

Velocity diagram: Here you can see jet velocity and thermal velocity in the occupied zone.

Air terminal device: Here you can see and edit one or more devices after you have marked them on the drawing to the right.



This line can be moved up and down in order to see more or less the calculated result as required.





Start air flow

When you want to start the generation of air particles you click on 3 D view and then on the icon "Start" When you want to stop the generation of air particles you click on the icon "Stop air"







Print project



When you click on the print icon the following dialog box appears

Select pages Standard start page	Room dimensioning
Product description	🗖 Flow diffusion
Room design	
1	
Preview 2D Flow diffusion Preview 3D	
m 1 2 3	4 5
-1	
•- • -•	• • •
-2	
.3	
-4	
Help	🔨 ок 🛛 Сапсел

Here you can choose what you want to include in the print.

If you click on OK with the red Adobe-symbol a PDF-file will be created which can be save or printed out afterwards.

If you want to write out directly to the printer you click on the other OK.





A standard print out:



Project notes





Buttons in the 2D-view



The sound pressure level is shown at the height of the occupied zone with different colours when you are under Room.





Buttons in 3D-view







Buttons in the left upper corner:



<u>open exang project</u>, <u>r mit,</u> <u>mit about the program</u>, <u>made tatenale</u>

Project tree gives an overview over rooms and floors. Rooms and floor are added by a/right click on respectively Floor and Room



Note! The Objects do not affect the calculations.



Project options



Under the symbol (wheel) the project setting are done



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icomfort 4.0 - Set		t files and folders	(DIMcomfort 1.2 Setup Project dat Project options Project units	Project files an	nd folders	2
Project data				1	Drawing options			
Project name	Lindab proje	ct			Show grid			
Design date:	13-07-2007		-		Show ruler			
Project number	15-07-2007		<u> </u>		✓ Draw Diffuser Box			
Plant number								
Calculation number							If the walls	
calculation number	1				Animation Graphics		become black	
Note					Show sound levels at air terminal device	e movement	because of the	
					Ability to show and hide walls		graphic card you	
					Show Texture		must be clicked	
Customer		Salesman			Update velocity diagram at air terminal of	device moveme	in Wire frame	
lame		Name						_
					Auto functions		and the program	n
Company		Company			Auto rotate distance (from wall)		must be shut	
Address		Address			Auto snap distance (from wall)		down and	
1441533							restarted.	
elephone Fax		Telephone F	ax		Flow spread boundarybox			
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Video tutorials:

By clicking on Video tutorials you get on overview over the existing video tutorials



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Click on the text of the tutorial you would like to see





Good luck using DIMComfort!

We have the solution...





Charlotte Forsingdal, Juni 2007