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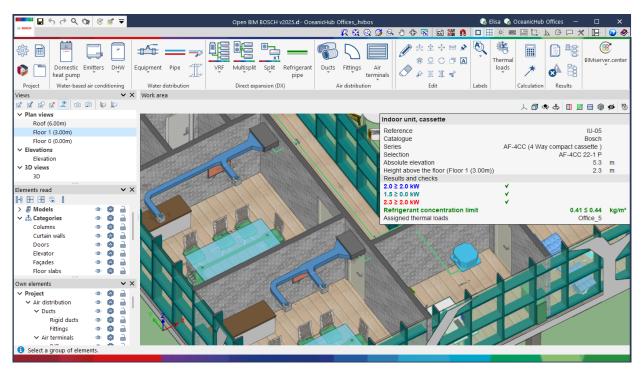
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# 1 Introduction

Open BIM BOSCH is a selection tool which designs air conditioning systems such VRF, Multisplit, split  $1 \times 1$  and Aerothermal.

The programme is integrated into the Open BIM workflow, which allows users to import models from projects stored on the BIMserver.center platform and to form part of the collaborative, multidisciplinary and multi-user workflow provided by Open BIM technology.



To use the software a computer and an internet connection is needed, and a mouse with wheel is strongly recommended.



Download the file and click on it. Once the software has been installed, one icon will appear on the desktop.

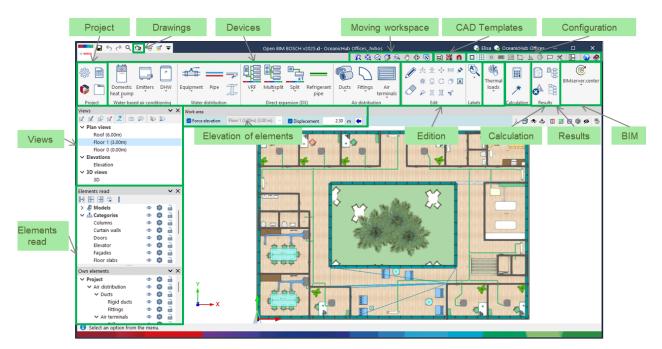


Click **Examples** and open the example called "OceanicHub Offices".

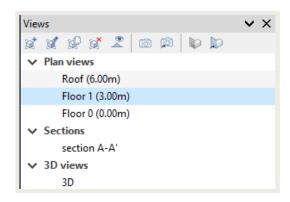


# 2 Interface

In this section, **Interface**, each part of the interface is explained. It is recommended to open the *"Offices"* example to visualise each part of the programme.



#### 2.1 Views



Views are representations of the calculation model application. It is important to note that the components of the model are not linked to the views. Therefore, they can be created, modified, or deleted without affecting the underlying data structure.

**Create.** Creates a new view.



💶 ५०९५ 🕼 🖲 🖛		Open BIM BOSCH v2025.d - Ocean	icHub Offices bybos	🌏 Elisa 🌏 OceanicHub Offices — 🛛	×
		Open Bill BOSCH v2025.0 - Ocean	R & Q G S & O & T		
Project Water-based air conditioning	quipment Pipe	Multisplit Split Refrigerant pipe Direct expansion (DX)	Ducts Fittings Air terminals		2
	Work area				
<mark>∦</mark> 🕺 🖉 🕺 🛣 📾 🗭 🕼 💭 ✓ Plan views				人 🗇 🗢 🖧 🔲 🗹 🖶 💚	Ø 30
Ground floor					
✓ 3D views					
3D lements read X X € EH Ch Ch S Ø Models © @ @ @ & Categories @ Ø @ @		Type of view Floor Reflected ce Elevation Generic 3D view Accept			
wn elements 🛛 🗸 X Project 🛛 🔌 🕲 🔒	×				
Select a group of elements.					

**Edit.** Modifies the view range. All types of views, except the 3D view, are associated with an area delimited by two planes, a top and a bottom plane, which determines the elements that will be represented in the view. In elevation, section, and generic plane views, the top plane is the one that is perpendicular to the direction of vision in a positive direction. The bottom plane is the same, but in a negative direction.

Also works by double clicking on the view name.

			Edit		×
General Configuration	Displacements	DXF-DWG Template			
			Reference Elevation level (2) Distance to the top plane (1) Distance to the bottom plane (3) Use a specific view configuration		
Accept				с	ancel

Duplicate. Copies the current view.

**Delete.** Deletes the current view.

Save the start scene. Sets the current position of the view as the start scene. This scene will be used in the generation of the graphic documentation of the project.



**Go to start scene.** Directs the current view to the position of the start scene.

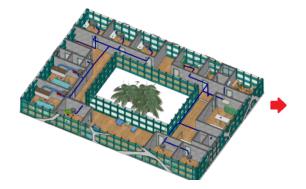
Show references. References to other views will be shown in the active view.

**Define**. Specifies the work plane associated in a 3D view.

**Go to the work plane. (Alt+4)**. Used to restore the view to its original position.

This also works by clicking on the white screen and pressing **Alt+4** (the number above the letters, not F4).

This button allows users to restore the view very easily.





#### 2.2 Moving workspace



🕄 Full window. Places the design in the centre.

You can also press the **mouse wheel twice**.

**Zoom**. Zooms in by clicking on the drawing.

You can also use the **mouse wheel**; in which case you can zoom both in and out.



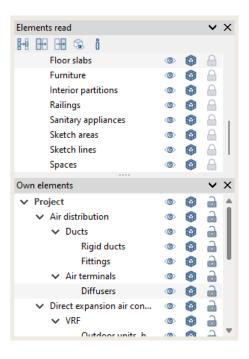
**Move image**. Changes the position of the drawing. To do this, click on the screen and, while holding down the mouse button, move the hand cursor. After the displacement, press this option again to deactivate it and continue with the previous option.

You can also press the **mouse wheel** and, while holding down, **drag** the wheel of the mouse and the cursor becomes a hand. Move it to the right to see how the user's point of view has changed.

**3D orbit**. Rotates the scene around the rotation pivot. To do this, click on the screen and hold down the cursor. If the option **Rotation around a point** is checked, the point below the cursor will be used as a rotation pivot. Otherwise, the pivot will be calculated considering the visible elements of the scene. Once the turn has been made, press this option again to deactivate it and continue with the previous option.

You can also hold down the **mouse wheel and the "Shift"** key to rotate the scene.

#### 2.3 Elements read



In the lower left area, the architectural elements that the programme has read and recognised can be found. The boxes can be used to enable or disable their display. Leave it as below to easily start working with the programme.



**Wisible.** Show and hide by type of element.

**Snap.** If it is unlocked, the unit will try to be placed on its surface when 3D mode is being used.

😰 **Visualization mode.** Can be changed between solid or transparent.

### 2.4 Project



**OBDatabase**. If you register as an Open BIM Systems user, you will be able to download and use the information of the manufacturer products that are available free of charge on the programs connected to the Open BIM Systems Database.

**BIM model.** Found in the BIM model are all the elements placed in the project.

For example, this can be useful for selecting all pipes (Ctrl+A) and easily deleting them.

	Entered e	elements				
66						
	+ 🗗 🗙   🔺 🔻	*				
Accessories	X1 (m)	Y1 (m)	Z1 (m)	X2 (m)	Y2 (m)	Z2 (m
Storage tanks	4.51	13.76	5.30	3.23	13.76	5.3
	3.23	13.76	5.30	3.23	14.40	5.3
🥵 Pumps	2.46	15.94	5.30	3.23	15.52	5.3
🛄 Heat exchangers	4.51	13.76	5.30	5.60	13.76	5.3
	11.05	13.76	5.30	11.05	15.45	5.3
Indoor hydraulic units	11.05	15.45	5.30	10.17	15.94	5.3
	6.44	15.94	5.30	6.84	15.38	5.3
Direct expansion (DX)	6.84	15.38	5.30	6.84	13.76	5.3
🖳 VRF	6.84	13.76	5.30	11.05	13.76	5.3
H Multisplit	4.51	9.98	5.30	5.39	9.98	5.3
Τ 📇 🕴	5.39	9.98	5.30	5.60	13.76	5.3
🚛 🔤 Split 1x1	5.60	13.76	5.30	6.84	13.76	5.3
	5.39	9.98	5.30	5.39	7.28	5.3
- Manifolds	5.39	3.37	5.30	4.83	3.37	5.3
	4.83	3.37	5.30	4.66	3.15	5.3
Refrigerant pipes	7.25	1.35	5.30	7.56	1.35	5.3
📖 ෩ Air distribution	7.56	1.35	5.30	7.56	3.37	5.3
- Fans	7.56	3.37	5.30	5.39	3.37	5.3
Heat recovery units	4.46	7.55	5.30	4.56	7.28	5.3
	4.56	7.28	5.30	5.39	7.28	5.3
🕥 Rigid ducts	5.39	7.28	5.30	5.39	3.37	5.3
Semi-flexible ducts	24.87	5.71	5.30	24.87	6.22	5.3
Flexible ducts	24.87	6.22	5.30	19.93	6.22	5.3
	19.93	6.22	5.30	19.93	12.60	5.3
	40.00	10.00	5.00		10.00	





General options	×
Design and checks	<b>.</b>
Refrigerant concentration limit	
Automatic path	
External conditions	
Internal conditions	
Results output	
Accept	Cancel

**Refrigerant concentration limit**. The programme calculates the total concentration of refrigerant R-410A or R32 charge.

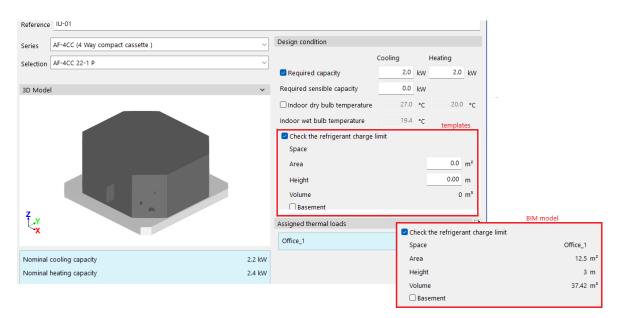
	Refrigerant concentration limit ×					
Check the refrigerant charge limit R-410A (EN378)						
Type of building Category B: Household, commercial, teaching, public attendance $\sim$						
	Refrigerant concentration limit	0.44 kg/m³				
Check the refrigerar	Check the refrigerant charge limit R32 (IEC 60335-2-40)					
Accept		Cancel				

This feature must be activated in each indoor unit panel.

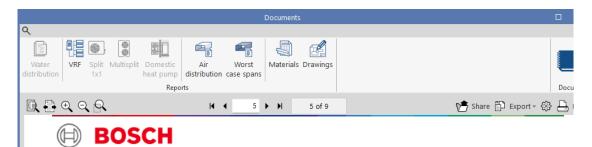
**For projects without a BIM model:** The user must manually input the area and height of the room.

**For projects with a BIM model:** The program automatically reads the rooms and detects the indoor units located within them.





	Indoor unit, cassette		
	Reference	IU-01	
	Catalogue	Bosch	
7101 - 1101 FRID 110 FRID 110 F	Series	AF-4CC (4 Way compact cassette )	
	Selection	AF-4CC 22-1 P	
	Absolute elevation	5.3	m
	Height above the floor (Floor 1 (3.00m))	2.3	m
	Results and checks		
	2.0 ≥ 2.0 kW	✓	
	1.5 ≥ 0.0 kW	✓	
	2.3 ≥ 2.0 kW	✓	
	Refrigerant concentration limit	0.37 ≤ 0.44	kg/m <sup>a</sup>
	Assigned thermal loads	Office 1	



#### 2.4. Refrigerant charge

Standard factory refrigerant charge: 11 kg Extra refrigerant charge: 2.8 kg Total load: 13.8 kg

#### R-410A (EN378)

Space	Area	Height	Volume	Indoorunits	Туре	Reference	Byducts	Total	Refrigerantconcentrationlimit	
Office_1	12.5 m²	3 m	37.42 m³	1	Indoorunit,cassette	AF-4CC22-1P	No	13.8kg	0.37 kg/m³ < 0.44 kg/m³	¥
Office_2	12.5 m²	3 m	37.55 m³	1	Indoorunit,cassette	AF-4CC22-1P	No	13.8kg	0.37 kg/m³ < 0.44 kg/m³	*
Office_3	11.8 m²	3 m	35.34 m³	1	Indoorunit,cassette	AF-4CC22-1P	No	13.8kg	0.39 kg/m³ < 0.44 kg/m³	*
Office_5	11.2 m²	3 m	33.44 m³	1	Indoorunit,cassette	AF-4CC22-1P	No	13.8kg	$0.41  \text{kg/m}^3 < 0.44  \text{kg/m}^3$	*
Corridor	103.4 m²	3.1 m	321.43 m <sup>3</sup>	1	Indoorunit,floor-standing	AF-FC36-1	No	13.8kg	0.04 kg/m³ < 0.44 kg/m³	¥ .
Meetingroom	20.5 m²	3 m	61.47 m³	1	Indoor unit, with distribution using ducts	AF-DL 17-1 P	Yes	13.8kg	0.22 kg/m³ < 0.44 kg/m³	¥ .
Boardroom	20.3 m²	3 m	60.91 m³	1	Indoor unit, with distribution using ducts	AF-DL 17-1 P	Yes	13.8kg	0.23 kg/m³ < 0.44 kg/m³	¥ .



**External conditions.** Enter the outdoor design conditions of your project. Data can be typed in or, if unsure, click the blue arrow to access the ASHRAE database, select the city, and the fields will be filled in.

External conditions			×
Outdoor air			
Altitude	0.00	m	
Summer dry bulb temperature	35.0	°C	•
Summer wet bulb temperature	22.0	°C	
Winter dry bulb temperature Winter relative humidity	7.0	°C %	
Winter wet bulb temperature	5.4	°C	
Air properties		0	
Barometric pressure	10.33 n	nwc	
Air density Calculated V	1.20 kg	/m³	
Accept		Ca	ncel

ASHRA	AE Weather Data	Viewer	6.0	×
	WMO region	n	6 - EUROPE	~
®	Country	Germa	ny	~
ASHRAE	Station name	e	STUTTGART FILDERSTADT	~
AUTTAL	Annual perce	entile va	lue (Heating)	99% ~
	Annual perce	entile va	lue (Cooling)	
	Annual te	mperat	ures	1% ~
Weather Data Viewer 6.0.	Monthly temperatures			2% ~
2017 ASHRAE, www.ashrae.org	Latitude (°)			48.69 N
Used with permission.	Longitude (°)			9.22 E
	Altitude			389.00 m
The data are provided "as is" without as to the quality and performance of any damages, including without limit consequential damages arising out of	the data is with itation any lost p	you. In profits, I	no event will ASHRAE be liat ost savings, or other incident	le to you for
Accept				Cancel



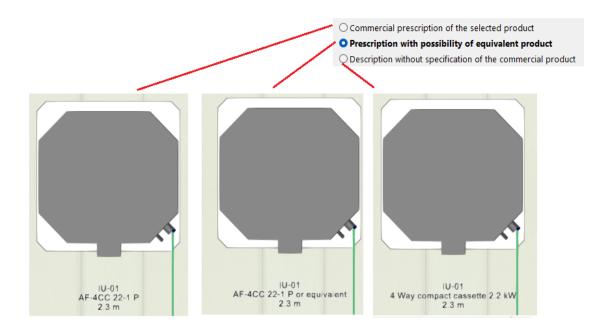
لججا		
—ζ⊚	Results	output:

Results output	×
Show maintenance areas	
Opacity	20 %
Prescription options	
Using this option you can configure the documents produced by the pr reports, quantities, etc.), and establish the criteria when generating the c equipment, materials or services selected from catalogues that have bee from the Open BIM Database and included in your project.	description of
Commercial prescription of the selected product	
O Prescription with possibility of equivalent product	
O Description without specification of the commercial product	
VRF, Multisplit, Split 1x1, Domestic heat pump	
Labels	
C Key	
☐ Туре	
Reference	
Selection	
🗹 Length	
✓ Dimensions	
Elevation	
Text size	50 mm
Accept	Cancel

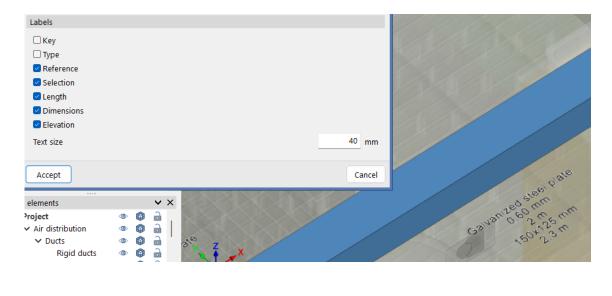
**Show maintenance areas**. Users can enable or disable the display of the maintenance space in the workspace.



#### **Prescription options:**



#### Labels: The information can be configured.





#### 2.5 Devices

	۲			<b></b> \$\$\$					6	$\Box$	
Domestic Emitters heat pump	DĤM	Equipment	Pipe		VRF	Multisplit	Split	Refrigerant pipe	Ducts	Fittings	Air terminals
Water-based air conditioning Water distribution				Direct exp	ansion (D	X)	A	ir distribut	ion		

**VRF.** To design a VRF system, users enter the unit and connect it to the pipes. The programme checks that the line lengths, maximum connected capacities, component selection, and pipe schemas are within the system requirements.

Select a cassette unit. In **Reference** you can give it a name. It is useful for recognising it later in the flow diagram and calculation report, but it is not mandatory.

_		Indoor unit, cassette			×
		BOS	CH		
Reference					
Series	AF2-4CC (4 Way compact cassette)	~	Design condition		
Selection	AF2-4CC 15-1 P	~		Cooling	Heating
			Required capacity		
3D Model		*	Required sensible capacity		
			Indoor dry bulb temperature		
			Indoor wet bulb temperature	19.4 °C	
			□ Check the refrigerant charge li	mit	
₹ ↓×			Assigned thermal loads		ē
Nominal o	cooling capacity	1.5 kW			
Nominal ł	neating capacity	1.8 kW			
Panel		AF2-P 4CC			
Compatib	le outdoor unit AF4300A_R32, AF4300A_R-41	10A, AF5301A, AF6300AC			
🗌 Individu	ual control				
Series	Infrared Room Controller	~			
Selection	ARC C IR	~			
Accept	]				Cancel



If we check the **Required capacity** option, the program will select the model that meets the specified value during sizing. If we do not specify a value for the required capacity, the software will retain the existing model during sizing.

Air-source Heat Pump. Compact and split aerothermal systems can be inserted.

## 2.6 Elevation of elements

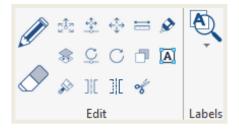
Work area									
Force elevation	Floor 1 (3.00m) (3.00 m)	~	🕗 Displacement	2.30	m	<b>(</b>	Points	<u>×</u>	*

There are 2 ways of inserting units.

**Force elevation** Force elevation. If you choose Force elevation mode, the units will be located at the height of the current floor plus the displacement height.

**Force elevation**. If you leave the **Force elevation** unchecked, the height will be the same as the captured height.

### 2.7 Editing



**Edit**. Opens the unit panel.

You can also **double click** the mouse.

**Delete**. Press **Delete** and then, select the object you want to delete. The object will turn orange. To finish the selection and execute the operation, press the right mouse button.



You can also select the objects directly and press **Delete** on your keyboard.

To select several objects, you can select them one by one by holding down the **Control** key, or by creating a selection box.

Move a group of elements. Press Move group and then select the desired objects. Press the right button to finish the selection. Then, click on the reference point where you want to move the group. Move the mouse cursor and click to select this new position.

**Move**. Press **Move point** and pick an object. Click on a different place on the screen.

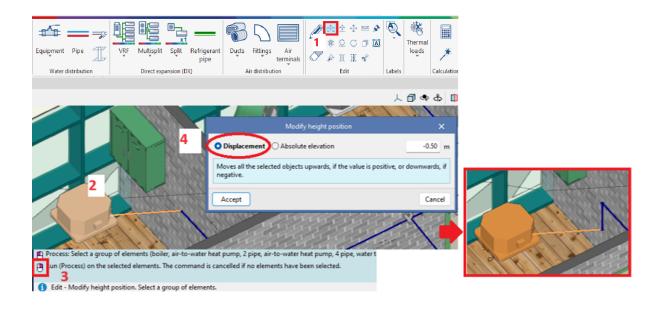
By default, this is what a single mouse click does.

**Rotate a group of elements**. Press **Rotate group** and the select the desired group. Finish your selection by pressing the right mouse button. Then click the pivot point and see how the group rotates. Click on the final position.

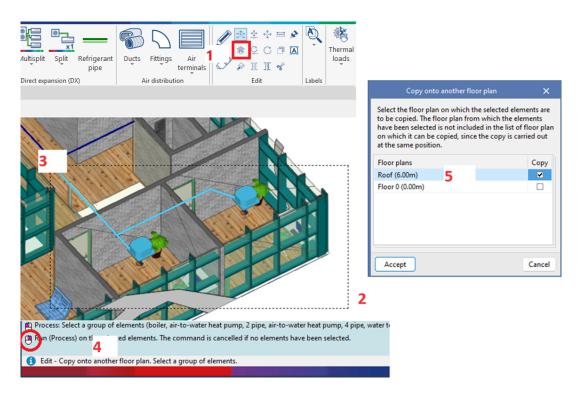
**Rotate**. Press **Rotate** and then select a single element. A pink lever will appear, click on it to rotate, click again to secure it into its final position.

**Copy**. Press **Copy** and then select a group of elements. Press the right mouse button to finish the selection. Then select the desired point. Click where you wish to place the copied object.

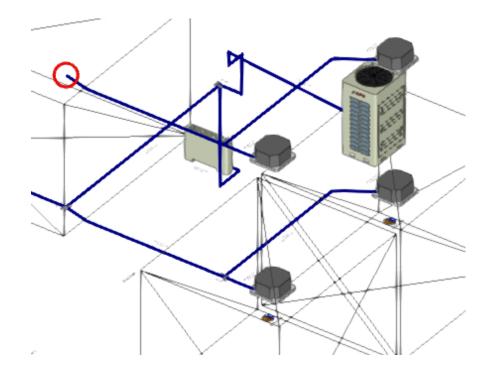
**Modify height position**. Even when moving units vertically, the vertical pipes are created automatically.



**Copy onto another floor plan**. Press this button and select one or more objects. Click the right mouse button to finish the selection. Select the floors where you wish to copy the selection.







#### 2.8 Calculation



**Analyse**. By pressing this button, the programme runs a calculation process. The tool checks that the piping routing is correct, the pipe lengths are in the permitted range and displays errors if something must be corrected.

The software selects the size of the **pipes** and Y branches. Make sure that **Tooltips** is activated in order to see the results on screen.

(Please activate this button to view the tooltips)





Place the mouse cursor over the outdoor unit to see all the compliances. This list will be included in the calculation report.

	~	· · · · · · · · · · · · · · · · · · ·	- 1¢1
	Outdoor unit, heat pump (2 pipe)		
	Reference	OU-1	
	Catalogue	Bosch	
	Series	AF5300A	
	Selection	AF5300A 25-3	
	Absolute elevation	7.0	m
	Height above the floor (Roof (6.00m))	1.0	m
	Power (Cooling)	16.0 / 25.2	kW
	Power (Heating)	17.3 / 27.0	kW
See	Refrigerant	R-410A	
	Results and checks		
	Connected indoor units	1 ≤ 8 ≤ 13	
	Connection ratio for cooling	50.00 ≤ 76.98 ≤ 130.00	%
	Connection ratio for heating	81.48	%
	Total pipe length	51.7 ≤ 1000.0	m
	Real pipe length to the furthest unit	26.9 ≤ 175.0	m
	Equivalent pipe length to the furthest unit	30.4 ≤ 200.0	m
	Real pipe length to the furthest unit, from the first branch	18.3 ≤ 40.0	m
	Real length of the pipe between the indoor unit and the bran	ch 3.1 ≤ 20.0	m
	Difference in height between indoor and outdoor units	4.0 ≤ 90.0	m
	Difference in height between indoor units	2.3 ≤ 30.0	m
	Total refrigerant load	13.80 ≤ 23.90	kg

Place the mouse cursor over an indoor unit. The cassette from this space has been selected.



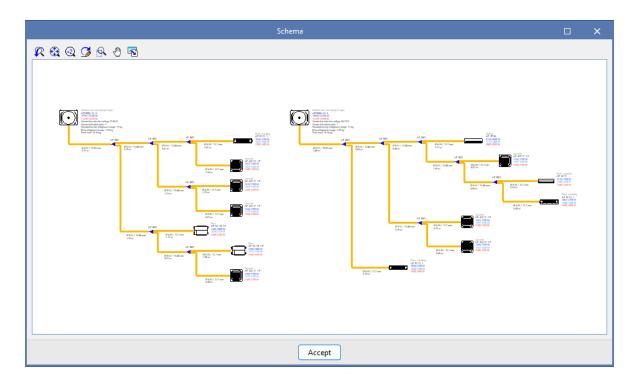
The software also selects the **size** of the **units** according to the thermal loads.



#### 2.9 Results



**Schema**. The flow diagram is automatically generated. It is also included in the calculation report, but users should check the schema to assure that the system is well connected whilst they are designing.



**Calculation report**. Compliance, schema, wiring, corrected capacities: all of this information is in the project report. It can be exported in PDF.

¢	BC	S	СН	

۹		Do	cuments	5						×
VRF Split Multisplit Dom 1x1		ution case sp		laterials	Drawir	ngs			Docum	ment
	<b>H</b> •	4	×	4 o	f 9		📌 Share 🕯	D Export - 《핫	} 📇 P	rint
	BOS	сн								
	2.AF5300A2 2.1. Indoor un									
	Selection Reference	Space India	ridual control	The	rmal capac	ity(Nominal/Corr	ected/Required)			
	AF-4CC 17-1P	Office_1		Cooli 1700/150 W		Sensible 1200/1181/99 W	W			
	AF-4CC 17-1P AF-4CC 17-1P	Office_2 Office_3		1700/15 W 1700/15	56/1179	1200/1187/10 W 1200/1173/94 W	W			
	AF-4CC 17-1 P	Office_5		1700/15 W	50/1115	1200/1175/89 W				
	AF-FC 22-1	Corridor		2200/19	14/0W	1500/1425/0	W 2400/2330/0W			
	AF-DL 28-1 P	Meeting		2800/25 W	56/2050	2100/2078/16 W	40 3200/3100/2050 W			
	AF-DL 28-1P	Boardroom		2800/25 W	50/2032	2100/2072/16 W				
	Selection         Distance of the selection           AF5300A         25200/107	acity(Nominal/Corrected) Heating	Stand and fact	R oryreffigerantof 11 kg	efrigeran 1974 ) arge Extra	0A eMgesantchasgeili 2.16kg 1	fabilised control 3.16kg			
	2.3. Checks	Name			Design	Specification	Meetsthereouirements			
	Connectedindooru				7	13	¥			
	Connection ratio fo	-			57.94%	50% - 130%	¥			
	Connection ratiofo Total pipe length	rneating			69.84% 42.28m	50 % - 130 % 1000 m	✓ ✓			
	Real pipe length to	the furthest unit			16.03m	175m	Ý			
	Equivalent pipe ler	-			19.03m	200 m	¥			
	Real pipe length to Real length of the p				12.72m	40 m	*			
	branch	-			6.91m	100 m	*			
	Difference in heigh Difference in heigh			units	3m 2.3m	110m 30m	✓ ✓			
						1				
Accept									Ca	ncel



**Show/Hide incidents.** Errors and warnings can be shown or hidden.

## 2.10 Drawings





**5** Undo. Ctrl+Z



**Redo**. Ctrl+Y

			Drawing editor (Plans of the views) X
Drawing selection			Reference
+ 🖉 🖃 🗙   🔺 🔻			Views
Draw Name	With textbox	Periphera	era Draw Plane
	✓	DWG	Roof (6.00m)
			✓ Floor 1 (3.00m)
			Floor 0 (0.00m)
			section A-A'
			Schema (Direct expansion (DX))
			Control diagram
			Options  enerate vector images  raw the DXF/DWG template
Accept Title block Sa	ve Layers	]	Scale 1: 100 Details
			Accept Cancel

Select DXF/DWG template.

Drawing selection		×
+ 🥒 🖃 🗙   🔺 🔻		
Draw Name With textbox Peripherals		
DWG		$\sim$
Accept Title block Save Layers	С	ancel



Drawing layout:	C X
Image: New Delete empty Centre all Centre selected drawings         Image: Delete empty Centre selected drawings	Print Print selection $\mathcal{R}$ $\mathfrak{G}$ $\mathfrak{G}$ $\mathfrak{G}$ $\mathfrak{G}$ $\mathfrak{G}$ $\mathfrak{G}$
(1)A3	
(3)A3	(4)A3
Group: DWG	

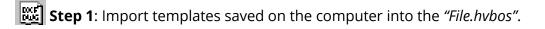
Select where to save the files.

Filenames	×
Directory: C:\Users\ProgElisa\Documents\_ELI\PROYECTOS\OceanicHub Offices	ß
One drawing per rice	
○ All the drawings in one file	
Prefix FILE	
Starting with 1	
From: FILE01.DWG	
To: FILE04.DWG	
Accept	Cancel

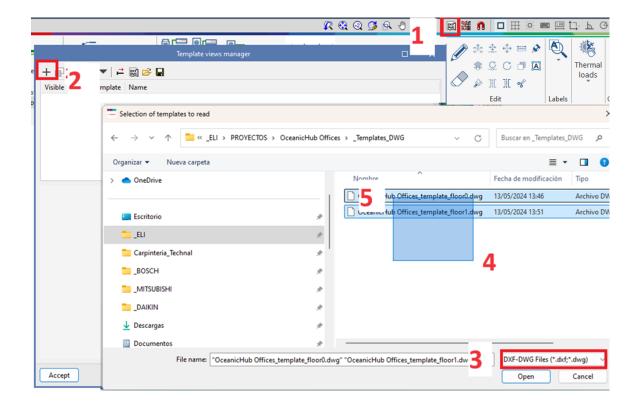
## 2.11 CAD Templates



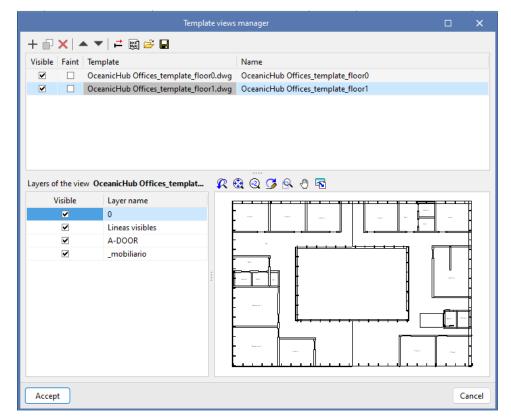
If users have CAD templates but not a BIM model of the building, Open BIM BOSCH can be used in isolation. In this case, CAD templates may be imported.







#### Several files can be selected at the same time by pressing the **Shift** key.



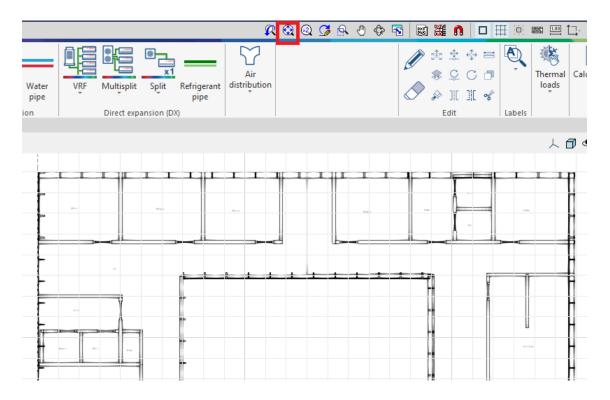


**Step 2**: Choose which template will be visible on each view:

• On floor 0, select the template "Floor 0"

Views		Work area	
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✓ Plan views			_
Roof			
Floor 1			
Ground floor		General Configuration Displacements DXF-DWG Template	
✓ 3D views		Selected View	
3D		CeeanicHub Offices_template_floor0	
		OceanicHub Offices_template_noor0     OceanicHub Offices_template_floor1	
Elements read	~ :		
👬 🕀 🕀 😪 Ö			
H H G i	0		
Ø Models			
Ø Models		Accept	Cancel

Double click the mouse wheel in order to centre the drawing (or press Full window).



Repeat this assignment for the rest of the floors.

**Scale templates**. The DXF/DWG template may have a scale. In general, drawings usually have DIN A0, A1, A2, A3 or ANSI A, B, C, D or E dimensions. Measure the template to detect its size.



VŖF	Multispli Direct e	it Split	Refrigerant pipe X)	*	Fittings	terminals		ا[ 🗞	: ∲ 😑 2 C 🗇 [][ % dit		Thermal loads	Calculation	Res	aults
m)		Displ	acement	0.00	) m	Poin	nts 🗴	*						
			0.89 (	n	84.	13°								

To modify the scale, select the **Template** button again. The scale can be modified as follows:

**Option 1:** In the *"Scale in X and Y"* fields.

**Option 2:** If the scale is unknown, it can be introduced as a known dimension, such as a door.

Tem	olate views manager	□ ×	~ 1
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Visible Faint Tempinge Nam	Transformation		
Floor 1 template.dwg Floor     Floor 1 template.dwg Floor		e click	
	Rotation angle 0.0000	30.669	
	Accept		Cancel



*If there are several templates, the scale must be changed in each template.* 

#### **Origin of coordinates**

Good practice: place the origin of the coordinates at a known point. Do this in each template.

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		Transfor	mation			œ		×
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Disp	placement in Y	0.0000 1	X origin:	1.960				
Scale	le in X	1.2821	Y origin:	13.023				
Scale	le in Y	1.2821	Width:	28.964				
Rota	ation angle	0.0000 段	Height:	30.669				
Ad	ccept						C	ancel

**Change the colour**. The colour of the CAD layers can be changed here:

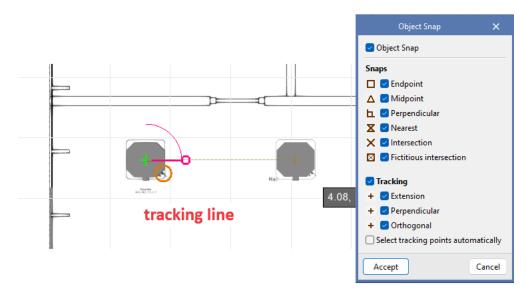
	Template views manager		×
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		Colour se	lection
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Accept	<		
0	Accept		



## 2.12 Configuration



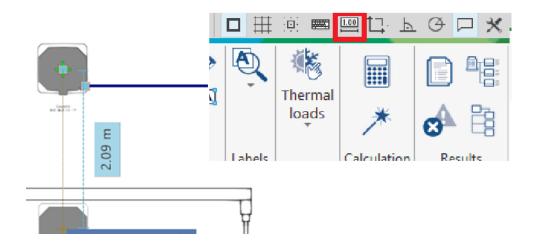
**Object snap**. It is strongly recommended to have all the object snaps like this.



**Grid**. Users can activate or deactivate the grid.

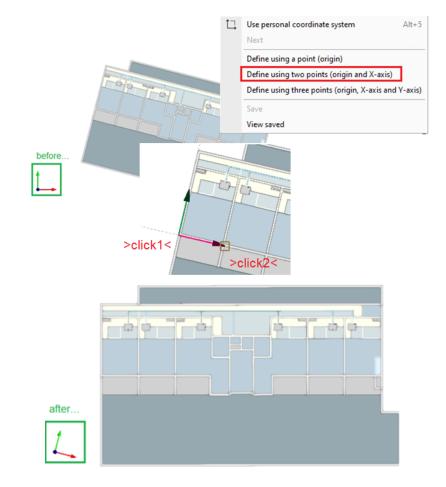
Snap to grid. Users can activate it if they want to enter units according to the grid.

**Introducing elements with defined distances**. If this tool is activated, the programme shows distances to other elements while users are inserting objects. By clicking on it, a field appears where users can type in the desired measurement, and press enter (2 metres in this example).



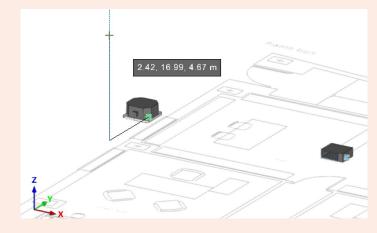


**Personal coordinate system**. Sometimes the building is not aligned with the "x" and "y" axes. In order to work easily, you might need to rotate it to work orthogonally.



**Orthogonality and polar tracking.** It is recommended to disable it.

While users are drawing, the programme usually draws orthogonally and helps users by highlighting a projection in the colour of the axis.



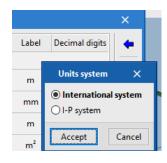


# General configuration

**Units**. You can configure the units and the number of decimals.

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Primary measure units	Units General measure uni	ts Thermal n	neasure units	×	n	(*)       	Documer Drawings Details	nt text styl	es
,	Units	Label	Decimal digits	-	1	A <sup>A</sup>	Font size		
Length	m	m	1	•		3D)	Backgrou 3D perfo	ind colour	
Diameter	mm 🗸	mm	5			Ś	Undo/Re		
Dimension	m cm	mm	0				Automati	ic saving c	ption
Thickness	mm ft	mm	1				0		
Absolute roughness	in	mm	3				ő		

You can configure them one by one, or all at once with the blue arrow.



Autosave. Configure the autosave as shown in the image.

Automatic saving options	×	G (1)	Automatic updates
Automatically save every 5	minutes		Units
Save after analysing or designing		] 🏈	Printer
Accept	Cancel	E	Document text styles
Accept	concer	Ð	Drawings
		R.	Details
			Send job
		AA	Font size
		Dilb	Background colour
		3D	3D performance
		5	Undo/Redo
			Automatic saving options

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## 2.13 BIM export/Import





**Update Update**. Updates the model when some IFC of the project has changed (for example, architecture, thermal loads, etc.).



Share. Exports the IFC of the installation and the calculation report.



# **3 How to create a project**

Open BIM BOSCH can be used with CAD templates (as a standalone tool) or integrated into a BIM project (using a 3D architecture).



With CAD Templates (no BIM) Import CAD templates to quickly create a system.





3.1 A) With CAD templates (no BIM)



Create a new project.

Project selection	×
Link to a BIMserver.center project	
Accept	ancel

The wizard helps to create the floors and import the cad templates. Anyway, after you can modificate all this. See the part *2.1. Views* and *2.11. CAD Templates* 



## 3.2 B) With BIM project



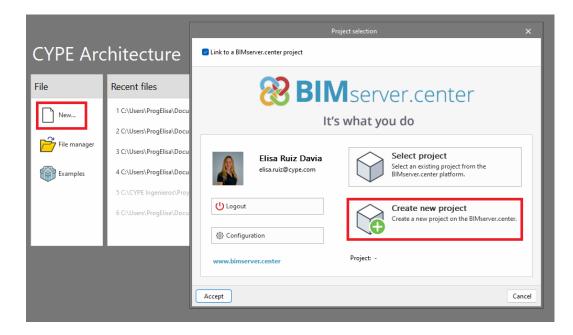
# *3.2.1 Achieve the Building Geometry and Create the BIM Project*

The building geometry may be generated using any 3D architectural modelling software. If the architect does not use 3D modelling tool, the HVAC technician can take responsibility for creating the BIM project.

If the architectural software belongs to CYPE, it is already configured to create the 3D building geometry and create the BIM project directly within the program. CYPE applications, such as CYPE Architecture and IFC Builder, include buttons to export and create the BIM project on the platform.

Below are some examples to help you get started.

**CYPE Architecture**. Generating a simple 3D model is simple. In the **Create a new file** process, the project setup wizard helps users create the BIM project.

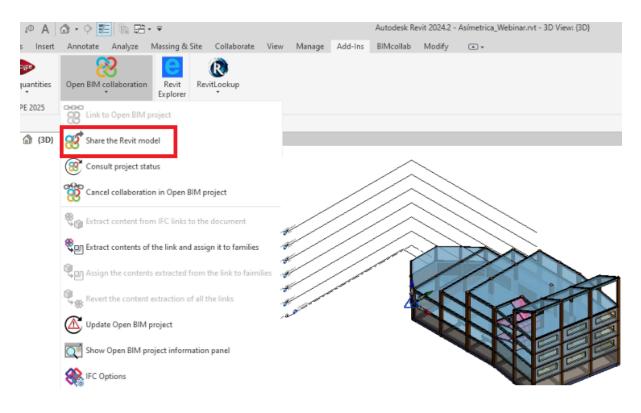


DOCCU	
BOSCH	

After designing the building geometry, click **Export**, and leave the check "export DWG" on.

CYPE Architecture v2025.b - Hostal_mio.str	🗞 Elisa 🗞 Hostal — 🛛 🗙
	通 📟 🖳 占 🕑 🛅 🟳 🗶 唱 🕥 🔗
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人 @ 《 W Drawing Const layouts syst	Tuction Bills of Electrical Urban Structural tems quantities mechanisms planning analysis
	ation results and upload them as a project located on BIMserver.center.

**With Revit**. CYPE has developed a complement which has been installed in the ribbon. The BIM project must be created directly in the software itself, by clicking **Export**.





**With other 3D modellers (file.ifc)**. There are several modellers available on the market, and all of them are generally able to export a IFC file with its geometry and data due to a standard code.

Users can integrate any IFC file into the BIM workflow:

• Creating the BIM project directly in BIMserver.center.

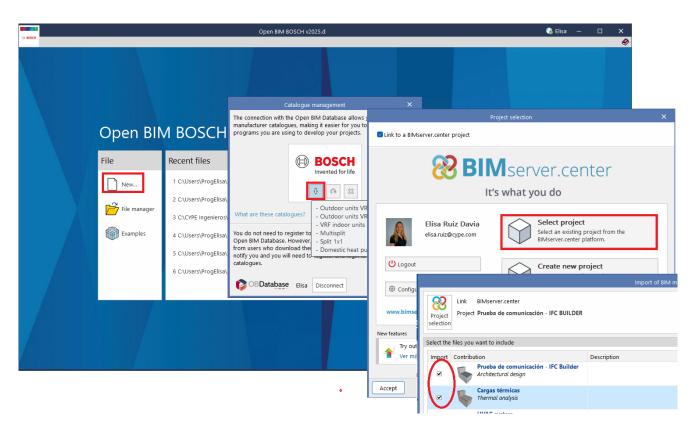
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😻 BIMserver.center ⊅					Elisa Ruiz Davia 🏚 👻	🏢 🗢 🦨 ර
Elisa Ruiz D. elisa-uus degeco verrimp public pro Community De Projects	m ofile (2*	 New project Name* Lubrary Description This is the BIM project Project type selection* Professional Toolse selection The selection select	•	Pending requests	Rew project         Search         Sort by activity         Tag:         Verv only my projects	14 14 2 3 3 3 3 3 3 3 3 3 3 3 3 3

Regardless of the 3D geometry generator used (CYPE Architecture or Revit), it is good practice to check that the file has been uploaded to the platform. Sometimes offices have restricted internet access for employees, if you have any problems, please contact technical support.

#### *3.2.2* Connect Open BIM BOSCH to the BIM Project

Users must create a new project and link it to a BIM Project. The building geometry will be automatically included. If thermal loads have been calculated, include them.

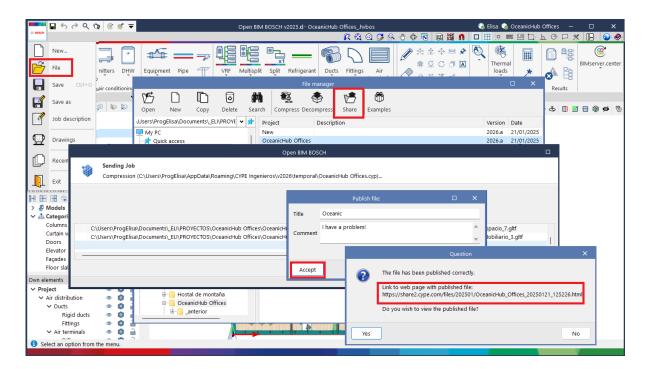






# 4 Contact

**Sharing files**. Sometimes users may wish to send the *"File.hvbos"* to other colleagues (illness, holidays, etc). Besides the traditional ways, (email, We Transfer, etc) CYPE programmes have a more direct method for sending files, (regardless of their size):



#### Support

Using the programme, browsing through the user interface, designing with the software, and obtaining the finished model will become clearer after completing this Open BIM BOSCH manual. If you still have questions, problems, or need more information, please visit our website (<u>https://learning.cype.com/en/technical-support/</u>), or contact CYPE.