



Open BIM Panasonic

User's Manual

Design of PANASONIC VRF and Air-source heat pump systems.



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1 Installation

1.1 Objective

Open BIM PANASONIC is a selection tool which designs variable refrigerant flow (VRF) systems 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.

1.2 Material

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



1.3 BIMserver.center

In order to use the platform, download the software, and store the projects, an account must be created.





1.4 Software Installation

Go to the store and download Open BIM PANASONIC.

	ore.bimserver	center/en/	
BIMserver.ce	enter St	ore	
Categories	Search	Tags	
pana			
Panasonic		Free 1550 Panasonic Ma	
Panasonic Intro Linky Lakin			
		1550 Panasonic Ma	

Download the file and click on it.







During the installation, check this box:



Once the software has been installed, two icons will appear on the desktop.



1.5 Opening examples

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

File	Recent files	Help
New	1 C:\CYPE Ingenieros\Examples\Open BIM PANASONIC\Hostal.pan 2 Without file	 Program documentation Open BIM Panasonic - User's Manual New features
File manager	3 Without file 4 Without file	 Program License Contract Responsibility clause About
	5 Without file 6 Without file	La About
	More	



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.

Type of view 🛛 🗙
Floor
O Reflected ceiling
◯ Elevation
○ Section
⊖ Generic
◯ 3D view
Accept Cancel

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	Reference Floor 1 (3.00m) Elevation level (2) 3.00 m Distance to the top plane (1) 2.70 m Distance to the bottom plane (3) 0.00 m Use a specific view configuration for the view	
Accept	[Cancel

Duplicate. Copies the current view.





Delete. Deletes the current view.

foi . **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.



Moving workspace 2.2





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.

Spaces. You are using a model that has already been loaded in the example. Place the mouse on the border of a space, and check that it turns blue. Click to view the panel with thermal loads and indoor design conditions.

Elements read				~	
H HE HE & i					Space
> 🖇 Models	۲	۲	2	^	
✓ ♣ Categories	۲	0	2		Reference Meeting room
Columns	۲	۲			Nereience meeting toons
Rail supports	0	0			
Curtain walls	۲	0			Thermal load
Doors	0	0			Total cooling load 2.3 kV
Furniture	0	۲			
Railings	28	0			Sensible cooling load 2.0 kV
Sanitary appliances	0	٢			Heating load 1.0 kV
Sketch lines	@	٩			
Sketch areas	۲	٢			Design parameters
Floor slabs	@>	٢			
Spaces	٢		3		Cooling temperature 24.0 °
Stairs	۲	0		~	Relative humidity 50.00 9
					Heating temperature 21.0
					Checks
					Area 20.54 m
					Height 3.00 r

Accept

Cancel



2.4 Project

OBDatabase		کی کے کھی کی کھنے کے کھن ک Ceneral options	
Pr	Climate data		

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.

		×							
	Ö		~~~~				Ů		_
Pipes + ×	• •								
X1 (m)		Y1 (m)	Z1 (m)	X2 (m)	Y2 (m))	Z2 (m)	^
	4.57	9.4	42	5.00	5.4	3	9.42	5.00	
	5.43	3.1	74	5.00	3.9	1	3.74	5.00	
	3.91	3.1	74	5.00	3.9	1	1.73	5.00	
	3.91	1.7	73	5.00	2.7	8	1.73	5.00	



General options	×
Calculation options	
Check the limit refrigerant charge R-410A (EN378)	
Type of building Category B: Household, commercial, teaching, public att	endance 🗸
Limit refrigerant concentration	0.44 kg/m³
Check the limit refrigerant charge R32 (IEC 60335-2-40)	
Equivalent length	
Ratio	1.20
Drawing options	
Show maintenance areas	20 %
	_
Report options	
Show equipment images in the materials report	
Pipe auto-routing	
Relative installation elevation	2.70 m
Accept	Cancel



<u>Limit refrigerant charge</u>. If the calculation of the limit is activated, after sizing, the programme calculates the total concentration of refrigerant charge. A BIM building (with spaces) and a system is necessary to carry out this calculation. In the example, double click after update results or sizing.

Space	×
Reference Boardroom	
Thermal load	
Total cooling load	2.3 kW
Sensible cooling load	2.1 kW
Heating load	0.8 kW
Design parameters	
Cooling temperature	24.0 °C
Relative humidity	50.00 %
Heating temperature	21.0 °C
Checks	
Area	20.32 m²
Height	3.00 m
Volume	60.95 m²
Refrigerant charge R32	4.01 ≤ 6.44 kg ¥
✓ Consult checks	
Accept	Cancel

<u>Drawing options</u>. Users can enable or disable the display of the maintenance space in the workspace.

<u>Report options</u>. 3D views may or may not be displayed in the material list report.

Climate data. 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.

Location data		×
Reference ALICANTE		•
Altitude	43.00 m	4
Summer dry bulb temperature	32.8 °C	
Winter dry bulb temperature Relative humidity of the air, in winter	4.7 ℃ 80.00 %	
Accept		Cancel



ASHRAE	Weather Data Vi	ewer 6.0		×			
	WMO region	6 - El	JROPE	~			
®	Country Sp	ain		~			
ASHRAE	Station name		A CORUNA	~			
AOUUNAL	Annual percent	ile value (H	eating)	99% ~			
	Annual percentile value (Cooling)						
	Annual temperatures			1% ~			
Weather Data Viewer 6.0.	Monthly temperatures			2% ~			
2017 ASHRAE, www.ashrae.org	Latitude (°)			43.30 N			
Used with permission.	Longitude (°)			8.38 W			
	Altitude			99.00 m			
The data are provided "as is" without warranty of any kind, either expressed or implied. The entire risk as to the quality and performance of the data is with you. In no event will ASHRAE be liable to you for any damages, including without limitation any lost profits, lost savings, or other incidental or consequential damages arising out of the use or inability to use the data.							
Accept				Cancel			

Zones. If CYPETHERM LOADS has been used to calculate the thermal loads, here the group of spaces and simultaneous loads will be shown. This zone load will be used to calculate aerothermal sizing.

2.5 Units



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. In this pop-up, you can see all the cassette models from the catalogue.



	VRF inde	oor unit: Cassette	×
<i>~</i>			Panasonic heating & cooling solutions
Reference]
Show the equipment that is suitable	e for each type of refrigerant: 🛛 🖳	R-410A 🗌 R32	
4-way Cassette 90x90 (MU2) → Refrigerant: R-410A, R32 Cool air flow: 242 I/s	S-22MU2E5B V	Main remote control	Time Remote Controller (wired) CZ-RTC5B Time Remote Controller (wired) CZ-RTC5B None V
Design requirements		人 🗊 🧔 🗣 🖧 📋	E S
Heating dry bulb temperature Cooling dry bulb temperature Relative humidity Cooling wet bulb temperature	20.0 °C °		
Thermal loads			
Total required cooling capacity Required sensible cooling capacity Required heating capacity	0.0 kW 2 0.0 kW 2 0.0 kW 2		
Checks			
Total cooling capacity Sensible cooling capacity Heating capacity	Nominal Required 2.2 kW 0.0 kW 2.2 kW 0.0 kW 2.5 kW 0.0 kW		
Accept			Cancel

If a field has a padlock, it means that the data will be chosen by the programme during the sizing process. Design conditions and thermal loads will be read from the space, and the model will be selected by the programme. Users can change the field's value by locking the padlock and entering a desired parameter (however, this is uncommon).

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

2.6 Inserting units

∰ 💯 Floor 1 (3.00m) (3.00 m) ∨	🗹 Displacement	1.80 m 🗲	⇔ î ⇔ l 🌽
--------------------------------	----------------	----------	-----------

There are 2 ways of inserting units.



2D. If you choose 2D mode, the units will be located at the height of the current floor, or at the height of the current floor with a displacement.

3D. If you choose 3D mode, and a component of the model is captured (a unit, another pipe, a roof surface), the unit will be entered at the same height as the component. This is useful for inserting pipes.

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 Calculations



Design. 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.



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





Click on it in order to open the panel. The data has been read.



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

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



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.

		VRI	F					×
*	€ € €		3	×	3 of 1	0	Share	Б
Calculatio	1.							^
Concuration	1.1. Project Com	pliance						
		Checks	1	Design	Specification	Meetsthe requirements		
	Connectionratio			114 %	50 % - 130 %	*		
	Connected Indoor unit	5		6	0 - 8	¥		
descent sectors and se	Total pipe length			39.09 m	180.00 m	*		
	Real pipe L1			L4.97 m	90.00 m	×		
	Equivalent pipe L1			17.96 m	100.00 m	*		
	Pipelx (11, 12,, In)		1	5.50 m	50.00 m	*		
	Pipe length (L2-L4)			4.24 m	50.00 m	¥		
	Difference in height b	etween Indoor and ou	utdoor units	1.18 m	50.00 m	*		
100	Difference in height be	tween indoor units		0.30 m	0.00 m - 15.00 m	¥		
	1.2. Equipment L VRF outdoorunits	ist						
1. 19.95	Model	Descriptio	n			Quantity		
	U-5LZ2E5	Heat pump	o (2 pipe)			1		
	VRF indoor units							
224	Model	Descriptio	n			Quantity		
	S-22MY2E58		ray Cassette 6			4		
	S-36MY2E58	3.6kW4-w	ray Cassette 6	50x60 (M	Y2)	2		
	Controls							
	Model CZ-RTC58	Descriptio	n steController(wined)		Quantity 1		
	CE-RIC3D	THING POETING	All Controller	winesa/		-		
	Yjoints							
	Model	Descriptio	n			Quantity		
6	CZ-P2248K28M	Ybranch				5		
	Tubelength							
7.4	Pipe Diameter	Liquidside (m)	Discharge	eside(m)) Gasside (m)	Tube length (m)		
ENTRY THE A	Ø6.35 mm (1/4")	23.93	0		0	23.93		
and the second sec	Ø9.52 mm (3/8")	15.15	0		0	15.15 31.13		
	Ø12.7 mm (1/2") Ø15.88 mm (5/8")	0	0		31.13 7.95	31.13 7.95		
AND .	1.3. Details VRF outdoorunit							
	Reference Model	Units it is compose	edof		Refrigerant (kg			
	U-SLZ2E5		R32	Lefrigera 2.		igerant charge Total 1.31 4.01		
			Page 3	3				v
					l			
			Acce	ept				

Automatic connection. Press Automatic connection and then select a group of elements (one outdoor unit must be included in the selection). Press the right mouse button to finish the selection and the pipe layout will be automatically generated. If any pipes have been selected, the programme will delete them and create them again.

If the Outdoor unit is a type 3 pipe the programme will also locate a flow selection unit before each indoor unit.



2.9 Drawings

	🖬 🕤 🔿 🕼 Ґ				
Save.					
Sundo. Ctrl+Z					
Drawings.					
	Drawing selection				×
+ 🖉 🖻 🗙 🔺 🔻					
Draw Name			With textbox	Periphe	ral
	Drawing editor (PANASONIC)	×			
	Reference				

+ ∥ 🖓 👘 🗙 🔺 🔻		
Draw Name		With textbox Peripherals
	Drawing editor (PANASONIC)	
	Reference	
	Floor plans	
	Scale 1: 100	
	Views	
	Draw Plan Roof (6.00m)	
	 ✓ Floor 1 (3.00m) ✓ Floor 0 (0.00m) 	
Accept		Cancel
	Options	
	✓ Generate vector images ✓ Draw the DXF/DWG template	
	☐ Include the .gITF in the drawings Resolution 600 dpi ∨	
	Details	
	Accept	



Select DWG/DWG template.

	Drawing selection		
	+ 🖉 🖿 🗙 🔺 🔻		
	Draw Name With textbox Peripherals		
	✓ Floor plans ✓ DWG	~	
	Accept Title block Save Layers	Cancel	
	Drawing layouts		_ ×
New Delete empty Centre all Centre selected drawing spaces drawings drawings	Draving Detail of all Print t detail the drawings all election		🗶 🎕 🍳 🎜 🕾 🖑 🖷 🗖 🚾 🗸
	<pre>1 ()A3 2 ()A3 ()A3 ()A3 ()A3 ()A3 ()A3 ()A3 ()A3</pre>		
< Group: DWG			v

Select where to save the files.

Filenames	×
Directory: E:_CYPE_ELI2_EJEMPLOS\Offices\drawings	3
One drawing per file	
○ All the drawings in one file	
Prefix FILE Starting with 1 From: FILE01.DWG Te: FILE02.DWG	
Accept	ncel



2.10 Templates



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

Step 1: Import templates saved on the computer into the "File.pan".

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

Open BIM PANASONIC v20	123.d - City Hall.pan		🜏 Elisa 🍾 Cit	y Hall_			
		R 🕸 Q 🖸 🔍 🖣					
Air-source heat pump Connections		Annotations					
	Template views manager			لم ا			
2 🕂 🔛 × I ▲ 🔻 🖾 😂 🖬 Visible Light Template Name							
	Available Files		×				
Carter anager Update Fi 3 → × S Name	le Creation date	Size (Bytes)					
🔜 Selection of t	templates to read						×
\leftrightarrow \rightarrow \checkmark		(E:) > _CYPE > _ELI2 > _EJE	MPLOS > City Hall > Templates DXF		÷ ق	Buscar en Templates DXF	م
Accept	Nueva carpeta	^				:== ▼	
Escritorio		lombre	Fecha de modificación	Тіро	Tamaño		
📄 Imágene	25	Floor 0 template.dwg	21/03/2017 11:12	Archivo DWG	398 KB		
Accep Objetos	3D	Floor 1 template.dwg	21/03/2017 11:12	Archivo DWG	254 KB		
📓 Vídeos 🏪 Disco los	cal (C:)	5				C	
Datos (E	-					6	
	Nombre:				~	DXF-DWG Files (*.dxf;*.dw Abrir Car	rg) ~ icelar



Template	views manager		×					
+ 🗗 🗙 🔺 🔻 ≓ 🔤 🖻	3							
Visible Light Template Name								
✓ ✓ Floor_0_template.dwg Floor_0_template.dwg Floor_0_template								
Floor_1_template.dwg	Floor_1_template							
Layers of the view Floor_0_template	r 🏵 🧟 🎜 🖗 🖷							
Visible Layer name								
0								
Accept		Ca	ancel					



Step 2: Choose which template will be visible on each floor:

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

💼 🖬 🕤 👌 🍳 🗯	» 🕜		Open BIM F	ANASONIC v2023.d -	City Hall.pan	
BIM					R 🕄 (Q 🖪 🕓 🗘 🗟 📓 🏭 N 🛛
OBDatabase BIM General model options Project	Climate data		Air-source heat pump		$\begin{array}{c} \textcircled{+} & \textcircled{-} & \textcircled{-} & \textcircled{-} & \swarrow \\ & \textcircled{+} & \textcircled{-} & \textcircled{-} & \textcircled{-} & \swarrow \\ & & \textcircled{+} & \textcircled{-} & \textcircled{+} & \textcircled{+} \\ & & & \blacksquare \\ & & & \blacksquare \end{array}$	Annotations Calculation Automatic
Views		*				
🕱 🗶 👷 🛣 📖 I	pa 🕼 🕼 🗠					
 ✓ Floors Roof Floor 1 ✓ 3D views 3D 			3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Elements read	0 0 0 0 0 0 0 0			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.





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.



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.*



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

	Template	views mana	ger				×	
+ 🖃 🗙 🔺 🔻	≓ 🔣 🖂 I							
Visible Light Template	1	Name						
				Ava	ilable Files			
3 Layer managerU	🛃 odate File							
La: + 🗙 🚳					Layer manager			
		me Colour	Pen thickr Thin	ness V	Thickness (mm) 0.00	Visible te	xts 📿	🕄 Q 🌽 🖻
		3	Thin	~	0.00			
						Colour	selectio	n
						_	_	
					5			
Accept								
	ccept							



2.11 Configuration



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



Grid. Users can activate or disactivate 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.

				6	Elisa Ru	iz — 🗗 🗡	۲	
🖪 🔅 🖱 🖉	🛛 🖾 🚟 I	<u>n</u> 🗆		1.00	ΡG) 🗇 🗖 🔁	ج	
					3	Automatic updates		
					÷	Units		
					Ś	Printer		
	Units			×	F	Document text styles		
	Units	Label	Decimal digits	1 🖕	Đ	Drawings		
Primary measure uni	ts				- <u>R</u>	Details		
Length	m	m	2	🗕	· 🖂	Send job		
Length				-	СШ.	Background colour		
Diameter	mm 🗸	mm	2		3D	3D performance		
Dimension	mm	m	2		5	Undo/Redo		
Area	in m	m²	2	-		Automatic saving optio	ns	
			-	-		XXX	$\overline{\mathbf{X}}$	
Temperature	°C	°C	1			$\sim \sim \sim$	\cap	

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



Autosave. Configure the autosave as shown in the image.

ty Hall\City Hall.pan]		– 0 X
오 🗢 🗇 🔁 📓 🇱 🐧 🗖 🌐 🖽 🖮 📟 🛄 💽	Ь	G 🗄 🗖 🗶 💽 🔗
	٢	Automatic updates
	¢	Units
mai	٢	Printer
	F	Document text styles
	D,	Drawings
,	6	Details
	· 🖂	Send job
	bíb	Background colour
	3D ()	3D performance
	6	Undo/Redo
Automatic saving options X		Automatic saving options
Automatically save every minutes Save after analysing or designing		



2.12 BIM



8

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

8

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



3 How to create a BIM project



3.1 Architectural model

The first step in creating a project is to analyse the building. The building may have been generated with any 3D architectural modeller.

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.





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

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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**.

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ollaborate on Open BIM project	er Revit Lookup
Consult project status	Collaborate on Open BIM project A local location can be selected for the project or you can use the BIMserver.center to share the project with other collaborators. Once the project has been created, an IFC file of the current
Cancel collaboration in Open BIM p	model will be generated.
Update Open BIM project	
Show Open BIM project information pane	el



With other 3D modellers. 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.

With IFC Uploader, users can integrate any IFC file into the BIM workflow:

1. Creating the BIM project directly in Open BIM Panasonic.



2. Upload the file from IFC Uploader.

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Regardless of the 3D geometry generator used (CYPE Architecture, Revit or IFC Uploader), 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 Thermal LOADS

This tool carries out the thermal load calculation of buildings according to the Radiant Time Series Method (RTSM), proposed by ASHRAE.

Once the BIM project with the building geometry has been created, the rest of the tools simply have to connect to it, and the information will be read.

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Users select the layers' materials, indoor and outdoor conditions, occupation timetables, etc. Once the loads have been calculated, click **Export**.



3.3 Open BIM Panasonic

Just like the previous section, users must create a new project and connect it to a BIM Project. Building geometry is automatically included. If thermal loads have been calculated, include them.





Users simply have to enter indoor and outdoor units and connect them to pipes.

For deciding at what height to place the units, it is recommended to choose the viewing range first. In this example, the distance between floors is 4.00m, so it is recommended to set the viewing range to 3.50m (to avoid seeing the floor slab).

Views	D	~		
✓ Floors				
Roof (16.00 m)				
Level3 (12.00 m)			Edit	×
Level2 (8.00 m)			General Configuration Displacements	
Level 1 (4.00 m)			Displacements	
Level 0 (0.00 m)			Reference Level 1 (4.00 m)	
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Place all units at the same height, e.g., at 3 m, the move vertically to adjust them.

₩ Eevel 1 (4.00 m) (4.00 m)	Displacement 3.00 m	► *	 人 🗇 🗢 🖧	
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Orbit to verify it is correct Move it 0.20 m in the z axis.





Return to the plan and copy between floors.





Place the outdoor unit on the roof along with a pipe.



Change to a 3D view and draw a vertical pipe in 3D mode. Segments 3-4 will draw a vertical and horizontal pipe.



Press **Sizing** to see the Calculation Report. Then export the model.



3.4 Energy Simulation

Just like the previous section, users must create a new project and connect it to a BIM Project. Building geometry is automatically included. If Open BIM Panasonic has been calculated, include it. Panasonic units are included in energy simulation software CYPETHERM HE Plus for Spanish codes.





4 How to use the tool in isolation

Even if architectural departments send drawings in CAD format, if it is mandatory to perform the Energy Simulation in our region, it is strongly recommended to create the 3D building geometry ourselves from the beginning to use it in Open BIM Panasonic and later on in the energy simulation.

In isolation with templates

New. Save the file to your computer. It is good practice to keep the entire project in one folder, which has the same name as the project. The file will never be shared.

	New job	×
Job name		
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File name	Offices 88 street	.pan
Description		
<u>A</u> ccept		Cancel

As there is no BIM project to select, deselect the checkbox.

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



Interface.

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Panasonic heating & cooling solutions		

Floor plans

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3

Accept



5 Contact

Sharing files. Sometimes users may wish to send the "File.pan" 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 PANASONIC manual. If you still have questions, problems, or need more information, please visit our website, or contact CYPE.

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