

TOSHIBA



Toshiba Selection Tool
Operation Manual

Second Edition

June, 2018

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1. Using the Selection Tool

1.1 Required operating environment

Selection Tool requires the following device configuration to operate.

<List of required operating environments>

Operating System :

Microsoft Windows 7, 8.1 and 10

*Windows 10, only while devices are supported.

Display resolution :

Selection Tool mode -> FWXGA (1366 x 768)

Floor Plan mode -> UXGA (1600 x 1200)

Components :

Microsoft .NET, Framework 4.6

Software :

Microsoft Excel 2010 / 2013 / 2015

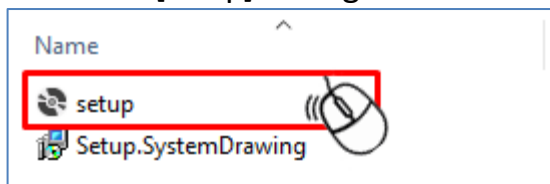
Reader or browser that can view and print PDF files.

1.2 Selection Tool Setup

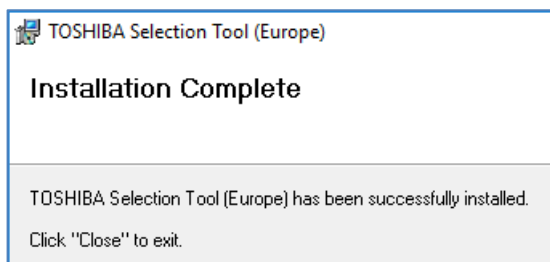
Selection Tool has to be setup on your PC in order to use it.

<New Setup>

1: Execute [setup] among the downloaded files.

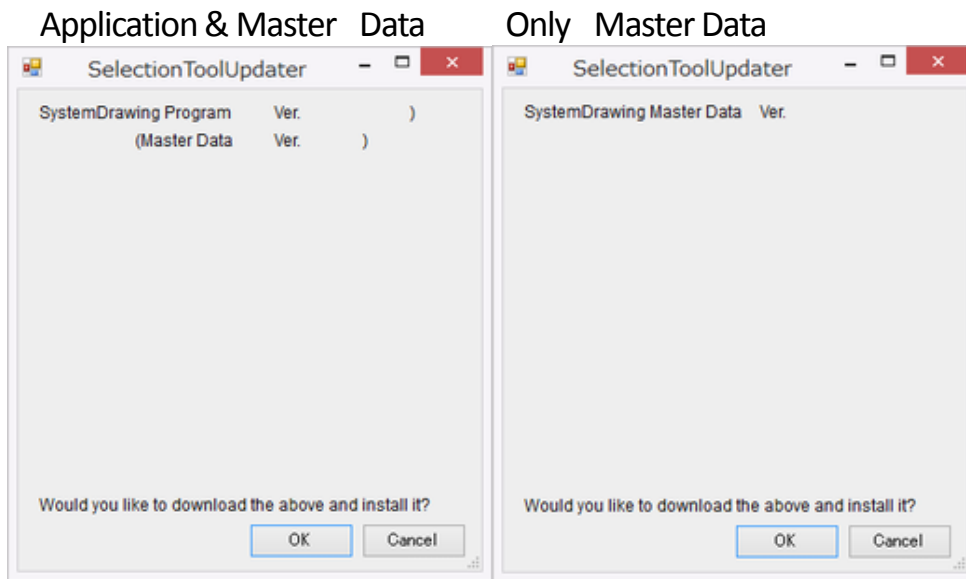


2: Follow the instructions on the screen until installation is completed.



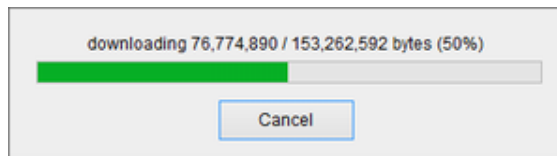
<Online Update >

1: If there is an update, the following screen appears during startup.



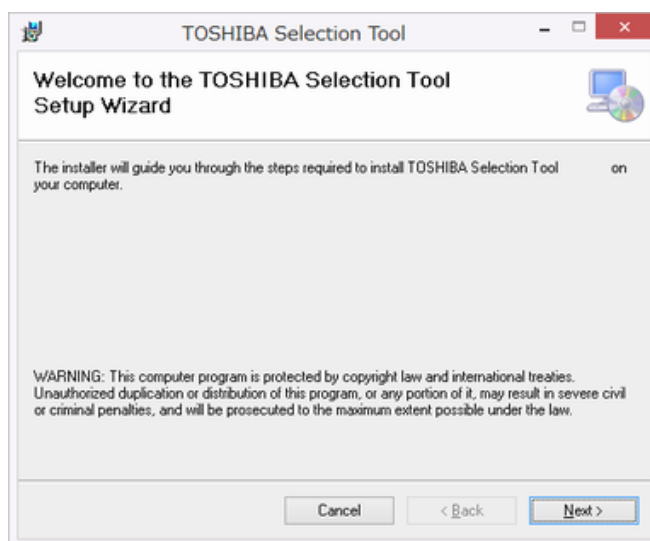
* Ver. indicates the newest version.

2: Click OK to start download.



3: After download is completed, the application is updated. During the update, setup is executed. Therefore, follow the screen instructions to complete the installation, and then start the application again manually.

* It does not start automatically after installation.



During update of Master Data only, data changes automatically.

1.3 User Registration

The User Registration window below appears at initial start-up or when User Entry is incomplete.

Agreement items relating to the management of private information appears at first. To agree, click the ACCEPT button.

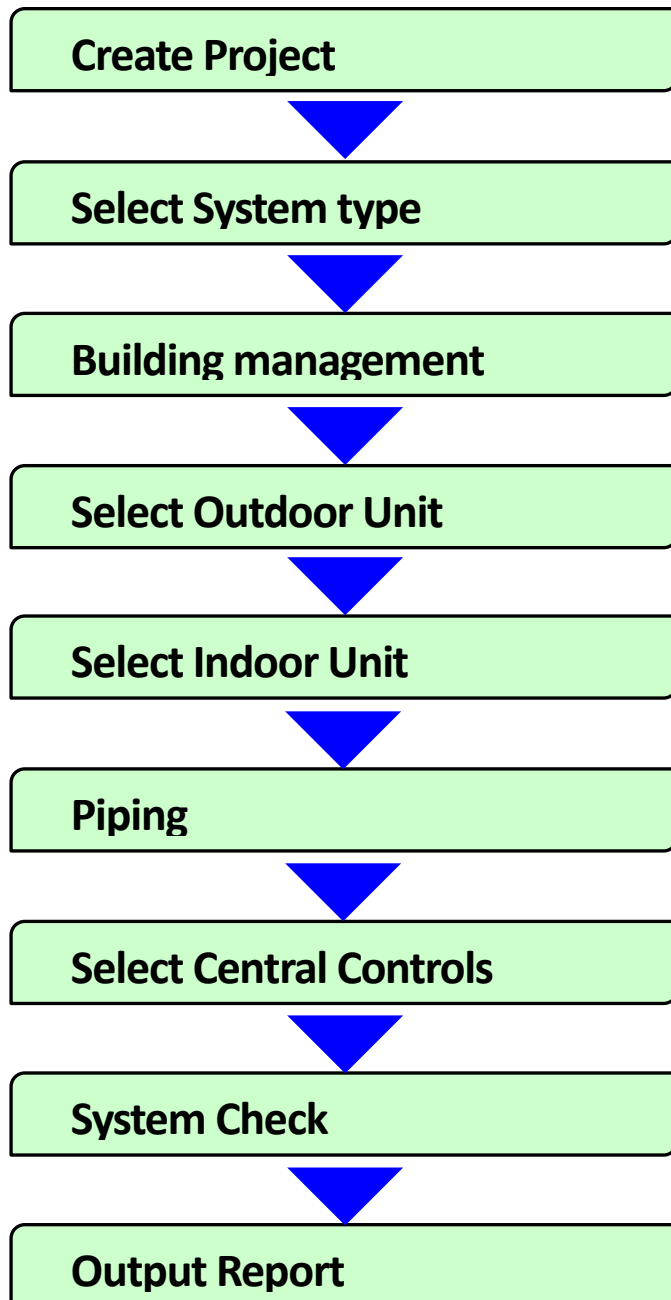
The User Registration window appears when you agree.

After confirming that you are connected to the Internet, enter the information listed below and click the "Send" button.

* Set up proxy if necessary.

The image shows two overlapping windows from a software application. The top window is titled "User Registration" and contains a form with the following fields: Company Name, First Name, Last Name, Email Address, Confirm Email Address, Add1, Add2, Add3, Town / City, State / Province / County / Region, ZIP / Post Code, Country (a dropdown menu), and Tel No. At the bottom of this window are buttons for "< Back", "Proxy Options", "Send", and "Close". A red arrow points from the "Proxy Options" button to the "Proxy Server Setting" window below it. The "Proxy Server Setting" window has radio buttons for "Don't use Proxy" and "Use Proxy" (which is selected). Below these is a red instruction: "Please set cash off for <URL> on Proxy Server Setting." There are radio buttons for "use IE Proxy option value" and "manual" (which is selected). The "manual" section contains fields for "Address" (set to localhost), "Port" (set to 8080), and "Proxy Server IP Address" (with a placeholder XXXXXXXX). There is also a checkbox for "User Authorize" with fields for "UserID" and "Password". At the bottom of the proxy window are "OK" and "Cancel" buttons.

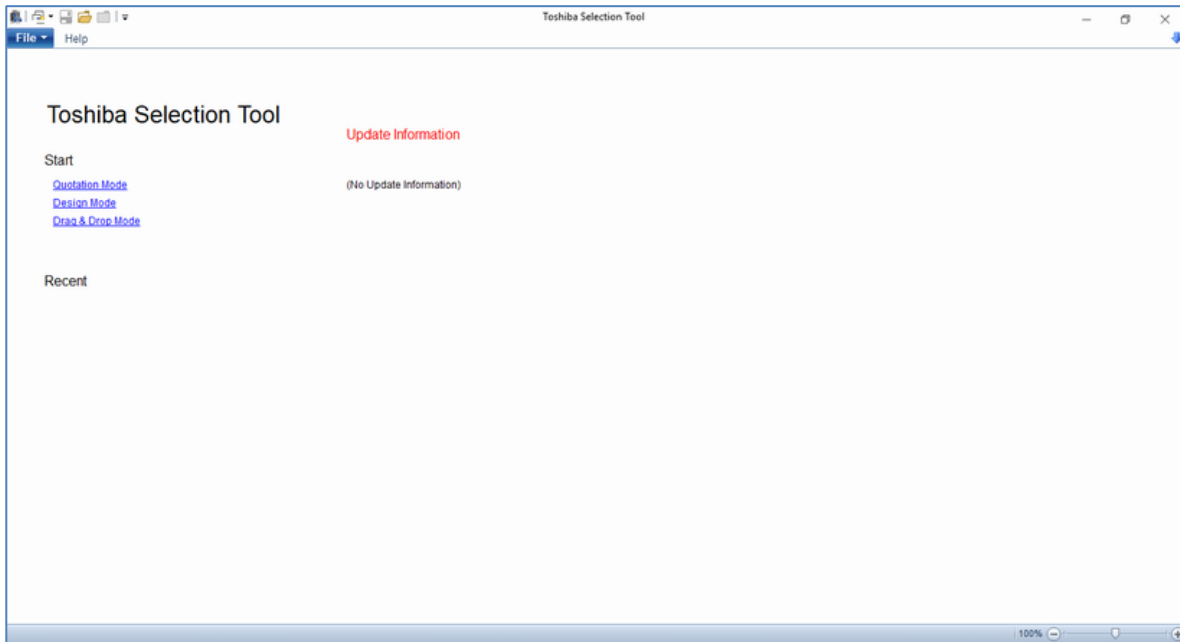
1.4 Design Process Chart



1.5 Mode Start page

When Selection Tool mode is started, the Selection Tool Start Page appears.

Operations performed from the Start Page include starting new projects or opening saved project files.



<List of Start page functions>

Start :

Starts a project. (Select Modes)

Recent :

Displays a history of the 10 most recently opened files.

Update Information :

Displays all release information.

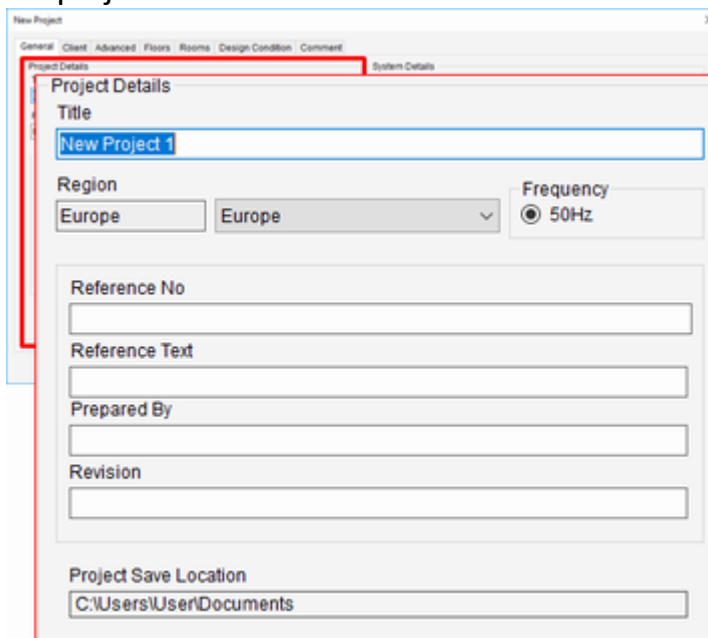
2. Starting a Project (Drag & Drop Mode)

In this mode, you can freely select the outdoor unit, indoor unit and joints by mouse or keyboard and input pipes.



2.1 Create Project

This sets project information.

A screenshot of the 'New Project' dialog box. The dialog box has a title bar 'New Project' and a close button. It contains several tabs: 'General', 'Client', 'Advanced', 'Floors', 'Rooms', 'Design Condition', 'Comment', 'Project Details', and 'System Details'. The 'Project Details' tab is active. The 'Project Details' section includes a 'Title' field with the text 'New Project 1'. Below the title are two 'Region' dropdown menus, both set to 'Europe', and a 'Frequency' dropdown menu set to '50Hz'. There are also five empty text input fields for 'Reference No', 'Reference Text', 'Prepared By', and 'Revision'. At the bottom, there is a 'Project Save Location' field with the text 'C:\Users\User\Documents'.

Title :

Enter the project name.

Region :

Select the Region to be used.

* The options differ per regional version.

Frequency :

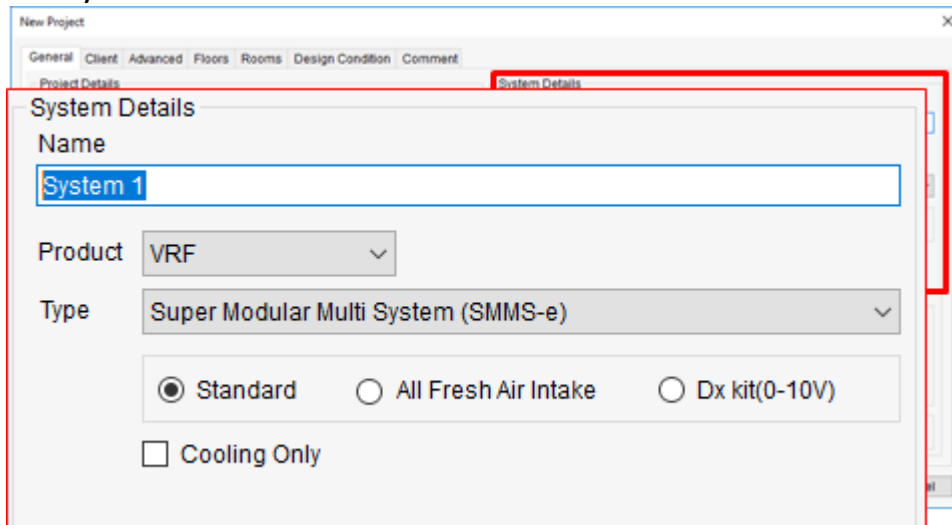
Select the frequency.

* This may not have to be selected depending on the region.

For other fields, enter if necessary.

2.2 Select System type

Enter the system information.



The screenshot shows the 'System Details' tab of the 'New Project' dialog. The 'Name' field is filled with 'System 1'. The 'Product' dropdown menu is set to 'VRF'. The 'Type' dropdown menu is set to 'Super Modular Multi System (SMMS-e)'. Below the dropdowns, there are three radio buttons: 'Standard' (which is selected), 'All Fresh Air Intake', and 'Dx kit(0-10V)'. At the bottom, there is a checkbox labeled 'Cooling Only' which is currently unchecked.

Name :

Enter the system name.

Product :

Selects a product.

Type :

Selects the system's outdoor unit type.

*Standard / Dx Kit (DDC) / All Fresh Air Intake :

Specifies the type of selected system

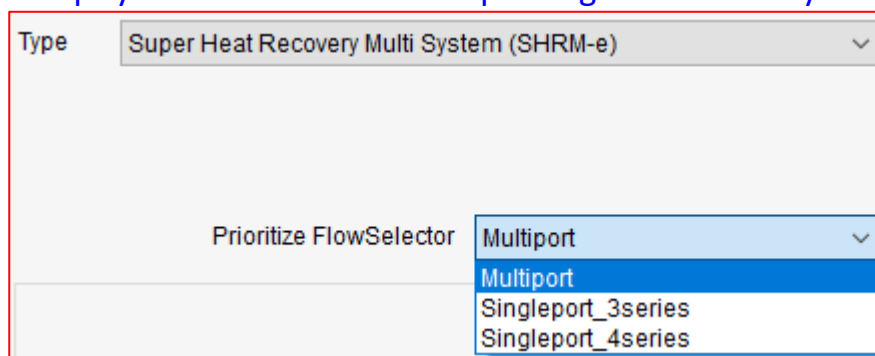
*Cooling Only :

Click to specify "Cooling Only".

*Prioritize Flow Selector :

Selects the Flow Selector to be prioritized by the auto piping.

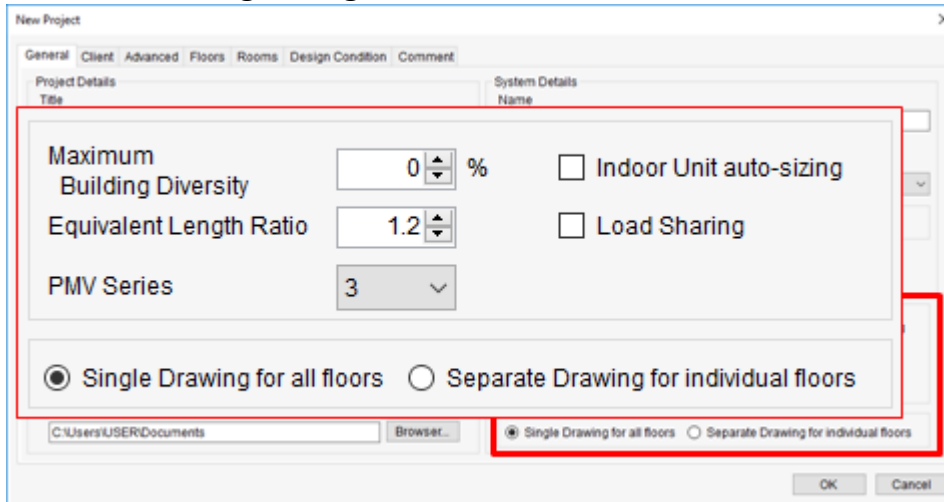
* Displayed when there is a corresponding Model in the system.



This screenshot shows a close-up of the 'Prioritize FlowSelector' dropdown menu. The 'Type' dropdown above it is set to 'Super Heat Recovery Multi System (SHRM-e)'. The 'Prioritize FlowSelector' dropdown is open, displaying a list of options: 'Multiport', 'Multiport', 'Singleport_3series', and 'Singleport_4series'. The first 'Multiport' option is currently selected.

2.3 Building management

Enter the Building managements.



Maximum Building Diversity :

Sets the maximum capacity ratio needed for the whole building.

Equivalent Length Ratio :

Sets the equivalent length ratio of the pipe.

PMV Series :

Selects the PMV kit series.

* Enabled when there is a corresponding Model in the system.

Indoor unit auto-sizing :

Check to automatically set the size of the indoor unit.

Load Sharing :

Check to share the load of all indoor units in the system.

Select a display method if Floor or Room is set.

General		Client		Advanced		Floors		Rooms		Design Condition		Comment	
Floor		Elevation(m)											
Floor-Roof		0.00											
Floor-3F		-2.00											
Floor-2F		-5.00											
▶ Floor-1F		-8.00											

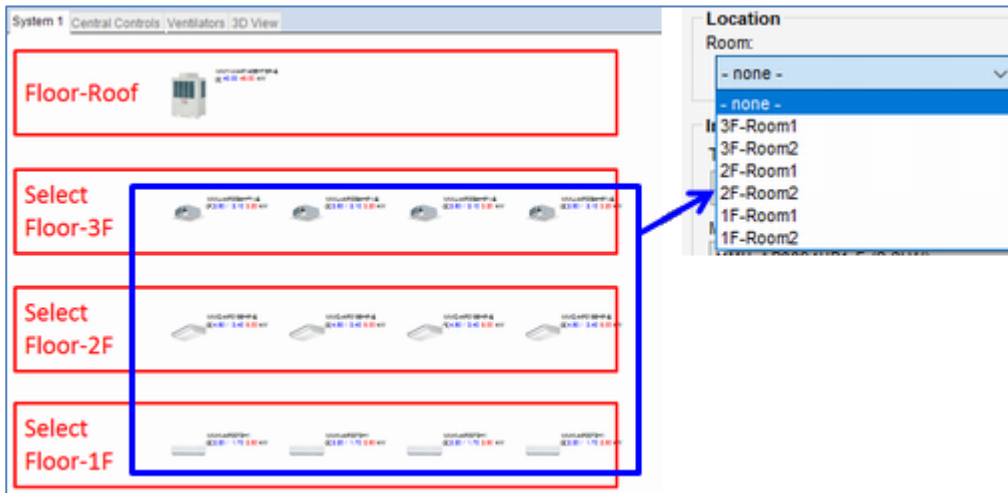
General		Floors		Rooms		Design Condition		System Note							
Room	Floor	Cooling			Heating	Room Dimensions		Room Load(kW)				ROT			
		DB(°C)	WB(°C)	RH(%)	DB(°C)	Area(m2)	Volume(m3)	Cooling	Sensible	Heating					
3F-Room1	Floor-3F	27.0	19.0	47	20.0	90.00	270.00	10.80	8.10	9.90		☑			
3F-Room2	Floor-3F	27.0	19.0	47	20.0	100.00	300.00	12.00	9.00	11.00		☑			
2F-Room1	Floor-2F	27.0	19.0	47	20.0	90.00	270.00	10.80	8.10	9.90		☑			
2F-Room2	Floor-2F	27.0	19.0	47	20.0	100.00	300.00	12.00	9.00	11.00		☑			
1F-Room1	Floor-1F	27.0	19.0	47	20.0	90.00	270.00	10.80	8.10	9.90		☑			
▶ 1F-Room2	Floor-1F	27.0	19.0	47	20.0	100.00	300.00	12.00	9.00	11.00		☑			

Single Drawing for all floors

Display the Floor settings collectively.

For the indoor unit, you can select all floors.

An image of setting

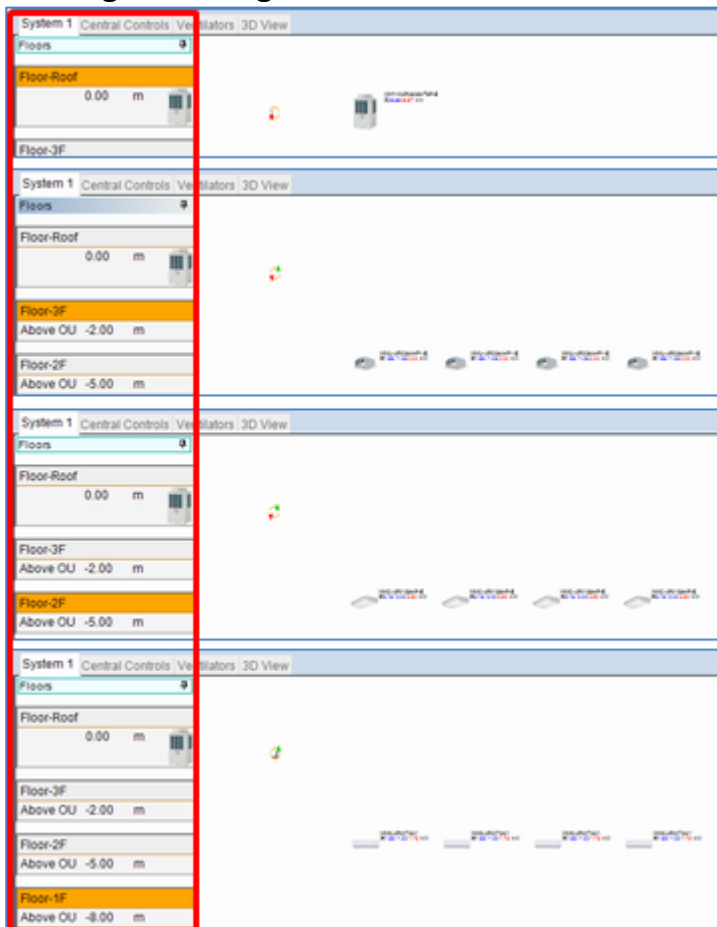


Separate Drawing for individual floors

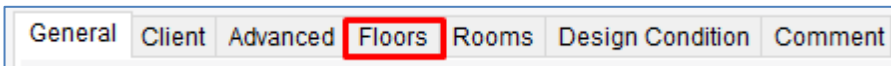
Floor appears in split view, with selections appearing in the left pane.

For the indoor unit, arranged floors are fixed.

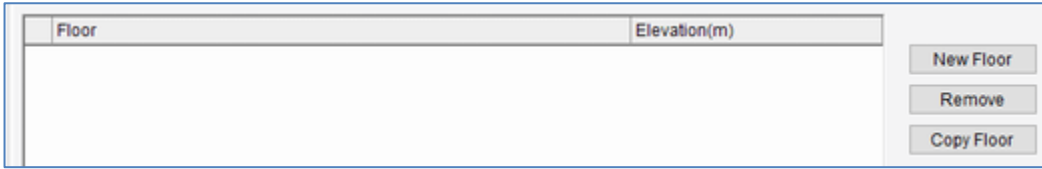
An image of setting



2.3.1 Floor



This defines the floors in the system.

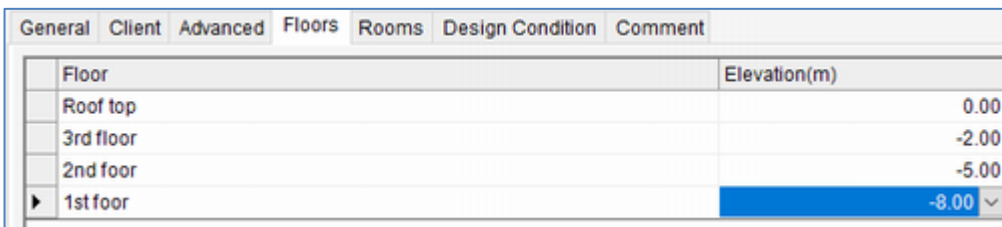


New Floor Add a floor to the end of the list.

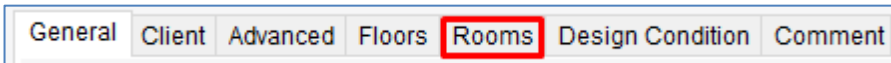
Floor : Enter the floor name.

Elevation : Enter the relative elevation seen from the Outdoor Unit .

Remove Deletes the selected floor.



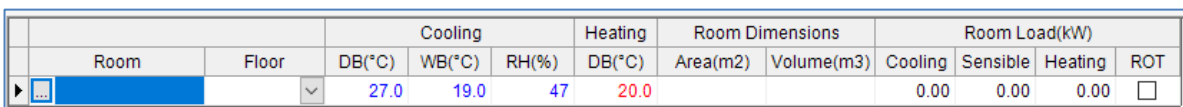
2.3.2 Room



This defines the rooms in the system.



New Adds a room to the end of the list.



Room : Enter the room name.

Floor : Select the floor registered with the Floor tab.

Cooling : Sets the temperature and relative humidity when cooling.

Heating : Sets the temperature when heating.

Room Dimensions : Enter the area and volume as room information.

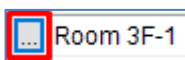
* This is used for the simple load calculation when the ROT is checked.

Room Load : Enter the cooling/sensible/heating room load.

Check the ROT checkbox to automatically calculate it based on the area.

* The value can be changed even after the automatic calculation.

Room	Floor	Cooling			Heating	Room Dimensions		Room Load(kW)			
		DB(°C)	WB(°C)	RH(%)	DB(°C)	Area(m2)	Volume(m3)	Cooling	Sensible	Heating	ROT
Room 3F-1	3rd floor	27.0	19.0	47	20.0	100.00	300.00	12.00	9.00	11.00	<input checked="" type="checkbox"/>
Room 3F-2	3rd floor	27.0	19.0	47	20.0	100.00	300.00	12.00	9.00	11.00	<input checked="" type="checkbox"/>
Room 2F-1	2nd floor	27.0	19.0	47	20.0	120.00	360.00	14.40	10.80	13.20	<input checked="" type="checkbox"/>
Room 2F-2	2nd floor	27.0	19.0	47	20.0	80.00	240.00	9.60	7.20	8.80	<input checked="" type="checkbox"/>
Room 1F-1	1st floor	27.0	19.0	47	20.0	150.00	450.00	18.00	13.50	16.50	<input checked="" type="checkbox"/>
Room 1F-2	1st floor	27.0	19.0	47	20.0	50.00	150.00	6.00	4.50	5.50	<input checked="" type="checkbox"/>



Click the Room buttons in the left field to display advanced settings.

Room : Room 3F-1

Exclude from Limit Density

Reason for Limit Density exclusion :

R.O.T. values must be entered in kW/m2

Room R.O.T. Cooling

Room R.O.T. Sensible

Room R.O.T. Heating

Close

Exclude from Limit Density :

Check the checkbox to exclude from limit density.

Reason for Limit Density exclusion :

Describe the reason to exclude from limit density.

R.O.T values must be entered in kW/m2 :

Set the load coefficients for the area when the R.O.T field is checked.

Cooling/Sensible/Heating can each be set.

* Only enabled in the room checked in the R.O.T field.

2.4 Design Conditions

This sets the system temperature conditions.

The screenshot shows a software interface with a tabbed menu at the top: General, Client, Advanced, Floors, Rooms, Design Condition (highlighted in red), and Comment. Below the tabs is a 'Temperature Settings' window. It is divided into three sections: Internals, Outdoors, and All Fresh Air Intake : Outside Air Supply. Each section contains input fields for Cooling Dry Bulb, Cooling Wet Bulb, Cooling Relative Humidity, and Heating Dry Bulb, with numerical values and units. At the bottom of the window are three buttons: 'Select from temperature', 'Reset to Defaults', and 'Edit Profile'.

Section	Parameter	Value	Unit
Internals	Cooling Dry Bulb	27.0	°C
	Cooling Wet Bulb	19.0	°C
	Cooling Relative Humidity	47	%
	Heating DryBulb	20.0	°C
Outdoors	Cooling Dry Bulb	35.0	°C
	Heating Wet Bulb	6.0	°C
All Fresh Air Intake : Outside Air Supply	Cooling Wet Bulb	28.0	°C
	Heating Dry Bulb	0.0	°C

Internals: Indoor temperature conditions

Sets the Cooling Dry Bulb, Wet Bulb, and Cooling Relative Humidity.

* Relative Humidity is automatically calculated by DB and WB.

Outdoors : Outdoor temperature conditions

Sets the Cooling Dry Bulb and Heating Wet Bulb.

All Fresh Air Intake : Outside Air Supply

Sets the Cooling Wet Bulb and Heating Dry Bulb.

Select from temperature

Open the Temperature Profiles window. and select Profile.

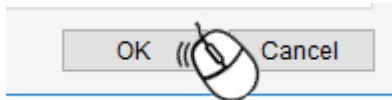
Edit Profile

Open the Profile Setting window.

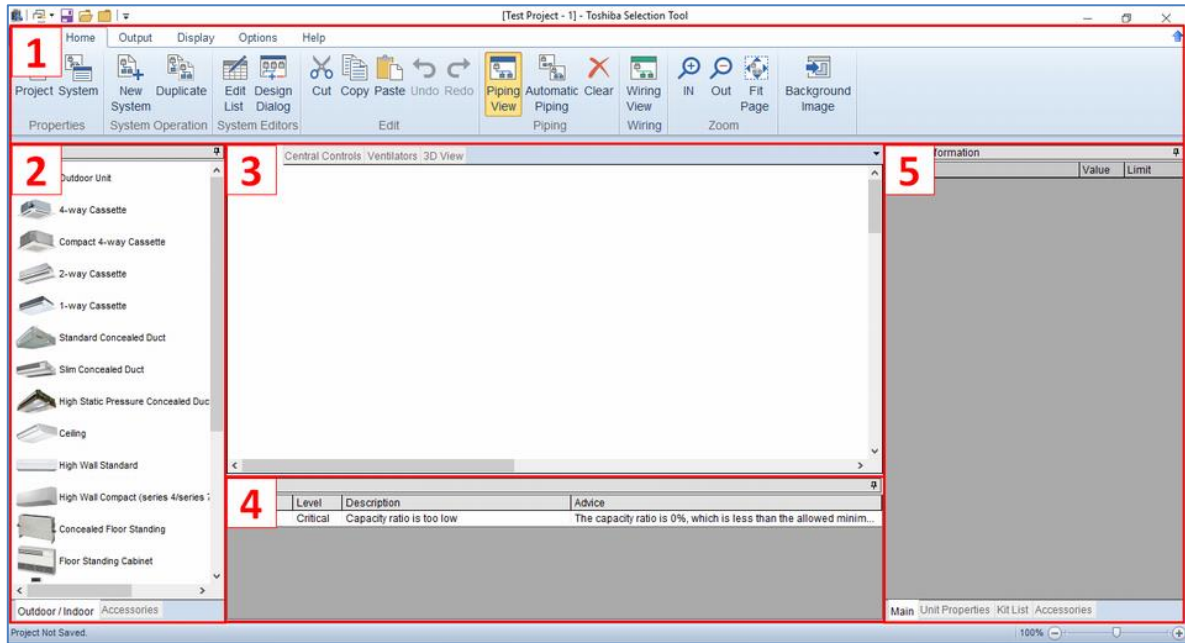
Reset to Defaults

Reset the default values set in Application Setting.

Click [OK] to Main Screen.



2.5 Main Screen



1) Ribbon icon :

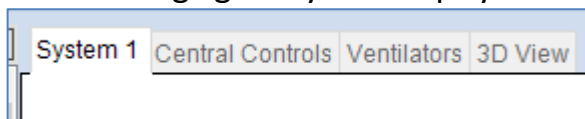
The ribbon icon display section.

2) Toolbox window :

A window to select the diagram to be created.

3) System diagram :

A window to create system diagrams.
tab for changing the system display.



* The menu is not displayed when the
“Central Controls” and “Ventilators” and "3D View"
tab is open. The tab cannot be added.

4) Error List :

A window to display errors relating to the created system.

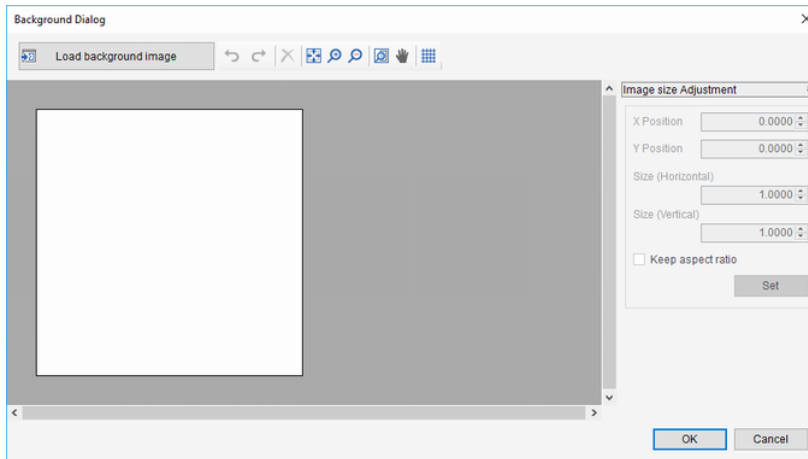
5) System Information :

A window to display errors and details relating to the created system.

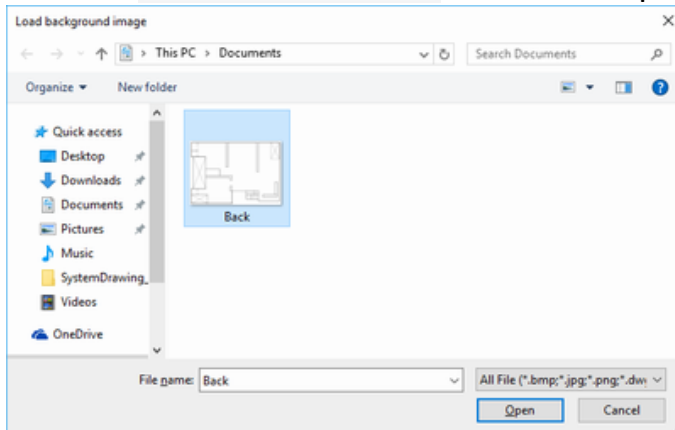
2.5.1 Background Image



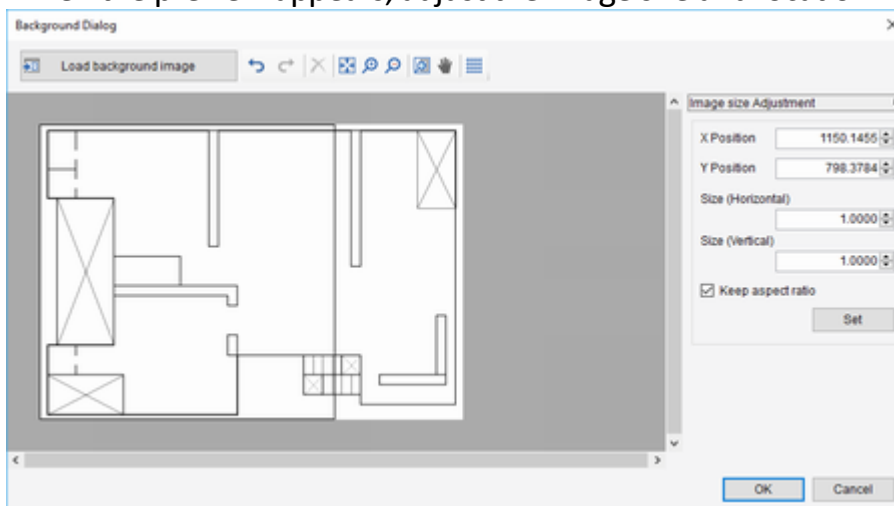
Specify the background image of the system diagram.



Use  button to specify a background image to load.



When the preview appears, adjust the image size and location.





Undo, Redo :

Undo or redo the edit.

Delete :

Delete the selected image.

FitPage :

Display the whole screen.

ZoomIn, ZoomOut :

Scale the display.

ZoomWindow :

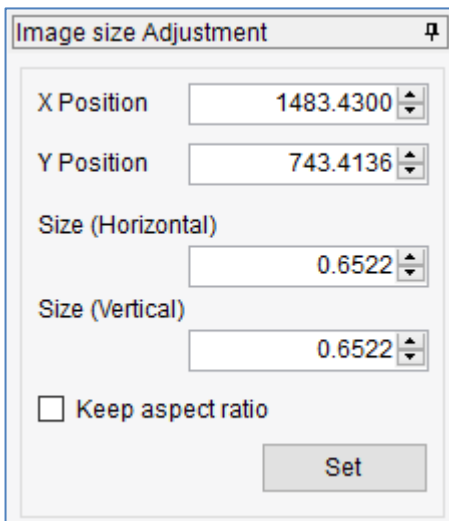
Zoom the selection.

Grab :

Move the whole screen.

GridLine:

Display the grid line.



X Position / Y Position :

Specify the display coordinate.

Size (Horizontal) / (Vertical) :

Specify the magnification.

Keep aspect ratio :

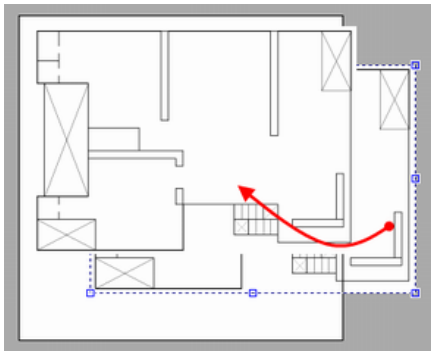
Keep the aspect ratio.

Set Button :

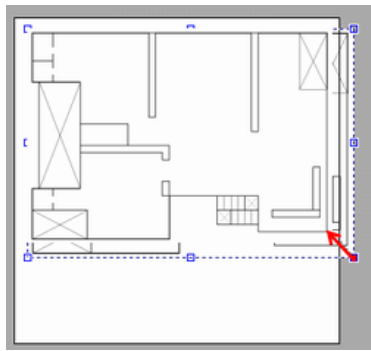
Update the preview.

You can also use the mouse to perform adjustment.

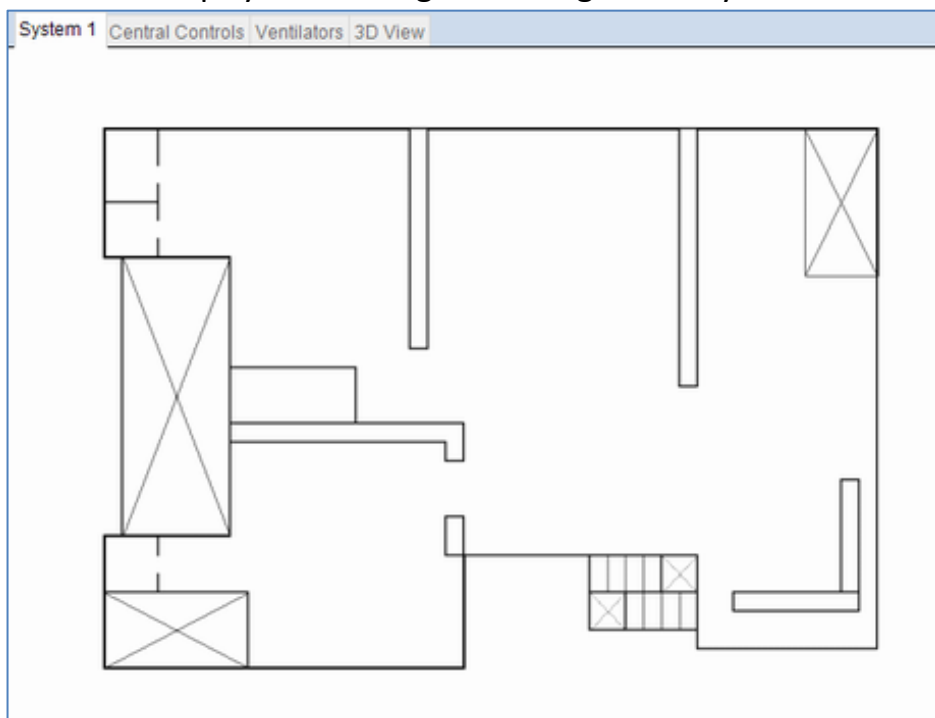
Move



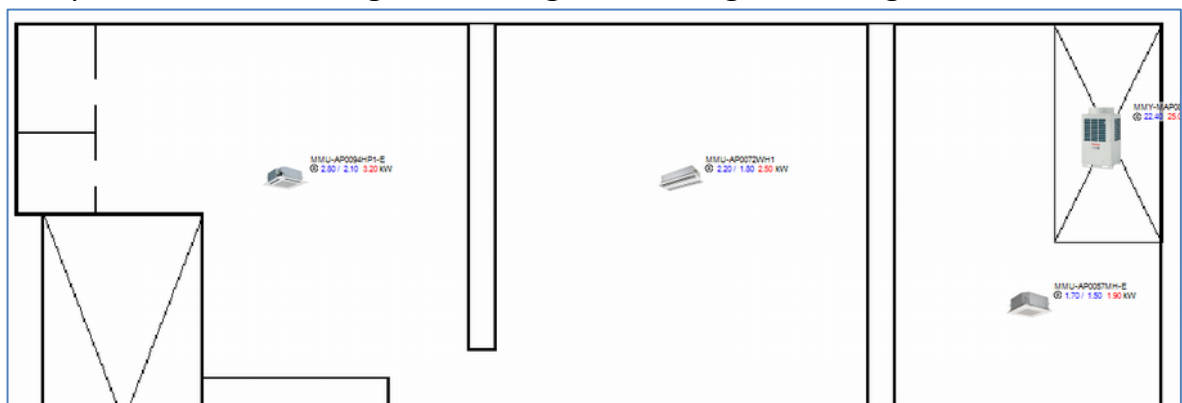
Resize



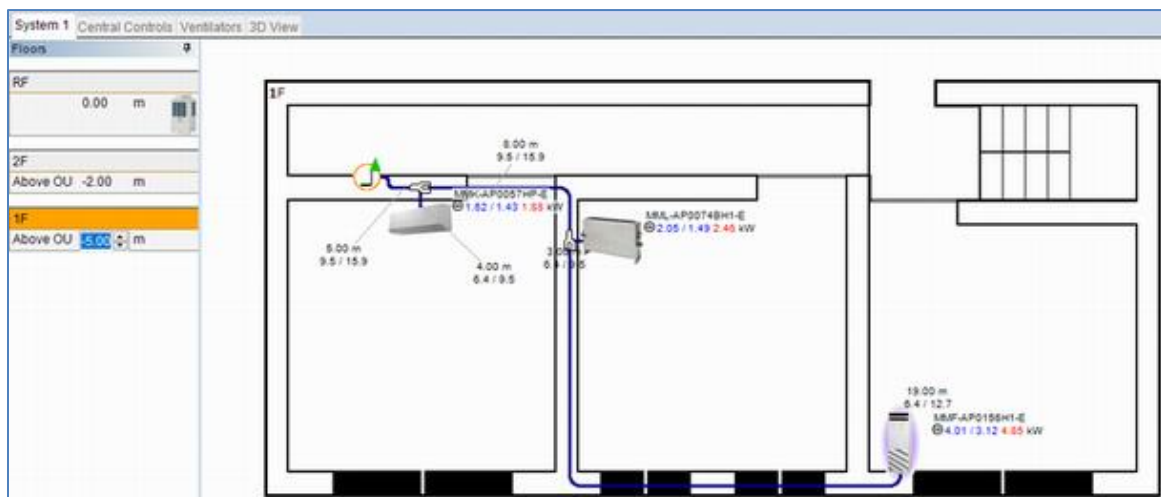
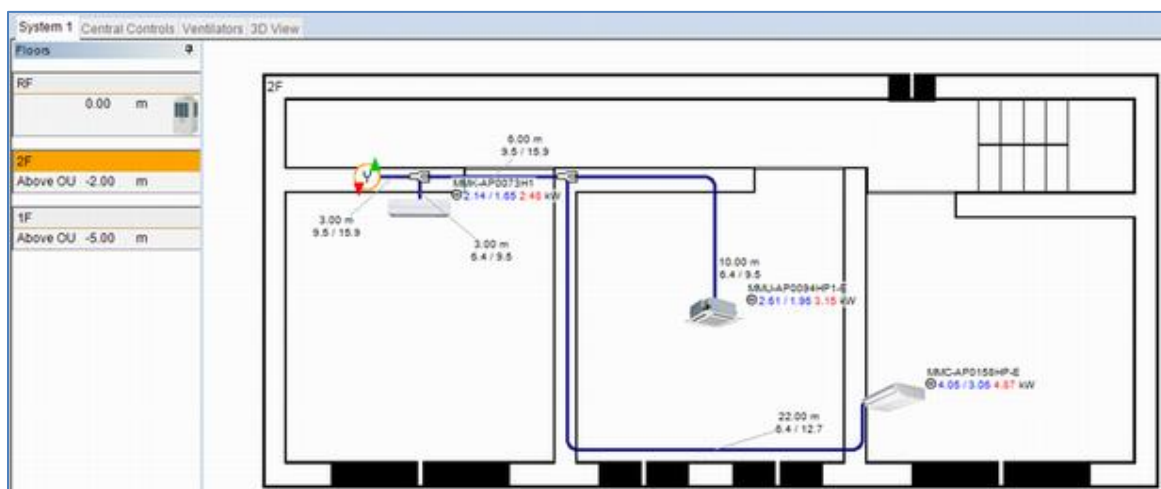
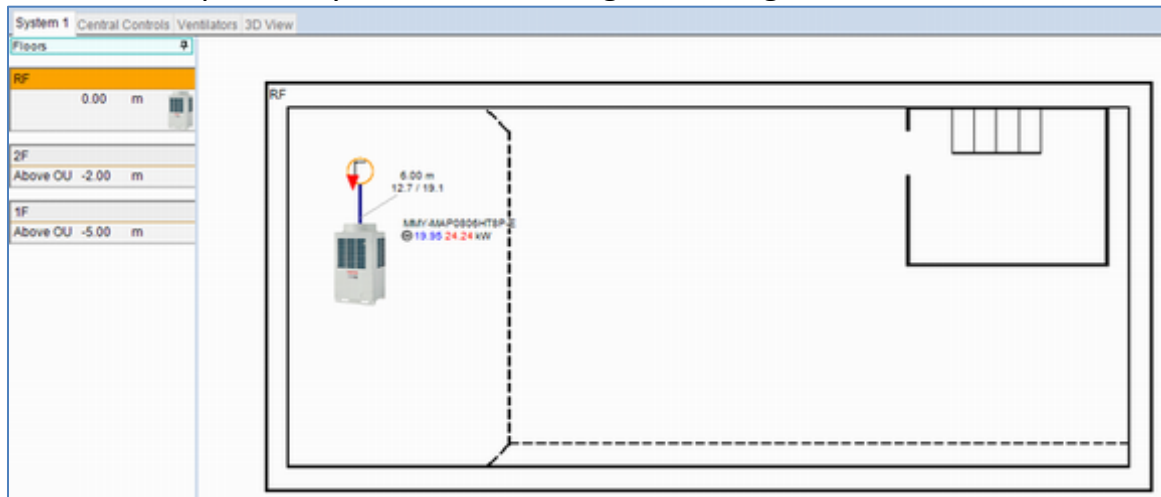
Click OK to display it as a background image of the system.



Components can be arranged according to the background image.

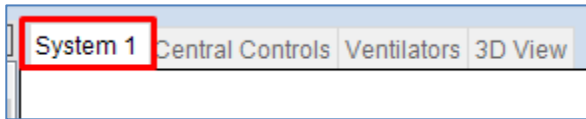


In the Floor split view, you can load a background image for each floor.

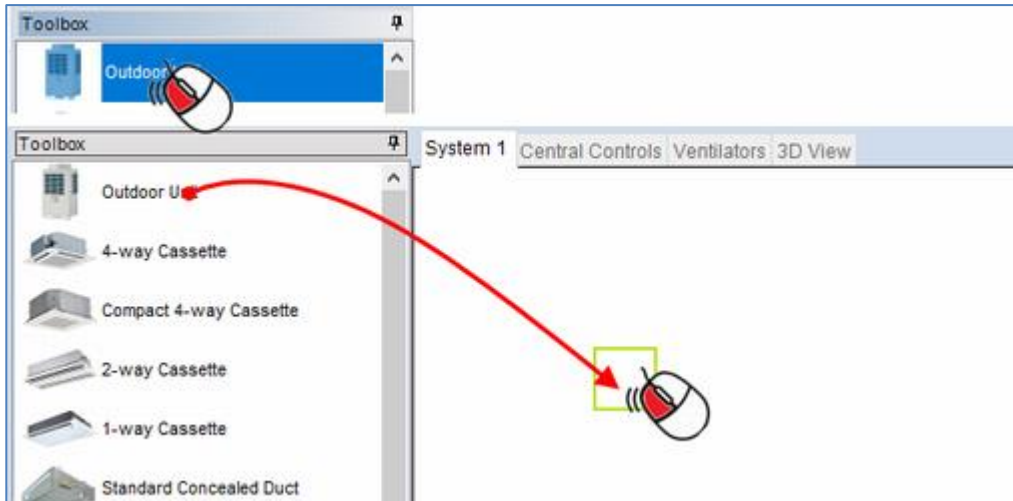


2.6 Select Outdoor Unit

Select System Tab.



1. Select an outdoor unit from the toolbox window and drag and drop it at the desired place.
Displays a green frame in the location to arrange the outdoor unit.



2. The outdoor unit is arranged in the dropped location.



* The outdoor unit cannot be arranged in locations where there is already other equipment. Also, multiple outdoor units cannot be placed in the same system.

2.6.1 Outdoor unit Property

Outdoor units can be set from this window.

Rated Cooling	22.40 kW
Rated Heating	25.00 kW
Corrected Cooling	22.40 kW
Corrected Heating	25.00 kW
Required Cooling	0.00 kW
Required Heating	0.00 kW

Summary	3NAC+Earth 380-415V 50Hz
---------	--------------------------

Type :

The type of the selected outdoor unit is displayed.

Combo box under type display :

Select the outdoor unit's model number.

Standard / High Efficiency :

Filters the outdoor unit type options into Selected only.

Outdoor Unit Name :

Enter the name of the outdoor unit.

Auto Size :

Check this to automatically select outdoor units according to capacity calculation results.

The capacity ratio can be specified in the right input field.

Accessories - Slot1 to Slot5 :

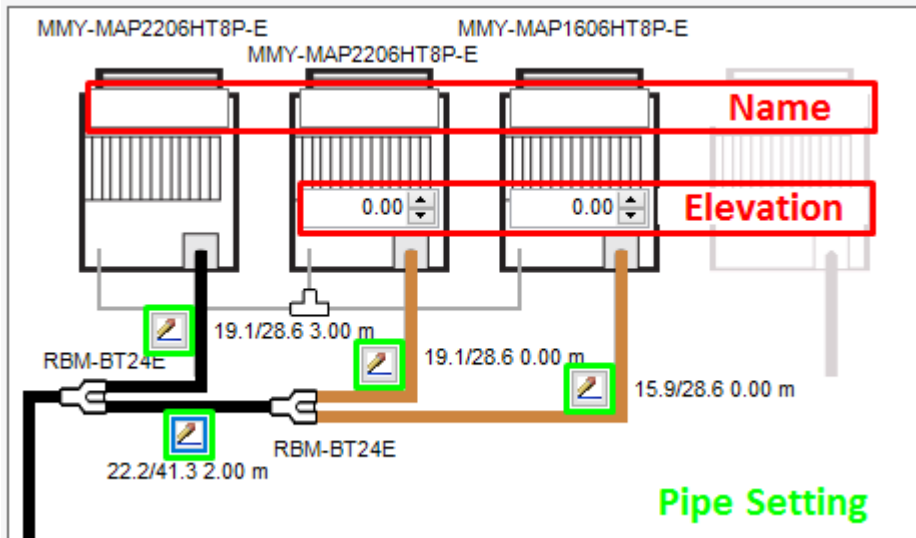
Select an option to connect to slot of the outdoor unit.

* When combining multiple units,

a tab is generated per Header/Follower and accessories can be set for each.

Unit Details :

Displays an image of outdoor units relating to the selected model.



Name :

The names of outdoor units can be entered individually.

Elevation :

The elevation from the header outdoor unit (on the left) can be entered.

Pipe Setting :

 Click to change to the pipe setting property window.

The Property window shows the following settings:

- Pipe Length: 5.00 m
- Equivalent Length Ratio: 1.2 (Auto checked)
- Number of Bends: 90° (standard) and 90° long radius
- Equivalent Length: 6.00 m

Calculation results are displayed when entering the equivalent ratio or number of pipe elbows.

Pipe Length :

Enter the real length of the pipe.

Equivalent Length Ratio :

Enter the equivalent length ratio.

Number of Bends :

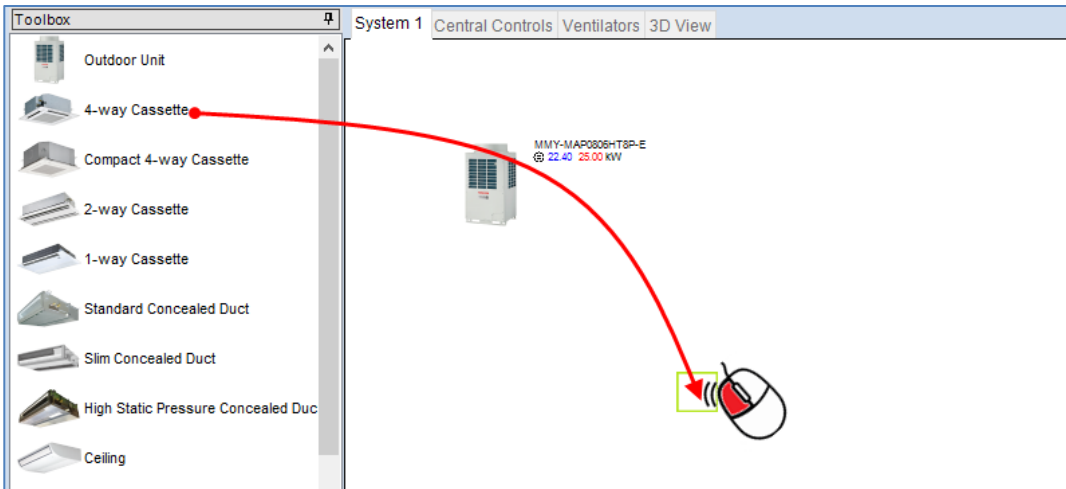
Enter the number of pipe elbows. (standard and long-radius elbows)

Equivalent Length

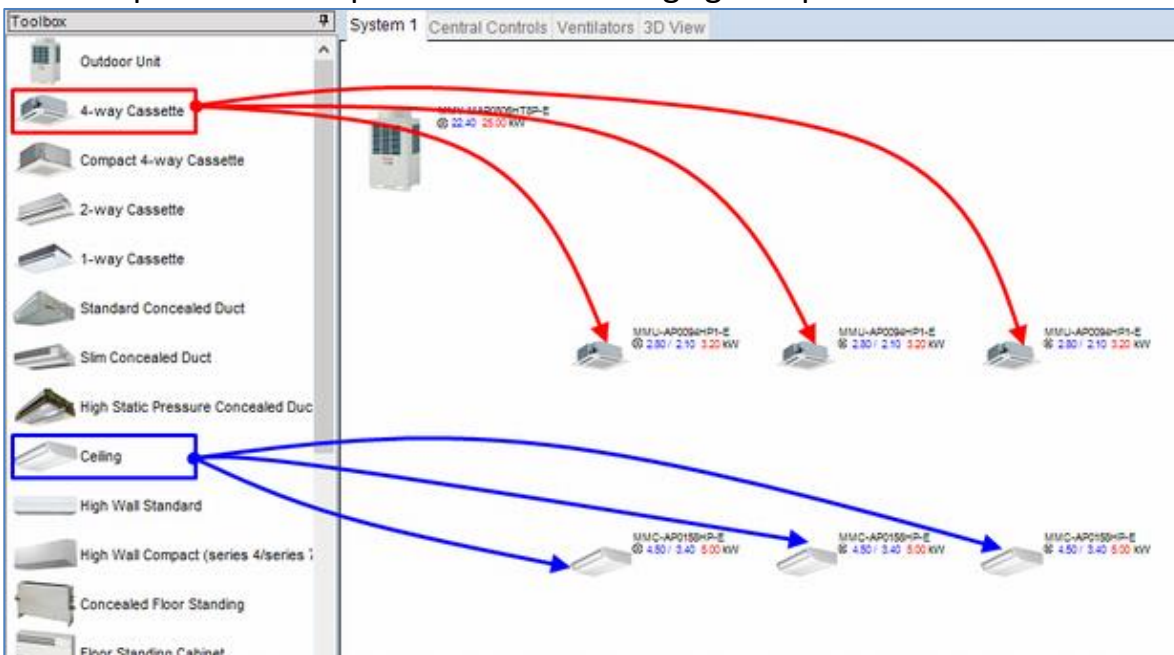
Directly enter the equivalent length of the pipe.

2.7 Select Indoor Unit

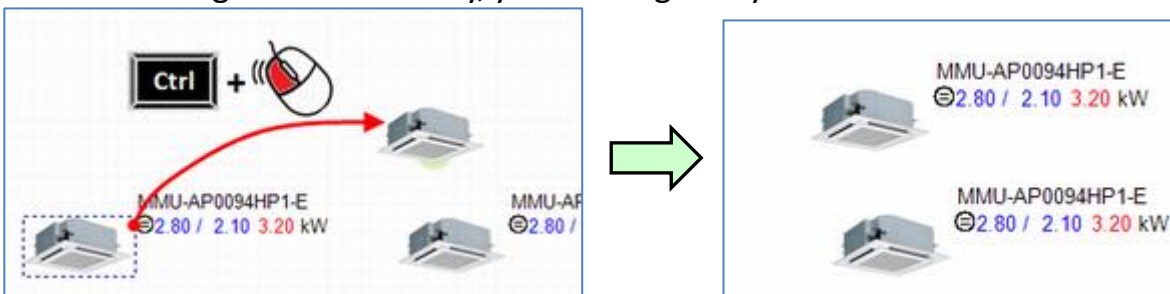
1. Select the indoor unit you want to arrange from the toolbox window, and drag and drop it at the desired place.



2. Drag and drop the indoor unit you want to arrange in the workspace at the block. and Repeat the above procedure when arranging multiple units.



3. While holding down the Ctrl key, you can drag to any desired location.



2.7.1 Indoor Unit Property

Indoor units can be set from this window.

Setting of Indoor Units (Manual Sizing) X

Location

Room: - none - Rooms...

Required Capacity

Require Cooling: 0.0 kW

Require Sensible: 0.0 kW

Require Heating: 0.0 kW

Capacity Information

Capacity Code	1
Rated Cooling	2.800 kW
Rated Sensible	2.100 kW
Rated Heating	3.200 kW
<hr/>	
Cooling Capability	2.800 kW
Sensible Capability	2.100 kW
Heating Capability	3.200 kW
<hr/>	
Corrected Cooling	2.800 kW
Corrected Sensible	2.100 kW
Corrected Heating	3.200 kW

Indoor Unit

Type: 4-way Cassette

Model: MMU-AP0094HP1-E (2.8kW)

Name: Fan Speed: High ...

Design Conditions

Cooling DB: 27.0 °C

Cooling WB: 19.0 °C


Relative Humidity: 47 %

Heating DB: 20.0 °C

Options

Accessories...

Model	Description	Qty



Rotation angle (+:Right, -:Left) 0 ° Default

Controls

Individual Header Follower

Header Remote: - none -

Schedule Timer:

Follower Remote: - none -

Pipe Length

m

Pipe Equivalent Length

Equivalent Length Ratio: Auto

or Number of Bends: 90°

Long radius:

or Equivalent Length: m

Ceiling Panel

Panel Model: RBC-U31PGP(W)-E

Elevation (relative to Outdoor unit) Above Outdoor Unit: 0.00 m

PMV kit

Connect

Elevation (relative to Indoor Unit) 0.00 m

Pipe length (from Indoor Unit) 0.00 m

OK Cancel

Location :

Selects the room to install the indoor unit.

Uses the temperature setting of the selected room.

Indoor Unit :

Selects the type.

Selects the model number.

Sets the name of the indoor unit.

Selects the fan speed.

Controls :

Selects for the individual air conditioners or header / Follower unit for the indoor unit group setting.

Enter the new group name for the header unit.

Selects the group name for the follower unit.

Selects the remote control header unit.

Selects the remote control follower unit.

PMV Kit :

Sets whether to connect PMV Kit.

Sets the installation location of the PMV kit relative to the indoor unit.

Sets the pipe length of the PMV kit from the indoor unit.

Design condition :

Sets each temperature condition.

Required Capacity

Sets the required capacity.

*This is applied when a room is selected and cannot be edited.

Pipe Length :

Sets the Connected Pipe Length and Equivalent Length.

* This cannot be set when pipes are not connected.

Ceiling Panel :

Selects the ceiling panel.

This cannot be selected when equipment is not necessary.

Elevation :

Sets the location of indoor units relative to outdoor units.

Options :

Accessories to be set to indoor units can be selected in the Indoor Unit Accessories window.

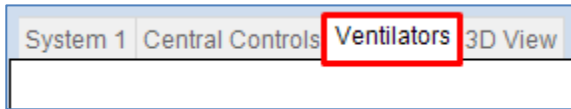
Model	Description	Notes	Use With	Qty
ControlAccessories				
<input type="checkbox"/> TCB-PX100-PE	Optional Enclosure of the Window Switch			
<input type="checkbox"/> TCB-PX30MUE	Optional Enclosure of the Window Switch ...			
GeneralAccessories				
<input type="checkbox"/> TCB-SP1602UE	Spacer for height adjustment	Height: 50mm		1
<input type="checkbox"/> TCB-GFC1602UE	Fresh Air Chamber		TCB-GB1602UE	1
<input type="checkbox"/> TCB-GB1602UE	Fresh Air Inlet Box	Fresh Air Intake Ratio: Up t...		1
<input type="checkbox"/> TCB-BC1602UE	Air discharge direction kit	6 direction patterns		1
<input type="checkbox"/> TCB-FF101URE2	Auxiliary fresh air flange	Fresh Air Intake Ratio: Up t...		1
<input type="checkbox"/> RBC-CBK15FE	FS Unit Extension cable	For FS unit 3 series		1

Rotation Angle :

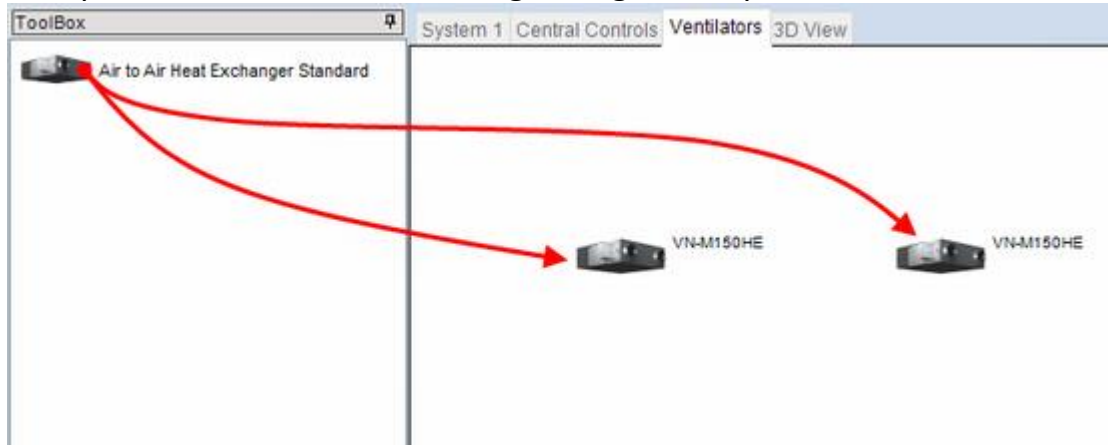
Sets the Unit image Rotate Angle.

2.7.2 Air to Air Heat Exchanger

Select Ventilators Tab.



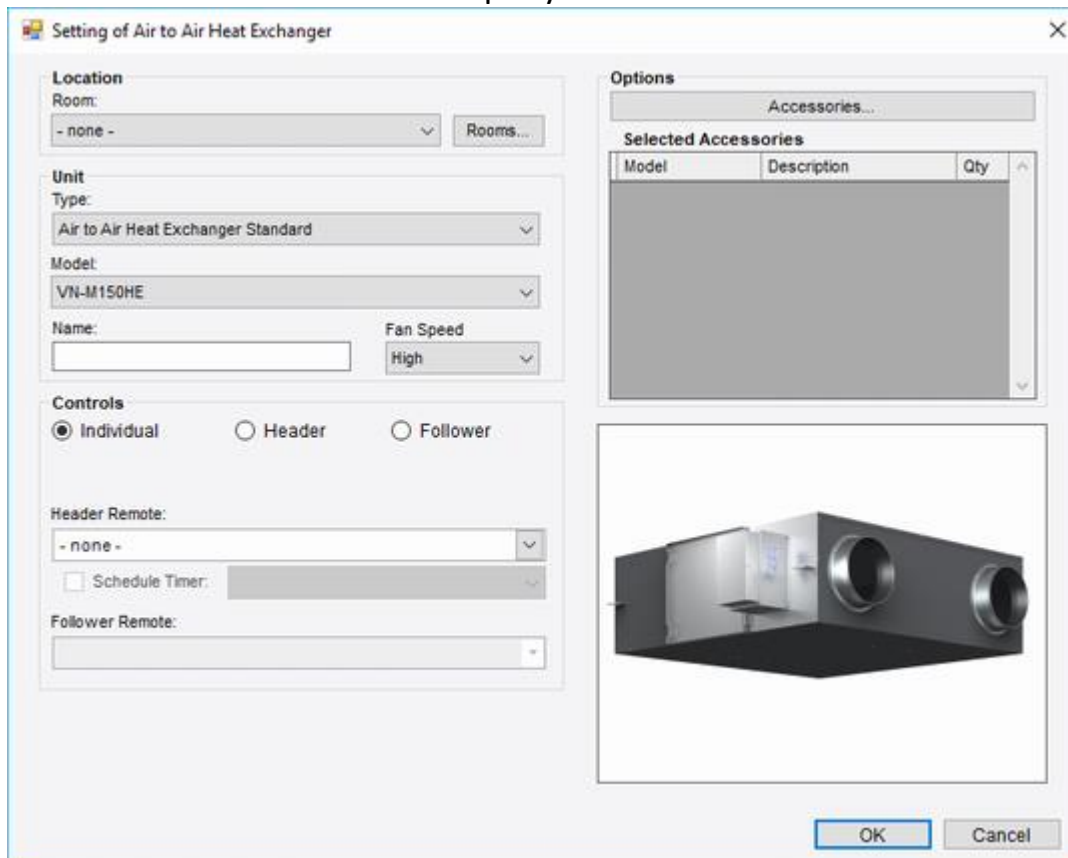
1. To paste an Air to Air Heat Exchanger, drag and drop it from the toolbox on the right.



Air to Air Heat Exchanger property

Air to Air Heat Exchangers can be set from this window.

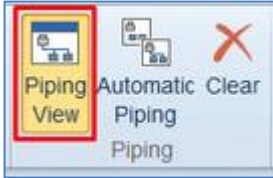
* Reference the Indoor Unit Property.



2.8 Piping

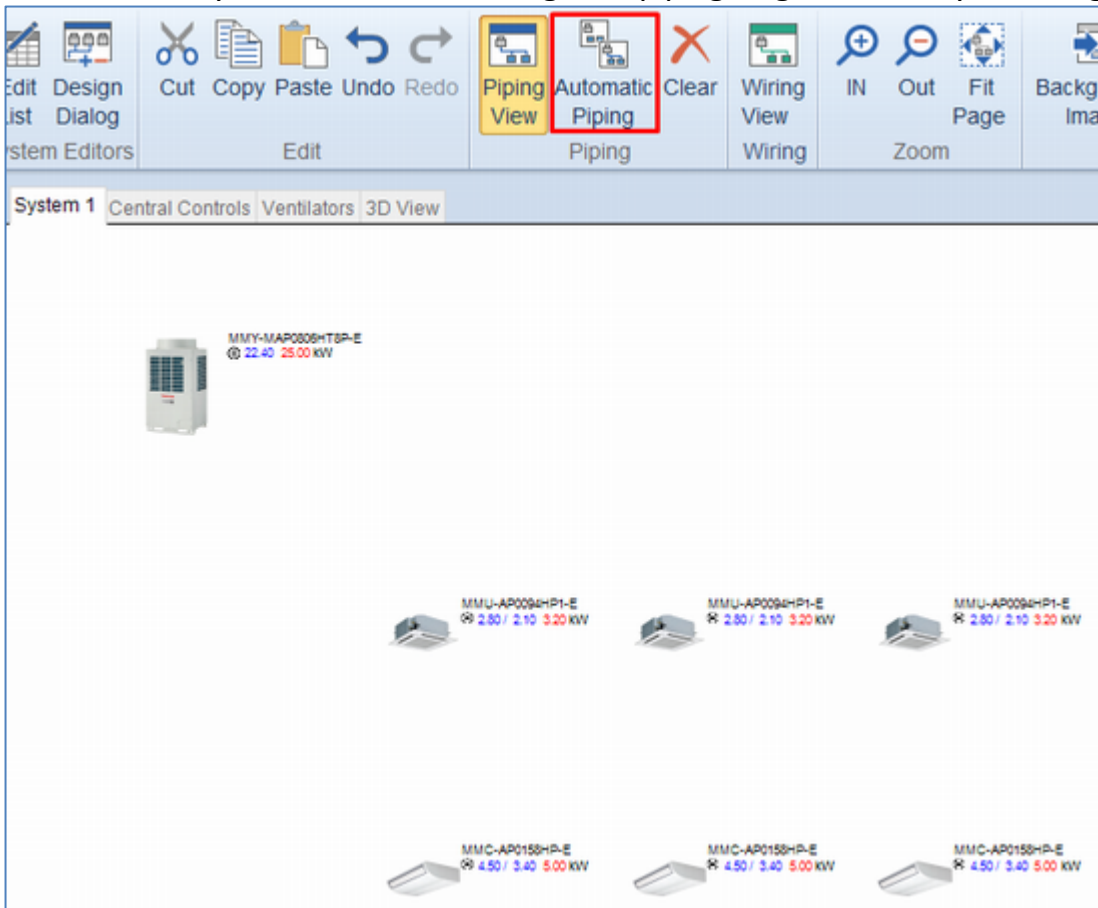
This creates a refrigerant piping diagram after arranging indoor units and outdoor units. A refrigerant piping diagram is created while displaying the diagram.

Click the “Piping View” icon in the ribbon to display the refrigerant piping diagram.

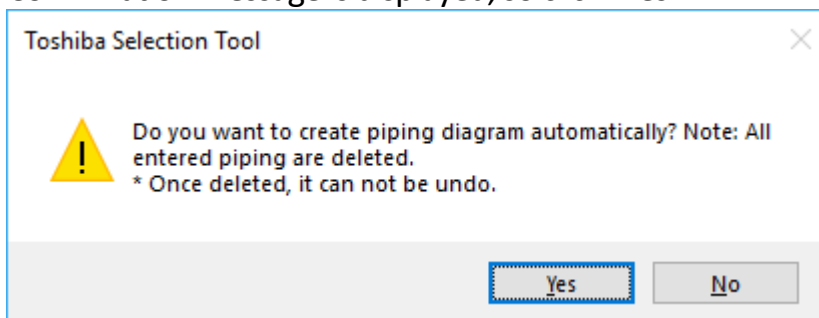


2.8.1 Automatic Piping

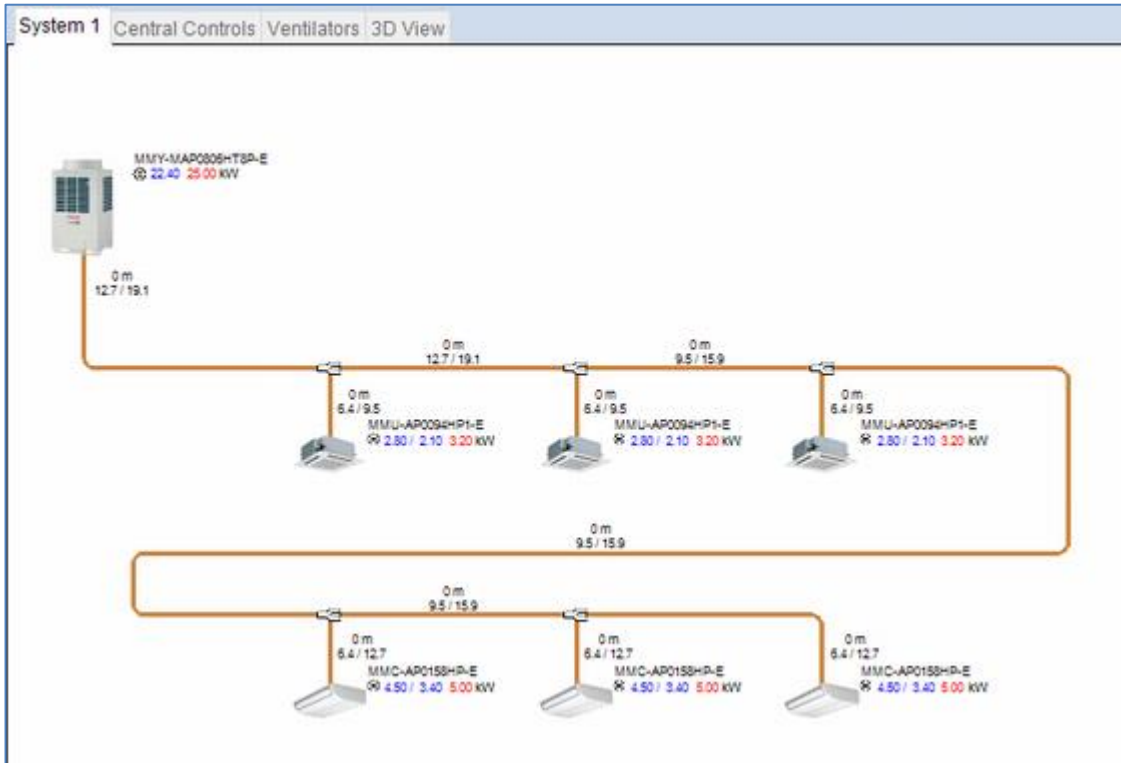
Click the “Automatic Piping” property icon in the ribbon to automatically create a standard refrigerant piping diagram in the system diagram.



Confirmation message is displayed, so click “Yes”.



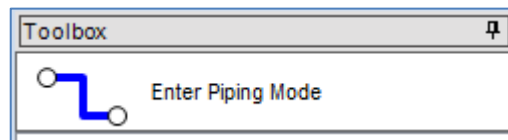
Refrigerant piping diagram is automatically created.



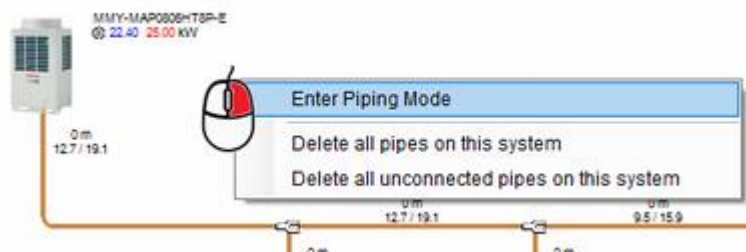
2.8.2 Manual Piping

Refrigerant piping can be drawn out freely by executing the following procedure.

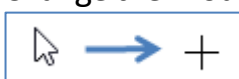
Open the accessories tab in the toolbox and click "Enter Piping Mode". It then switches to Piping mode, and the mouse pointer changes as shown in the system diagram.



Or, right-click anywhere with no component on the system diagram and select "Enter Piping Mode".



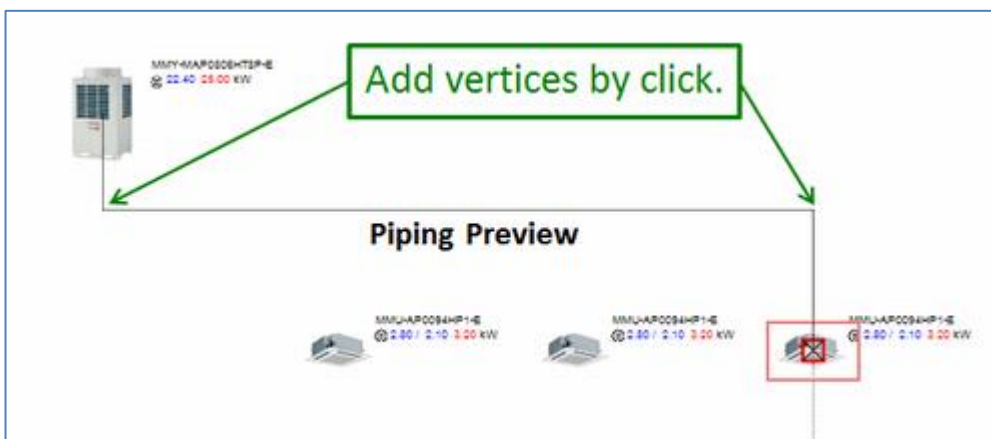
Change the Mouse pointer in Piping mode



- 1) After switching to Piping mode, click the refrigerant piping as the start point. In this case, an outdoor unit is the start point and leads to an indoor unit, but it can be started from anywhere in the system diagram.



- 2) Moving the mouse to the indoor unit displays a preview of the piping from the outdoor unit to the indoor unit.



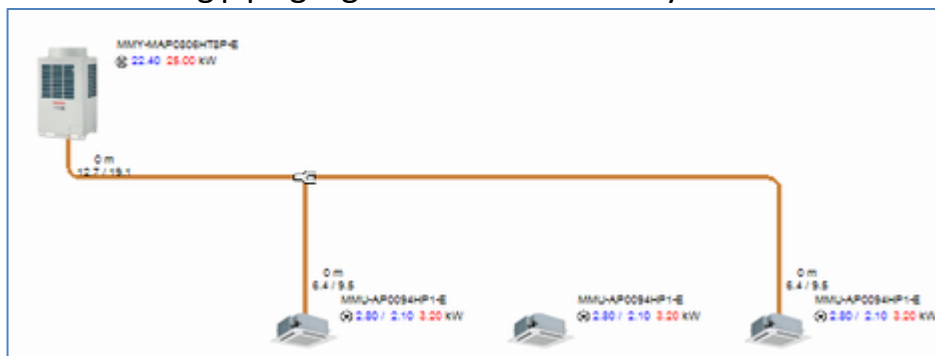
- 3) Click the indoor unit to install the piping from the outdoor unit to the indoor unit.



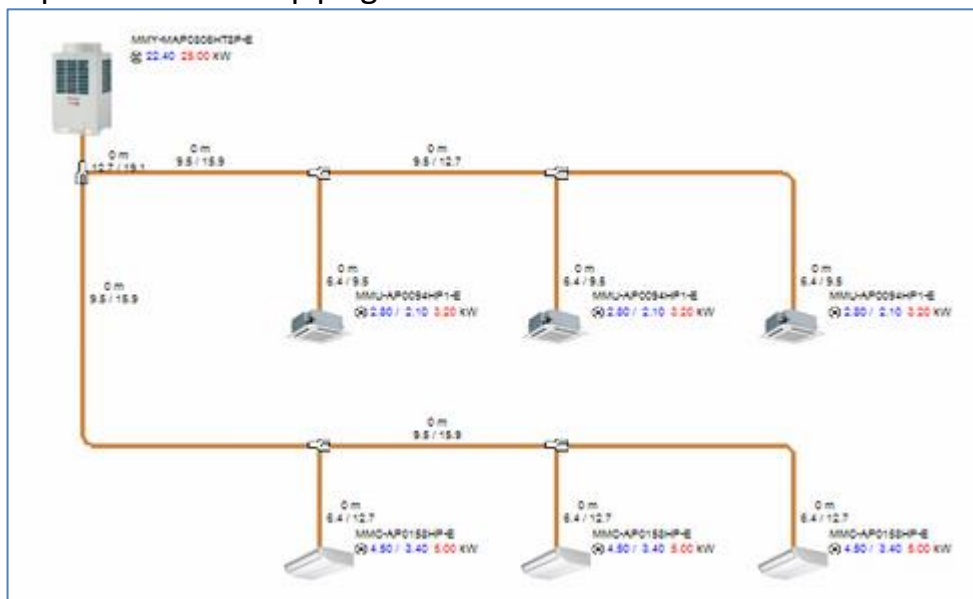
4) Connect piping to each indoor unit as well.



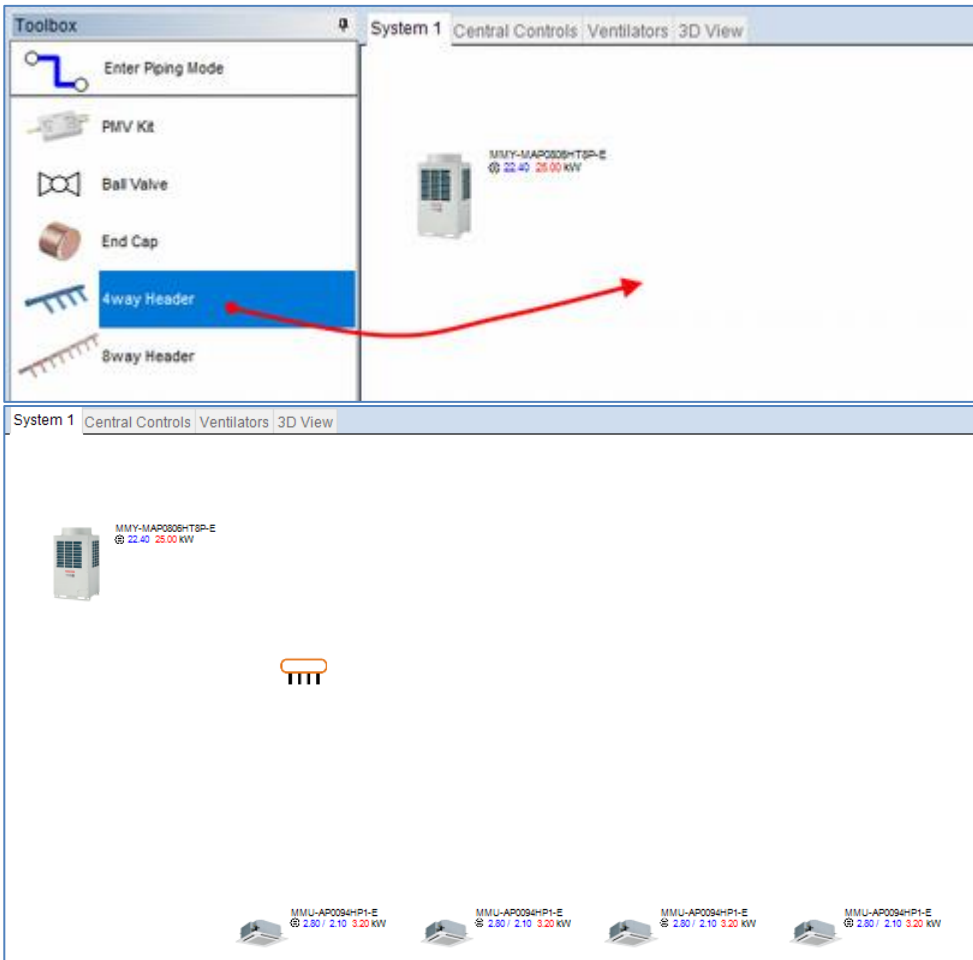
* A branching piping is generated automatically.



Repeat and connect piping to all indoor units.

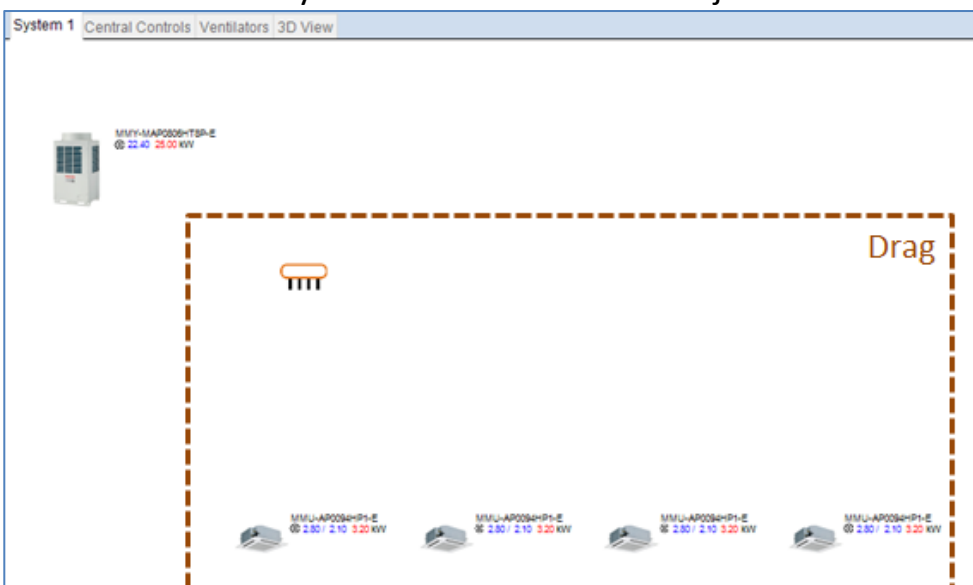


If you have arranged Header Joint or Multi Flow Selector, you can also select the indoor unit to connect for automatic piping setup.

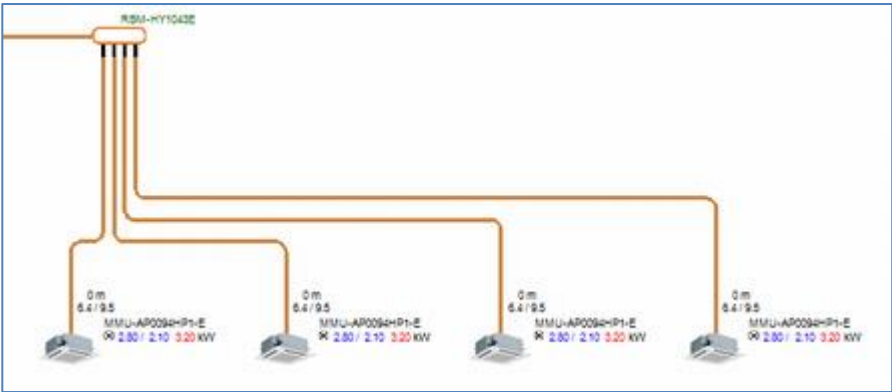
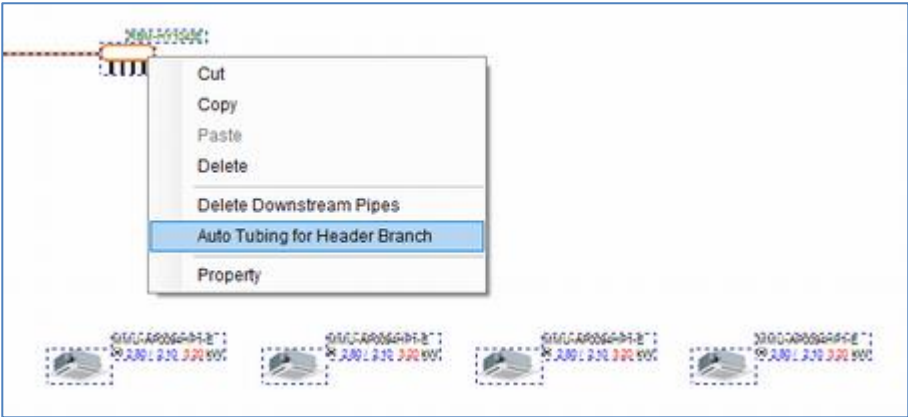


* Connect piping manually from the outdoor unit to Header Joint (or Multi Flow Selector).

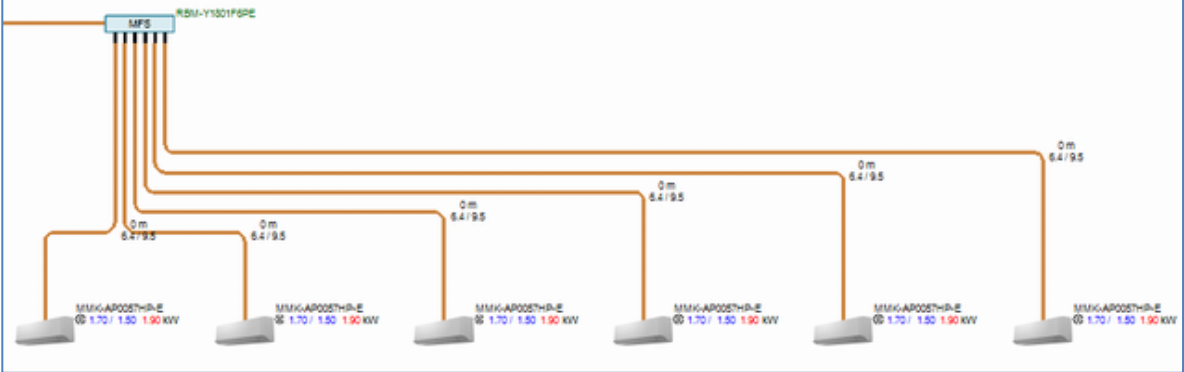
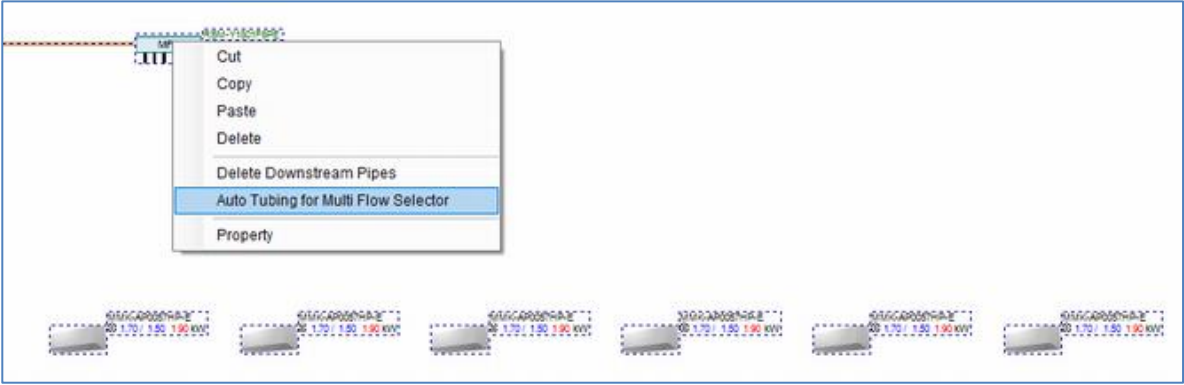
Select an indoor unit you want to connect with the joint.



With it still selected, click “Auto Tubing for Header Branch” from the context menu to generate piping.

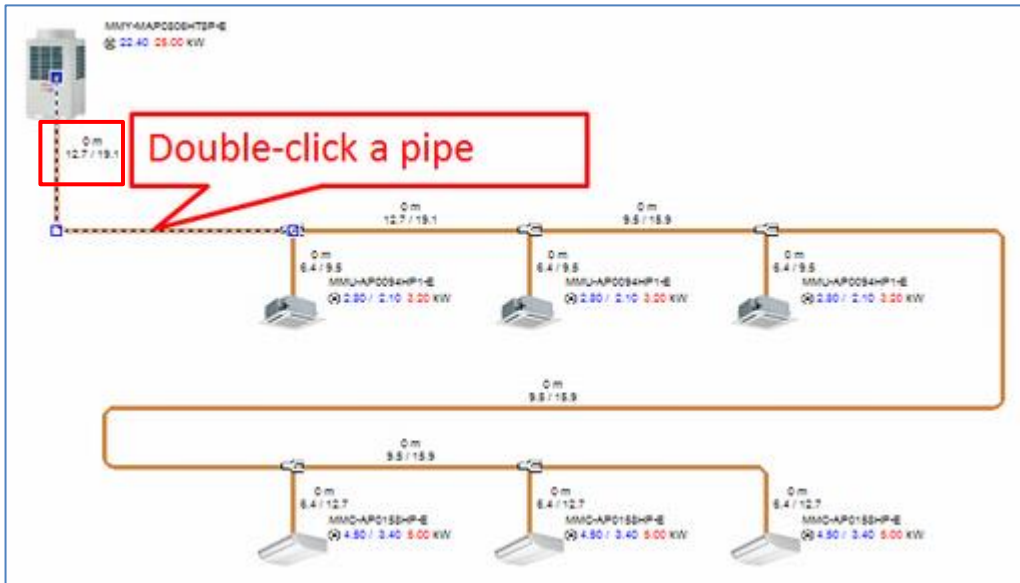


The same applies to Multi Flow Selector.

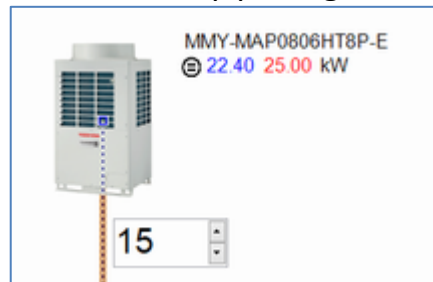


2.8.3 Entering pipe length

The length of a pipe can be set by double-clicking the arranged pipe or pipe information.

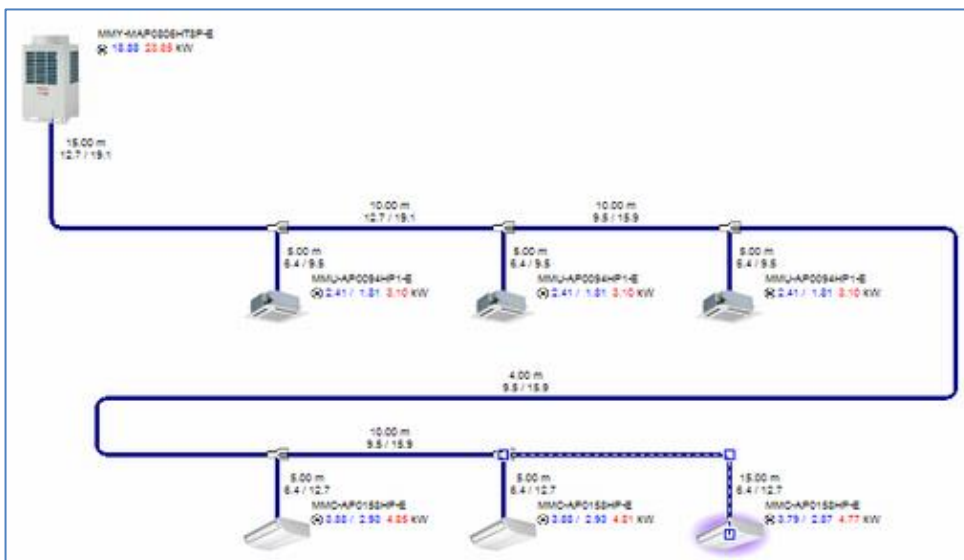


The pipe length input box is displayed. -> Enter the pipe length



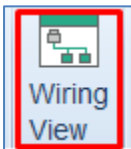
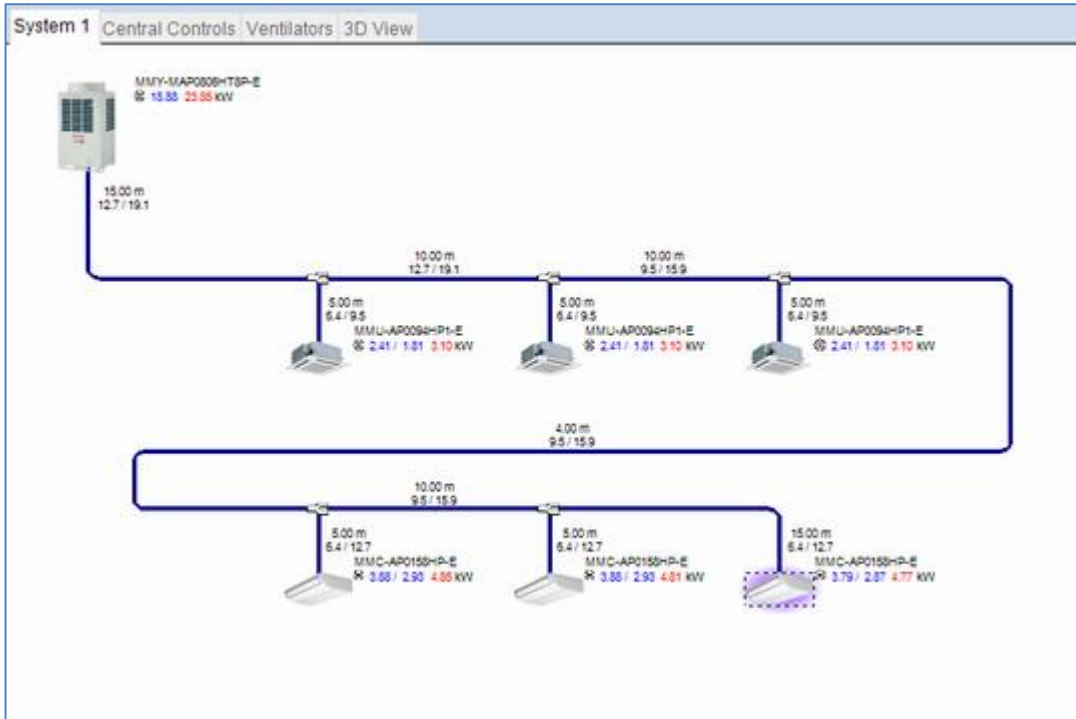
The entered pipe length is displayed in the system diagram, and the pipe color changes from brown to blue.

Use the Enter key to move to the pipes with pipe length not yet entered, and then enter all of them.

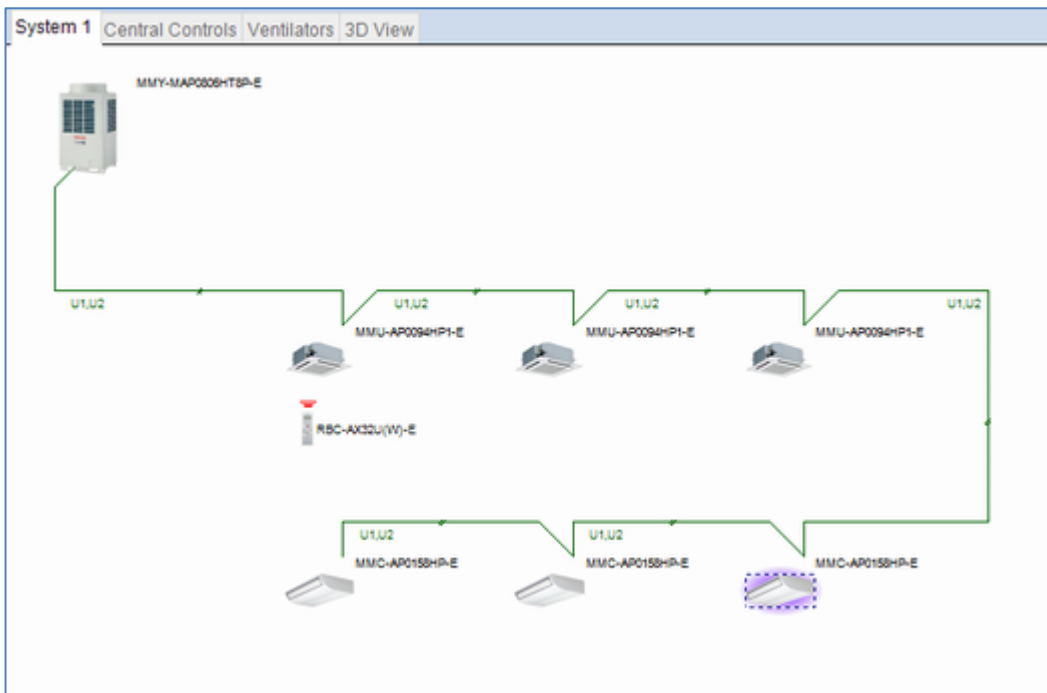


2.9 Wiring

Arrange the indoor and outdoor units (and piping)



Use the Wiring View button in the Home tab to display the operation wiring diagram in the system diagram.



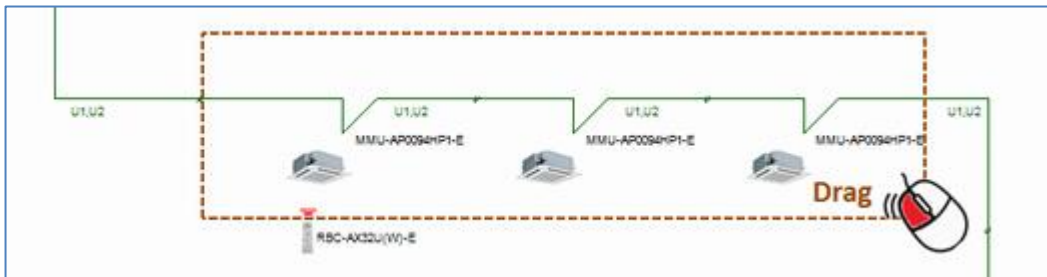
2.9.1 Indoor Unit Grouping

Sets the controls for the group.

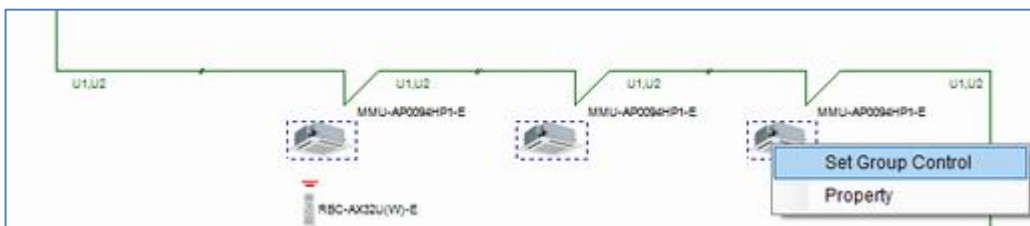
When Wiring view

Drag the indoor unit for group setting to select it.

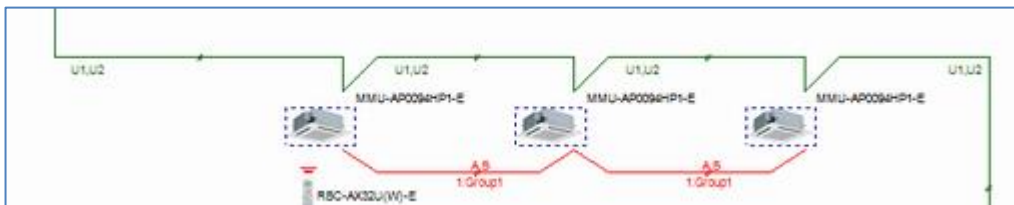
* Also, while holding down the Shift or Ctrl key, you can also click to select it.



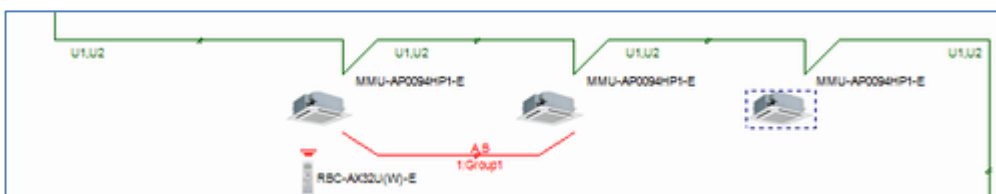
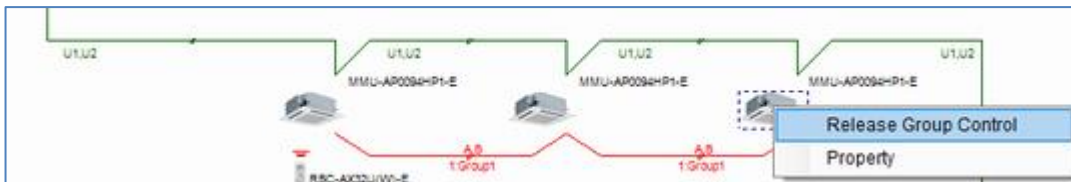
Right-click the selected indoor units. From the context menu, click “Set Group Control”.



The group is set up.



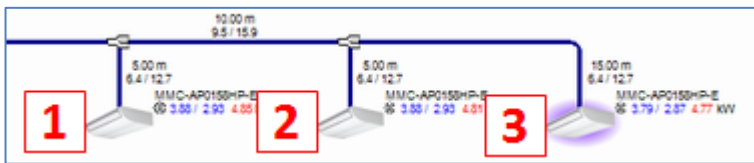
To cancel, right-click and then click “Release Group Control”.



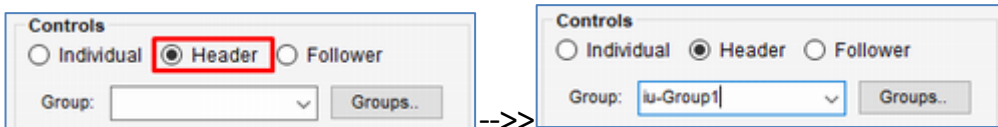
When Piping view

Set up a group for each indoor unit.

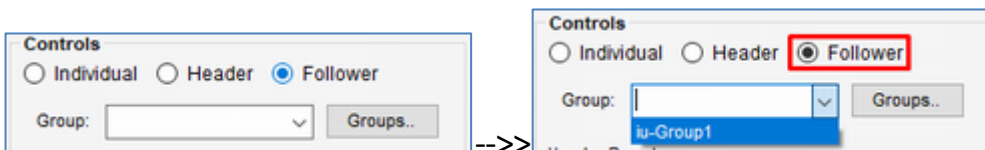
例 Example: **3** Set to **1 2** header, and to follower.



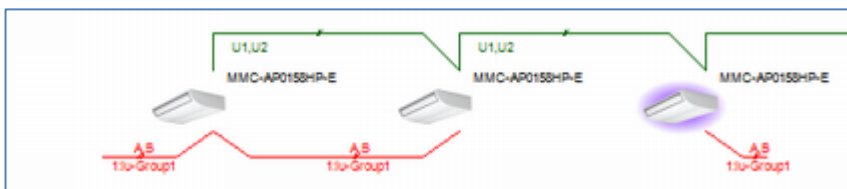
Open the property of the indoor unit to be the Header. Select Header in the Controls section, and enter a group **3** name.



Open the property of the indoor unit to be Follower. Select Follower in the Control section, and select **1 2** Group.



Switch to Wiring View and check the setting.

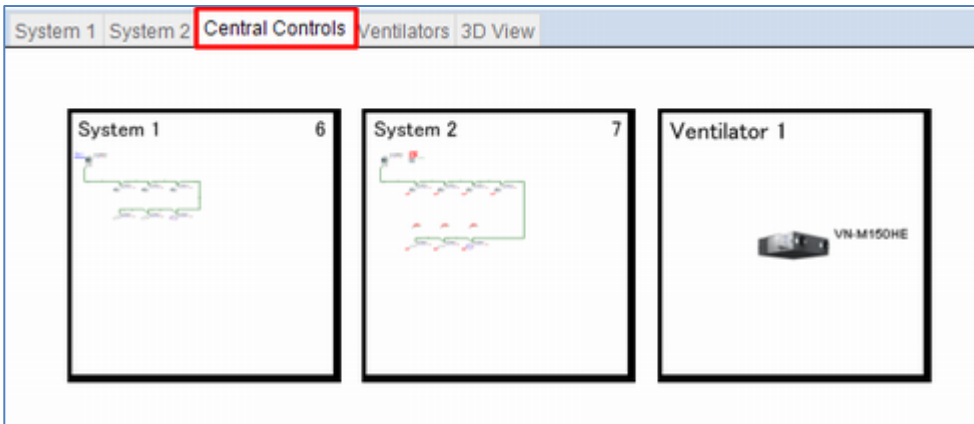


* For Ventilator, also set up Group in the same way.

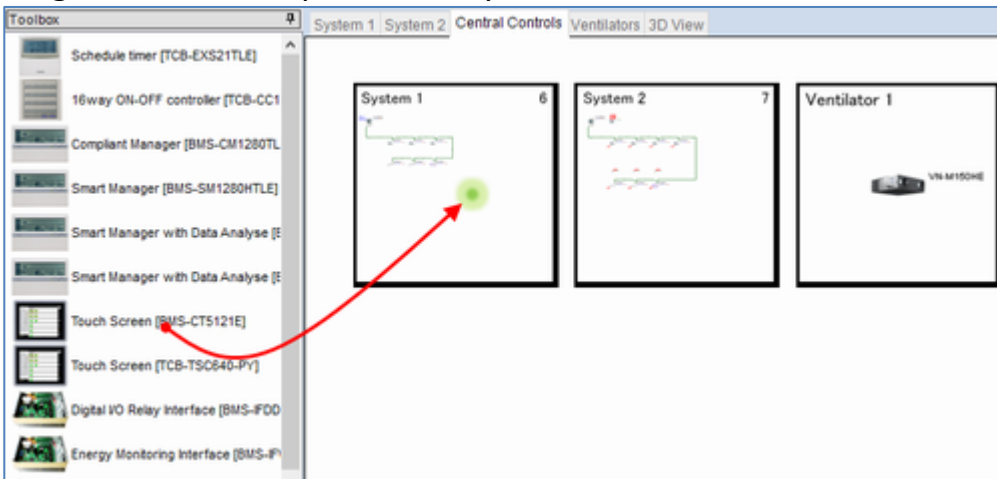
* When Follower is selected, addable groups are displayed as choices.

2.9 Select Central Controls

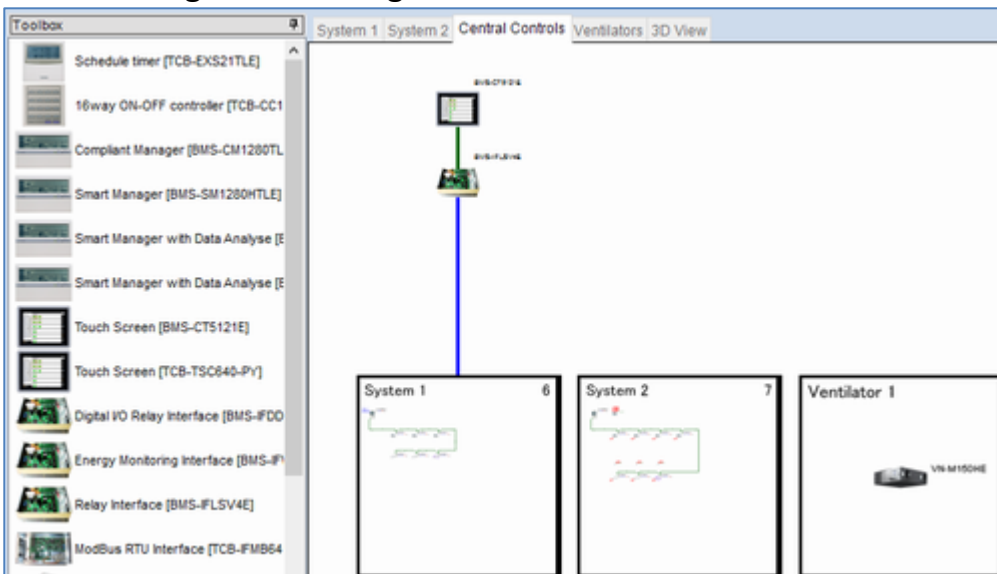
This function links controllers with created systems and Ventilators. The Select Central Controls Tab, system, and Ventilator appear as thumbnails.



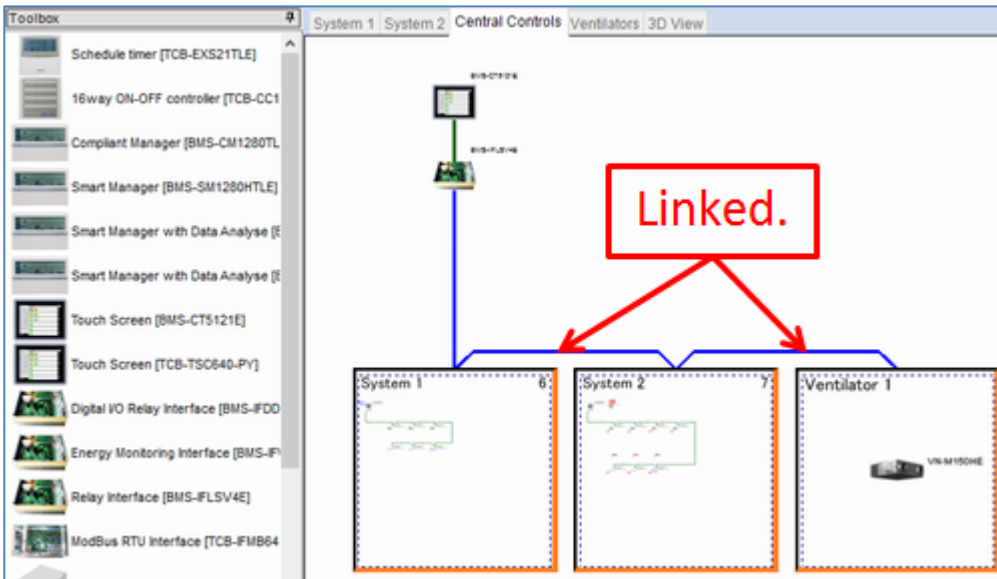
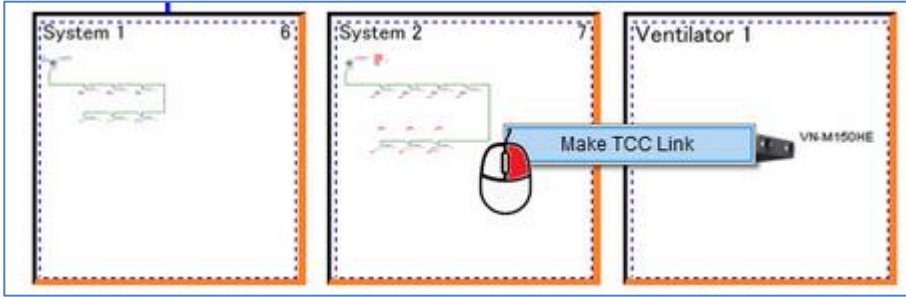
Select the controller you want to paste from the toolbox. Drag it to the desired place in the system and then release the mouse cursor to drop it.



You can configure the setting.



The Select Central Controls Tab, system, and Ventilator appear as thumbnails.



Address Setting

Right-click on the controller and press Address Setting in the displayed menu.



Set up the address.

Address setting - [Touch Screen]

No	Relay I/F Address	System Address	Indoor Unit Address	Parent Indoor Unit No.	System Name	Outdoor Unit Name	Outdoor Model Name	Indoor Unit No	Floor	Tenant	Room	Indoor Unit Name	Indoor Model Name	Central Address
1					- System 1		MMY-MAP0806HT8P-E	System 1-1	Tn01			MMU-AP0094HP1-E		1
2					- System 1		MMY-MAP0806HT8P-E	System 1-2	Tn01			MMU-AP0094HP1-E		2
3					- System 1		MMY-MAP0806HT8P-E	System 1-3	Tn01			MMU-AP0094HP1-E		3
4					- System 1		MMY-MAP0806HT8P-E	System 1-4	Tn01			MMC-AP0158HP-E		4
5					- System 1		MMY-MAP0806HT8P-E	System 1-5	Tn01			MMC-AP0158HP-E		5
6					- System 1		MMY-MAP0806HT8P-E	System 1-6	Tn01			MMC-AP0158HP-E		6
7					- System 2		MMY-MAP0806FT8P-E	System 2-1	Tn02			MMU-AP0094HP1-E		7
8					- System 2		MMY-MAP0806FT8P-E	System 2-2	Tn02			MMU-AP0094HP1-E		8
9					- System 2		MMY-MAP0806FT8P-E	System 2-3	Tn02			MMU-AP0094HP1-E		9
10					- System 2		MMY-MAP0806FT8P-E	System 2-4	Tn02			MMC-AP0158HP-E		10
11					- System 2		MMY-MAP0806FT8P-E	System 2-5	Tn02			MMC-AP0158HP-E		11
12					- System 2		MMY-MAP0806FT8P-E	System 2-6	Tn02			MMC-AP0158HP-E		12
13					- System 2		MMY-MAP0806FT8P-E	System 2-7	Tn02			MMU-AP0094HP1-E		13
14		31			- Ventilators			Ventilators-1	Vert.			VN-M150HE		14

Automatic setting [OK] [Cancel]

2.10 System Check

When outdoor units and indoor units are arranged in a system diagram, all types of data are checked and those results are displayed in lists.

Items exceeding allowable values are displayed in red as errors.

If all items are normal, then the background color of the Total System Check line at the top will be blue. If an error item exists, that line will be having a red background.

Normal

Property	Value	Limit
Total System Check		✓
Outdoor Units	1 Unit	-
Indoor Units	6 Unit	18 Unit
Outdoor Combined Rated HP	8 HP	-
Outdoor Combined Rated Cooling	22.40...	-
Outdoor Combined Rated Heating	25.00...	-
Indoor Combined Rated Cooling	21.90...	-
Indoor Combined Corrected Cooling	18.80...	-
Indoor Combined Rated Heating	24.60...	-
Indoor Combined Corrected Heating	23.73...	-
Indoor Units Combined Capacity C...	8.1	-
Outdoor Combined Capacity Code	8	-
Capacity Ratio	101.3...	50 - 135%
Total Pipe Length	89.00...	300.00 m
Farthest Piping Real Length	64.00...	170.00 m
Farthest Piping Equivalent Length	76.80...	210.00 m
Farthest Piping From 1st Indoor Br...	49.00...	-
Farthest Piping From 1st Indoor Br...	58.80...	90.00 m
Farthest Piping Between Outdoor...	0.00 m	25.00 m
Main Piping Real Length(L1)	15.00...	100.00 m
Main Piping Equivalent Length(L1e)	18.00...	120.00 m
Greatest Indoor Unit Connecting Pi...	15.00...	30.00 m
Greatest Outdoor Unit Connecting...	0.00 m	10.00 m
Greatest Piping Between Branches...	12.00...	50.00 m
Highest Outdoor Unit	0.00 m	-
Lowest Outdoor Unit	0.00 m	-

There are some errors

Property	Value	Limit
Total System Check		✗
Outdoor Units	1 Unit	-
Indoor Units	6 Unit	18 Unit
Outdoor Combined Rated HP	8 HP	-
Outdoor Combined Rated Cooling	22.40...	-
Outdoor Combined Rated Heating	25.00...	-
Indoor Combined Rated Cooling	44.60...	-
Indoor Combined Corrected Cooling	22.85...	-
Indoor Combined Rated Heating	50.00...	-
Indoor Combined Corrected Heating	29.96...	-
Indoor Units Combined Capacity C...	16.4	-
Outdoor Combined Capacity Code	8	-
Capacity Ratio	205.0...	50 - 135%
Total Pipe Length	114.0...	300.00 m
Farthest Piping Real Length	89.00...	170.00 m
Farthest Piping Equivalent Length	106.8...	210.00 m
Farthest Piping From 1st Indoor Br...	74.00...	-
Farthest Piping From 1st Indoor Br...	88.80...	90.00 m
Farthest Piping Between Outdoor...	0.00 m	25.00 m
Main Piping Real Length(L1)	15.00...	100.00 m
Main Piping Equivalent Length(L1e)	18.00...	120.00 m
Greatest Indoor Unit Connecting Pi...	40.00...	30.00 m
Greatest Outdoor Unit Connecting...	0.00 m	10.00 m
Greatest Piping Between Branches...	12.00...	50.00 m
Highest Outdoor Unit	0.00 m	-
Lowest Outdoor Unit	0.00 m	-

2.10.1 Error List

This window displays a list of system error contents and operation advice suited to the working state.

Double-click the displayed error content to select the area causing the error.

so identify the cause and remove all errors.

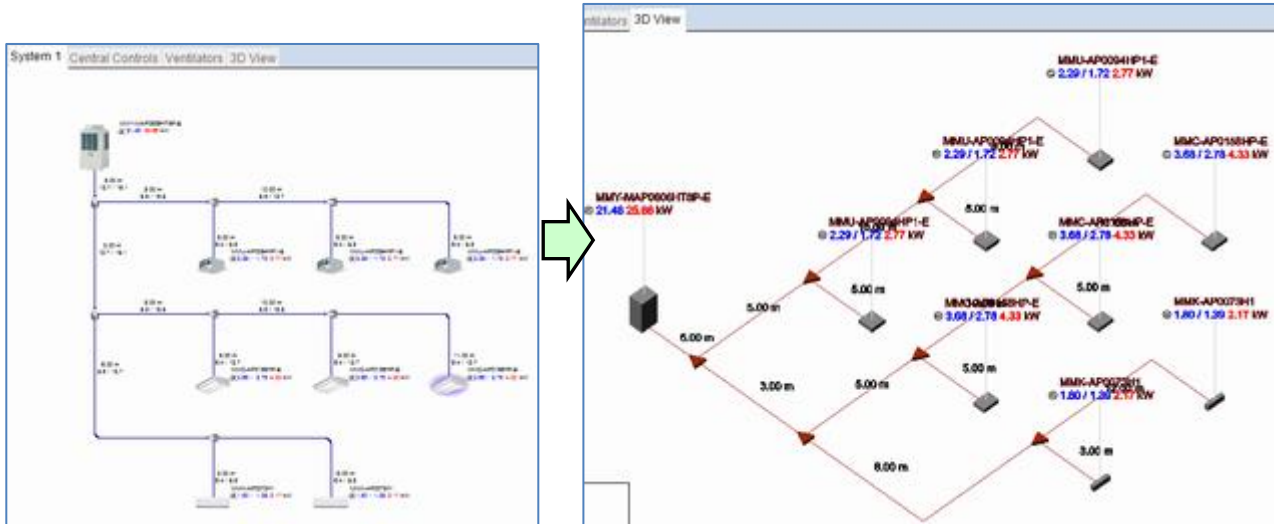
System	Level	Description	Advice
System 1	Alert	Pipe length is zero (x2)	Please enter a length.
System 1	Critical	Indoor Unit Required Cooling(1)	Indoor Unit has Corrected Cooling of 6.08 kW witch is less tha...
System 1	Critical	Capacity Ratio is too High	The Capacity Ratio is 205 %, which exceeds the allowed maxi...
System 1	Critical	Indoor unit connecting piping	The Maximum real length of indoor unit connecting piping is 3...
System 2	Critical	No Controllers	No local Remote & no central Remote

2.11 3D View

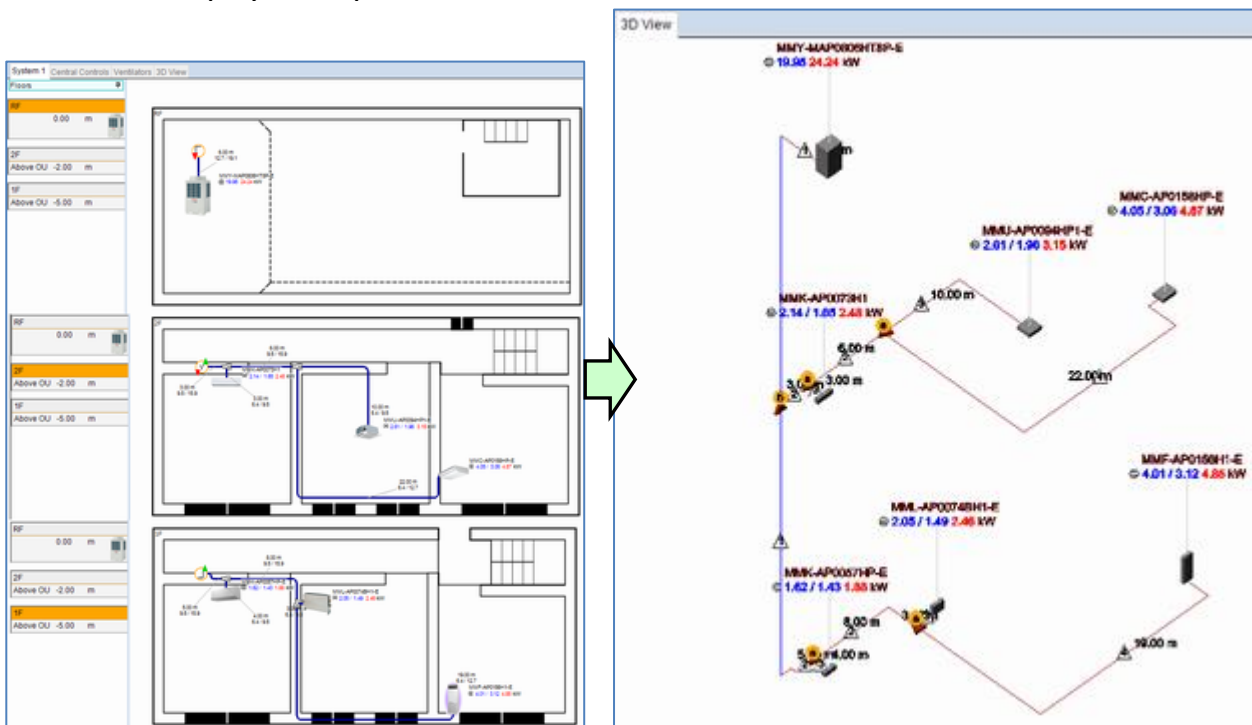
System 1 Central Controls Ventilators **3D View**

Display the system diagram in 3D view.

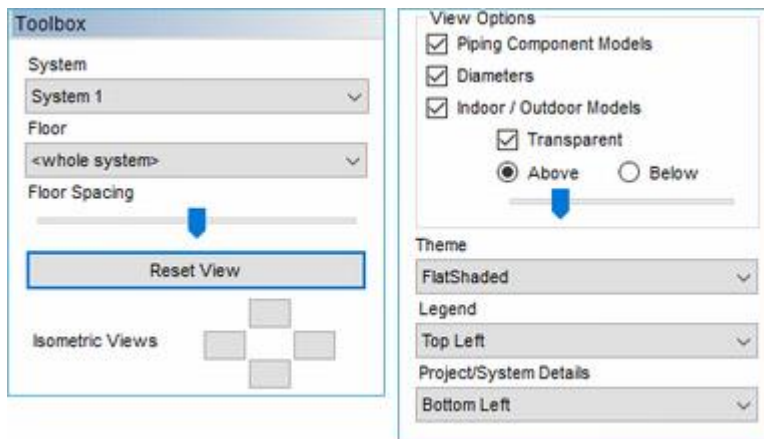
If no floor is set or floors are displayed collectively



If floors are displayed in split view



Toolbox



Systems : Select the System.

Floor : Display only the selected floor. **If floors are displayed in split view*

Floor Spacing : Adjust the height of the floor. **If floors are displayed in split view*

Reset View : Reset the display to its default state.

Isometric Views : Switch the viewpoint using the four buttons on the right.

View Options


Piping Component Models : Display the fitting mark (*1) .

Diameters : Display the pipe diameter mark (*1) .

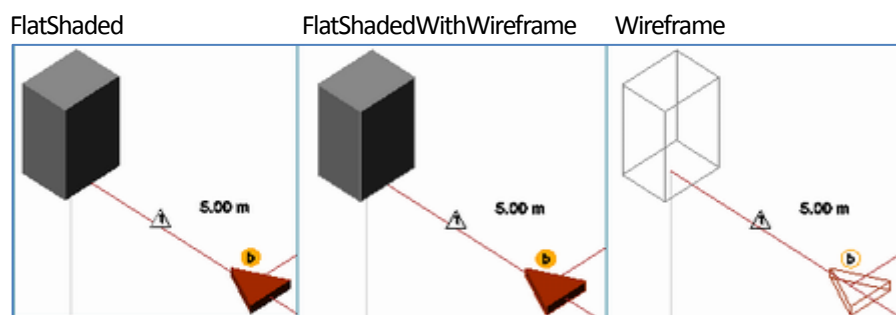
Indoor / Outdoor Models : Display Model Name of the indoor unit and the outdoor unit.

Transparent : Display Model Name and Capacity transparently.

Above / Below : Change the display position of Model Name and Capacity.

Use  to adjust the distance to the component.

Theme : Selects a theme.



Legend : Select the display position of Legend.

Project /System Details : Select the display position of Project/System Details.

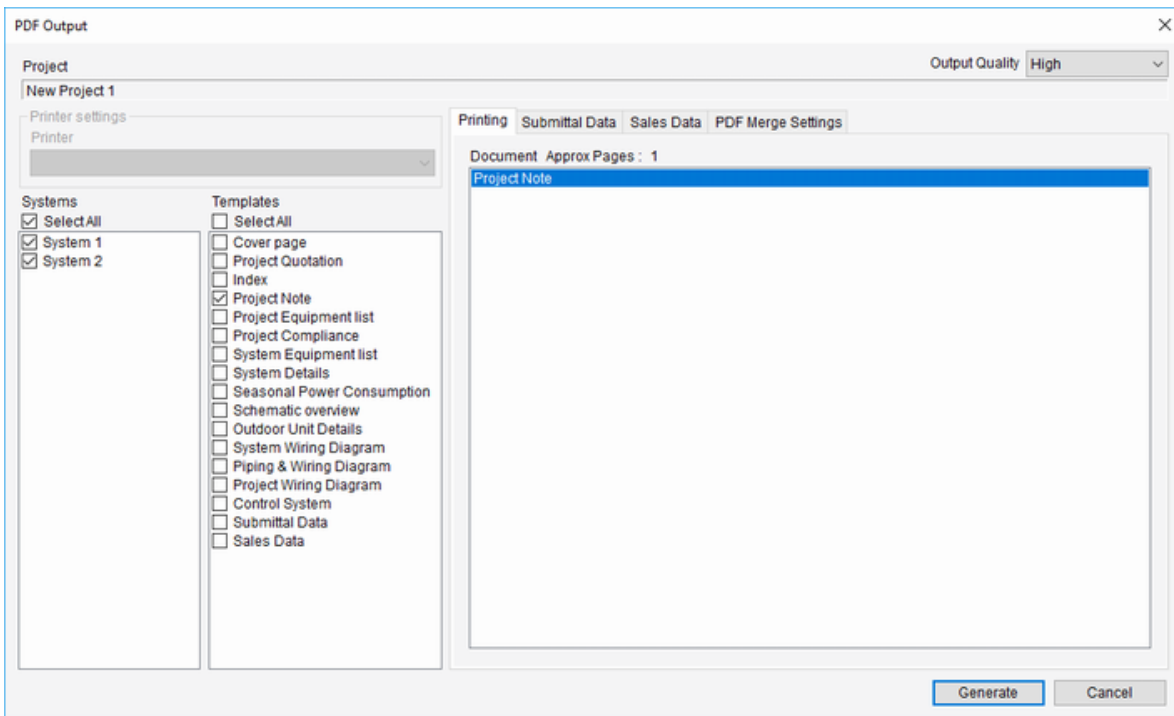
*1 Aggregate character or number in Legend

a	RBM-BY55E	(x5)
b	RBM-BY105E	(x2)
1	12.7mm 19.1mm	
2	6.4mm 9.5mm	
3	9.5mm 15.9mm	
4	9.5mm 12.7mm	
5	6.4mm 12.7mm	

2.12 Output Report

2.12.1 Print / Excel Output / PDF Output

This dialog box is displayed by pressing the Excel Output button in the icon ribbon.



Printer :

Selects the printer to output data.

Templates :

Selects the print items to be output.

Printing :

Displays the print items to be output.

Submittal Data :

Displays the submittal data.

Sales Data :

Displays the sales data.

PDF Merge Settings :

Adds a PDF document and merges it with the finally output PDF file.

Generate

A message confirming whether to print with the specified printer is displayed.

2.12.2 AutoCAD Export

The screenshot shows the 'AutoCAD Export' dialog box with the following configuration:

- Step 1 - Select which system to export:**
 - This System(All floors)
 - Entire Project
- System Selection Table:**

System Name	System Type
System 1	Super Modular Multi System (SMMS-e)
System 2	Super Heat Recovery Multi System (SHRM-e)
Ventilators	
- Step 2 - Select which drawing to export:**
 - Diagram:**
 - Piping
 - Wiring
 - Piping + Wiring
 - Schematic
- Step 3 - Select export location/file names:**
 - Save to folder: C:\Users\TCC\Documents
 - Filename Prefix: New Project 1
 - Type of export data: DXF (AutoCAD R14)
- Filename Table:**

Filename	System	Floor	Page No	Done
New Project 1_System 2_Drawing.dxf	System 2		1	<input type="checkbox"/>
- Step 4 - Generate DXF exports:**
 - Generate AutoCAD DXF Export
 - Close

Step 1-Select which system to export :

Selects the Export Items.

Step 2 –Select which drawing to export :

Diagram

Select either the piping system only/wiring only or both.

Schematic

Piping system as drawn in piping view

Step 3 – Select export location/file names :

Set the Export Conditions.

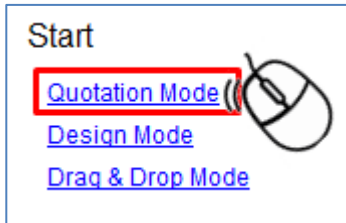
Generate AutoCAD DWG Export

Executes DXF (or DWG) files.

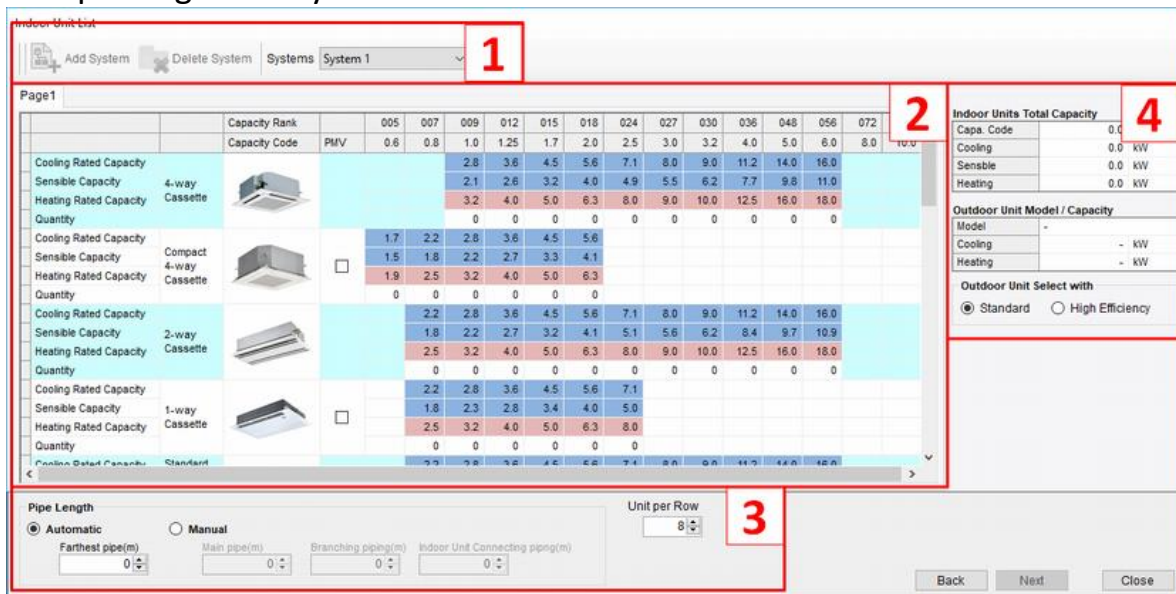
3. Quotation Mode

This mode automatically creates a system diagram simply by specifying the outdoor unit type and number of indoor units.

Depending on the type and number of indoor units, outdoor units with the appropriate capacity are automatically selected, and piping/wiring is carried out.

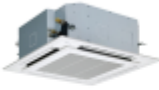


1. When starting a project in Quotation Mode, the New Project window is displayed. Set the necessary items and click the “OK” button.
2. Display the Indoor Unit List window. Indoor units displayed in the list will switch to indoor units that can be selected depending on the system.



- 1) Add, delete, or select a system.
- 2) Enter the number of indoor units in the system.
- 3) Set the pipe length and the number of indoor units per row.
- 4) Display information on the selected outdoor unit.

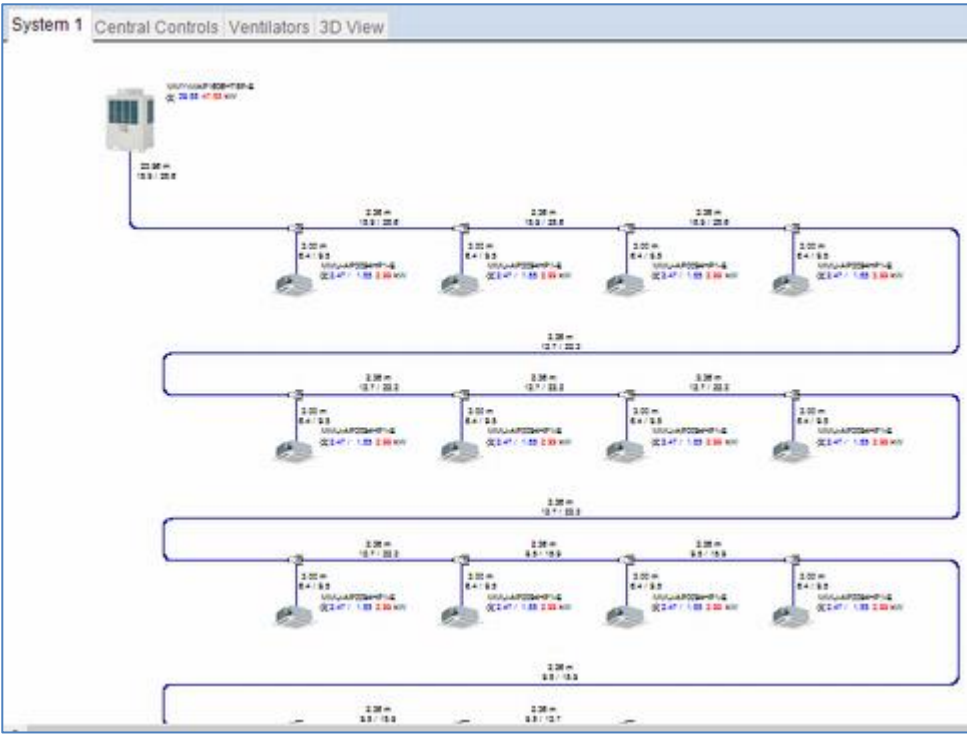
Enter the necessary items and click Next to generate a system diagram. You can specify the selection conditions.

Capacity Code	PMV	0.6	0.8	1.0
				2.8
				2.1
				3.2
				16

Pipe Length
 Automatic
 Farthest pipe(m)

Unit per Row

Next



The subsequent operation is the same as Drag & Drop Mode.

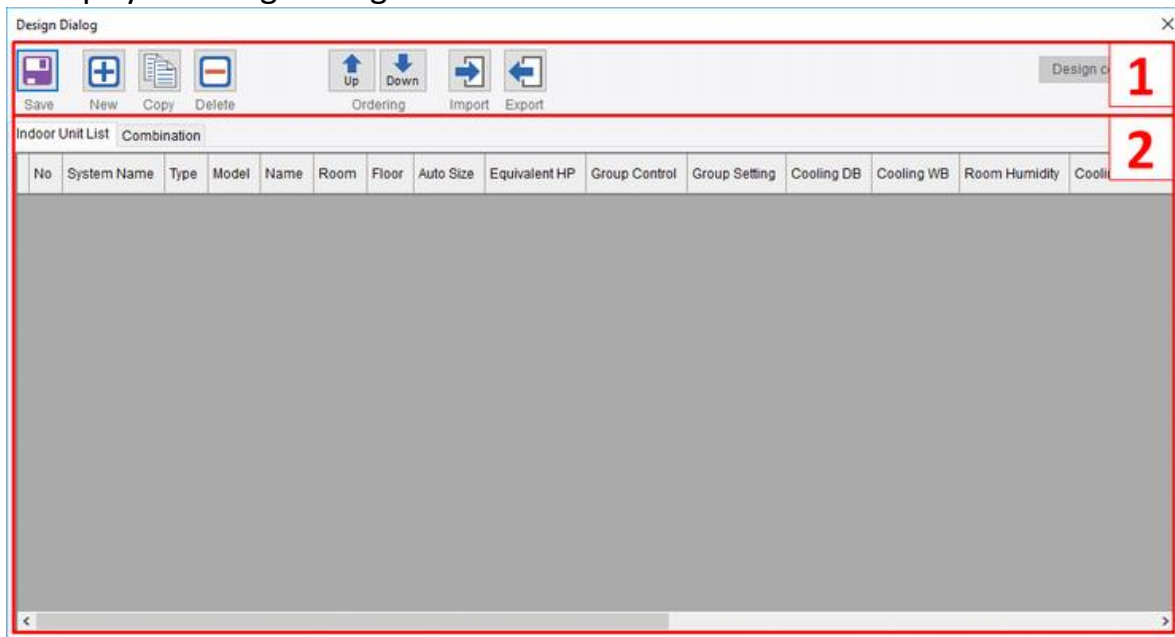
4. Design Mode

This mode creates multiple system diagrams simultaneously by pre-registering and combining all indoor units and outdoor units used in multiple systems.



1. When starting a project in Design Mode, the New Project window is displayed. Set the necessary items and click the “OK” button.

2. Display the Design dialog window.



1) Save, add component/system, copy, delete, sort, import/export menu

2) Registered component list view

Indoor Unit List tab :

Manage a list of indoor units not belonging to the system yet.

Combination Tab :

Add outdoor units and register indoor units to be combined.

1) Click the “New” button.

The Indoor Unit Property window is displayed, so after selecting the indoor unit type, edit other items if required and click the “OK” button.

2) The indoor units earlier selected in the Design Dialog window are displayed. Add the necessary number of units.

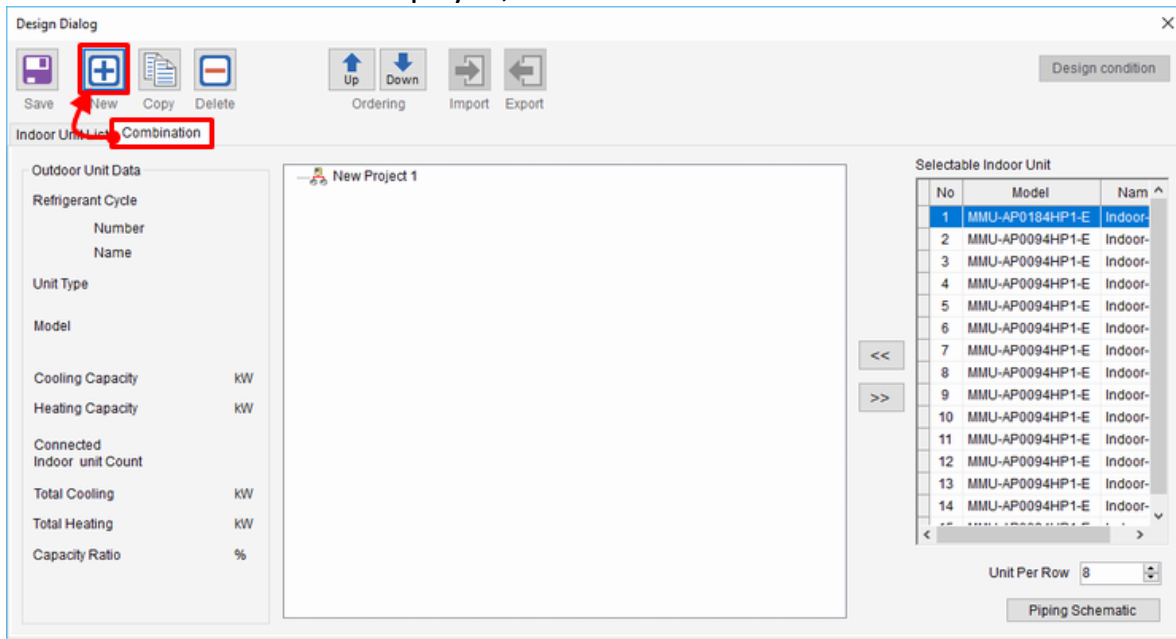
Design Dialog

No	System Name	Type	Model	Name	Room	Floor	Auto Size	Equivalent HP	Group Control	Group Setting	Cooling DB	Cooling WB	Room i
1		4-way Cassette	MMU-AP0184HP1-E	Indoor-1			<input checked="" type="checkbox"/>	2		individual	27.0	19.0	

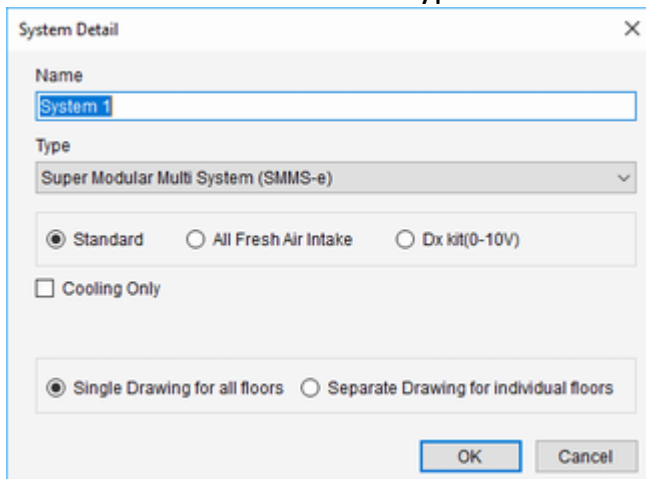
Design Dialog

No	System Name	Type	Model	Name	Room	Floor	Auto Size	Equivalent HP	Group Control	Group Setting	Cooling DB	Cooling WB	Room i
1		4-way Cassette	MMU-AP0184HP1-E	Indoor-1			<input type="checkbox"/>	2		Individual	27.0	19.0	
2		4-way Cassette	MMU-AP0094HP1-E	Indoor-2			<input type="checkbox"/>	1		Individual	27.0	19.0	
3		4-way Cassette	MMU-AP0094HP1-E	Indoor-3			<input type="checkbox"/>	1		Individual	27.0	19.0	
4		4-way Cassette	MMU-AP0094HP1-E	Indoor-4			<input type="checkbox"/>	1		Individual	27.0	19.0	
5		4-way Cassette	MMU-AP0094HP1-E	Indoor-5			<input type="checkbox"/>	1		Individual	27.0	19.0	
6		4-way Cassette	MMU-AP0094HP1-E	Indoor-6			<input type="checkbox"/>	1		Individual	27.0	19.0	
7		4-way Cassette	MMU-AP0094HP1-E	Indoor-7			<input type="checkbox"/>	1		Individual	27.0	19.0	
8		4-way Cassette	MMU-AP0094HP1-E	Indoor-8			<input type="checkbox"/>	1		Individual	27.0	19.0	
9		4-way Cassette	MMU-AP0094HP1-E	Indoor-9			<input type="checkbox"/>	1		Individual	27.0	19.0	
10		4-way Cassette	MMU-AP0094HP1-E	Indoor-10			<input type="checkbox"/>	1		Individual	27.0	19.0	
11		4-way Cassette	MMU-AP0094HP1-E	Indoor-11			<input type="checkbox"/>	1		Individual	27.0	19.0	
12		4-way Cassette	MMU-AP0094HP1-E	Indoor-12			<input type="checkbox"/>	1		Individual	27.0	19.0	
13		4-way Cassette	MMU-AP0094HP1-E	Indoor-13			<input type="checkbox"/>	1		Individual	27.0	19.0	
14		4-way Cassette	MMU-AP0094HP1-E	Indoor-14			<input type="checkbox"/>	1		Individual	27.0	19.0	
15		4-way Cassette	MMU-AP0094HP1-E	Indoor-15			<input checked="" type="checkbox"/>	1		Individual	27.0	19.0	

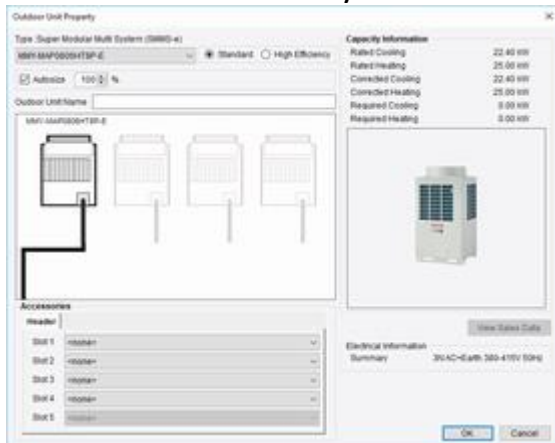
- 3) click the Combination tab,
The Combination tab is displayed, so click the “New” button.



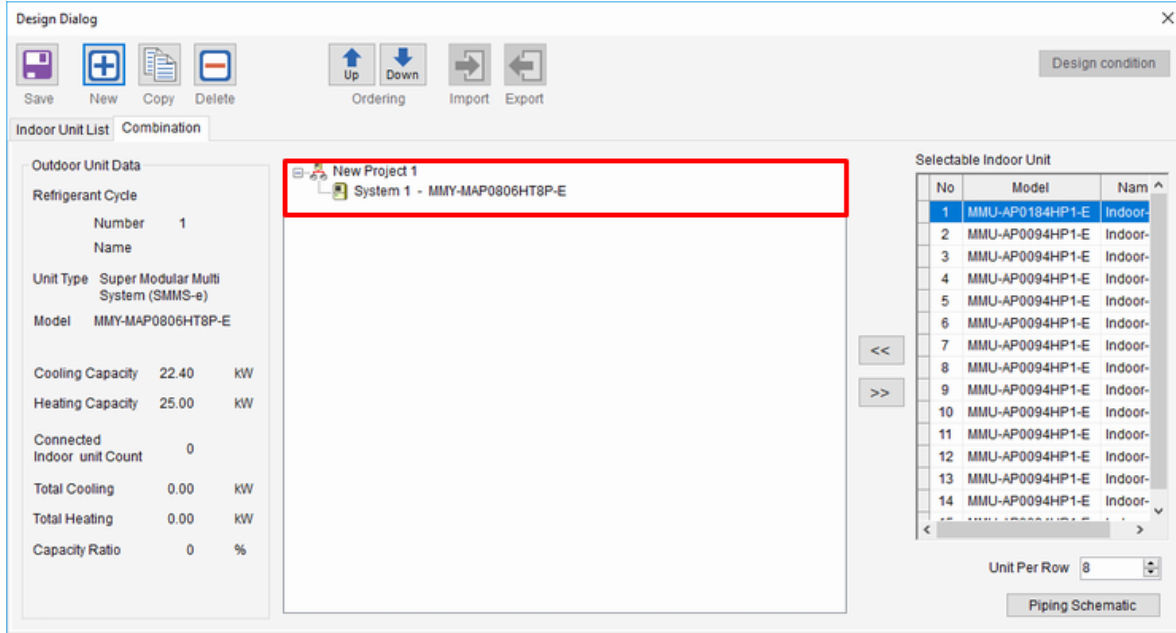
- 4) The System Detail window is displayed,
so select the outdoor unit type and click the “OK” button.



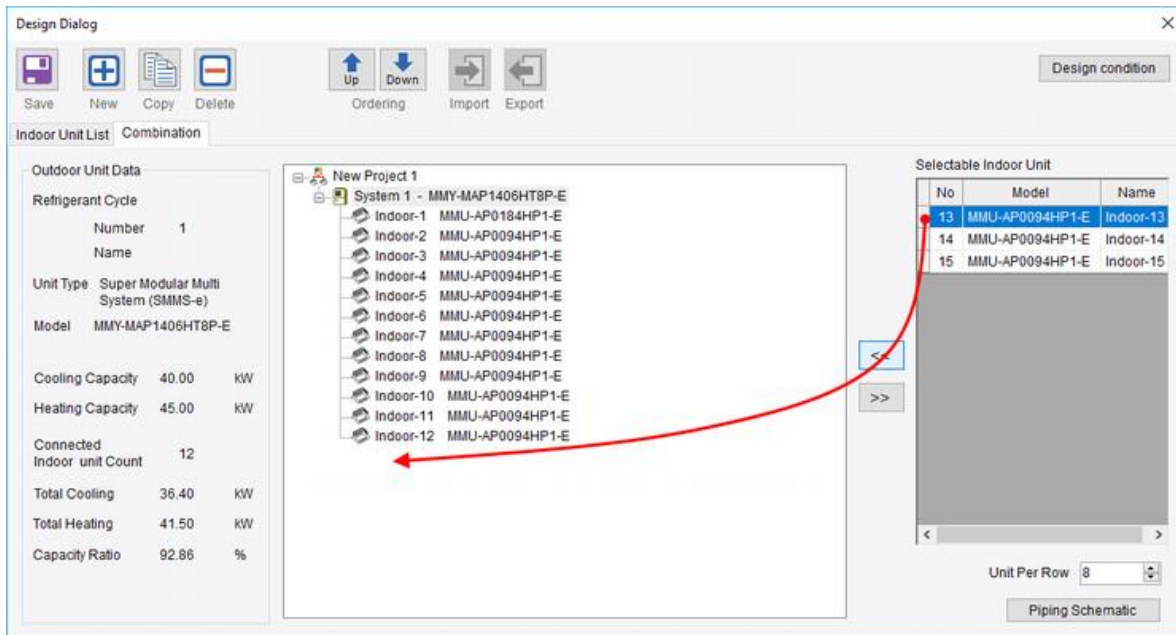
- 5) The Outdoor Unit Property window is displayed,
so enter the necessary items and click the “OK” button.



6) The outdoor units earlier selected in the Design Dialog window are displayed.

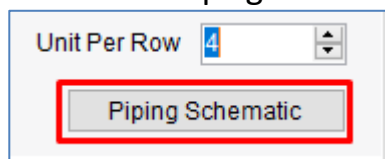


7) While the outdoor unit is selected, click the “<<” button and link the indoor unit to the outdoor unit.

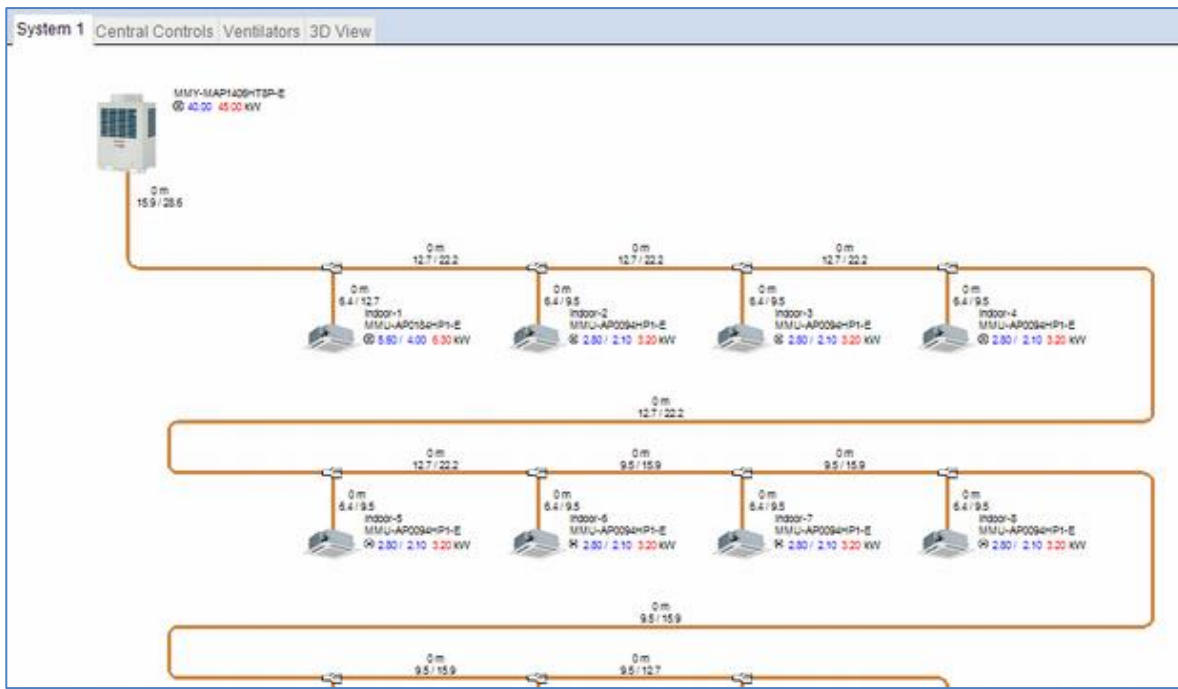


Repeat to combine the number of necessary indoor units.

8) When the indoor and outdoor units are linked, click the “Piping Schematic” button.



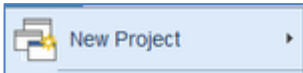
Changes to the Selection Tool Main Screen Window and it is then operated in Drag & Drop mode.



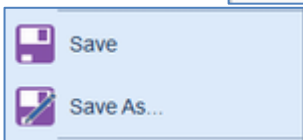
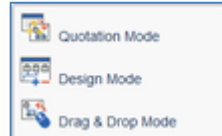
The subsequent operation is the same as Drag & Drop Mode.

5. Menus

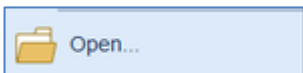
5.1 File Menu



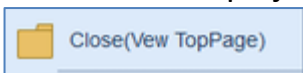
Starts a new project. (Each mode)



Saves the current project. / Renames and saves an existing project file.



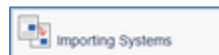
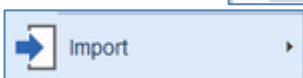
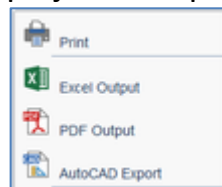
Loads a project file.



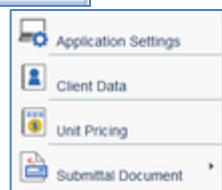
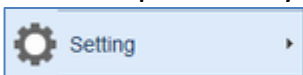
Closes the current project and displays the Selection Tool start page.



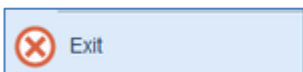
Prints a project or displays a menu to export it to a different format.



Opens the System Import window to select the file to be imported.



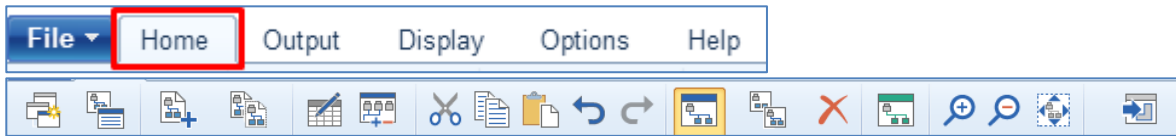
Sets the Selection Tool's operating environment, client data or unit pricing.



Closes the Selection Tool.

5.2 Ribbon Menus

5.2.1 Home



Properties

Project : Opens the Project Property window.

System : Opens the System Property window.

System Operation

New System : Adds a new system to the current project by Drag & Drop mode.

Duplicate : Adds a system with the same content as the selected system.

System Editors

Edit List : Opens the Edit List window.

Design Dialog : Opens the Design Dialog window.

Edit

Cut : Cuts arranged indoor units and pipes. (Shortcut s: Ctrl + X)

Copy : Copies arranged indoor units and pipes. (Shortcut s: Ctrl + C)

Paste : Pastes cut or copied data. (Shortcut s: Ctrl + Y)

Undo : Undoes the previous operation. (Shortcut s: Ctrl + Z)

Redo : Returns to the status before the Undo operation. (Shortcut s: Ctrl + Y)

Piping

Piping View: This mode displays the refrigerant piping.

Automatic Piping : Connects piping automatically.

Clear : Clears all piping and accessories in the system diagram.

Wiring

Wiring View : This mode displays the operation wiring.

Zoom

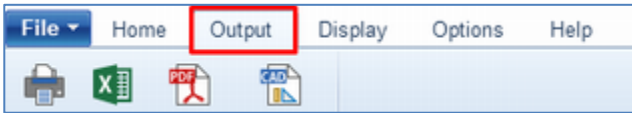
IN / Out : Zoom-in / out view of the system diagram.

Fit Page : Adjusts the size so that the whole diagram can be viewed.

Back ground Image

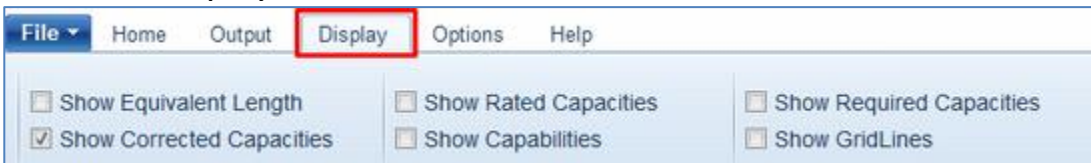
Load a background image.

5.2.2 Output



- Print : Opens the Print Window.
- Excel Output : Opens the Output Window.
- PDF Output : Opens the Output Window.
- AutoCAD Export : Opens the Export Window.

5.2.3 Display



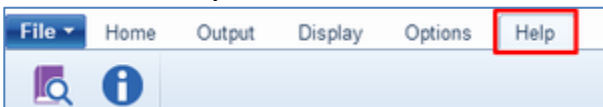
Select the information to display on the screen.

5.2.4 Options



- Project Quotation : Opens the Project Quotation Window.
- Electric Current : Opens the Electrical Information Window.
- ESEER / SCOP : Opens the ESEER / SCOP Setting Window.
- Seasonal Power Consumption: Opens the Seasonal Power Consumption Window.

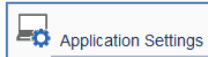
5.2.5 Help



- Manual : Displays the manual in a PDF file.
- About : Confirm your system version.

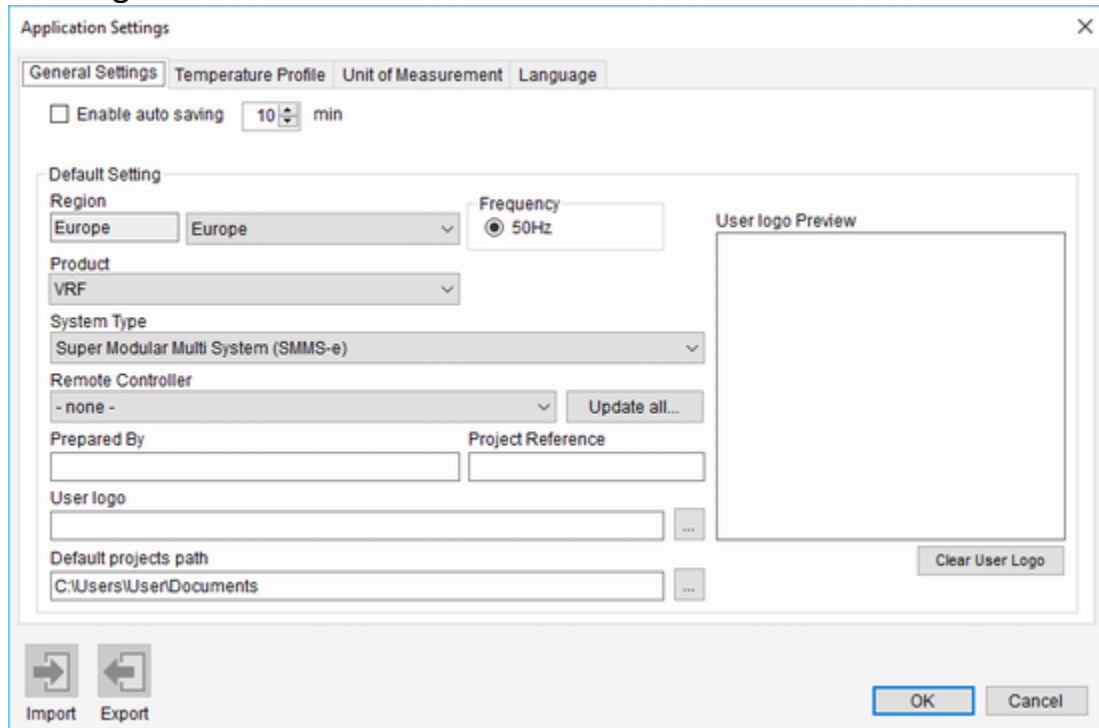
6. Settings

6.1 Application Settings



This sets all Selection Tool options.

General Settings



Enable auto saving :

Click to enable auto saving. Also, specify the saving interval (in minutes).

Region :

Left Side : Fixed setting depending on the country of distribution.

This cannot be changed.

Right Side : Select the region to be used.

Frequency :

Select the frequency.

This may not have to be selected depending on the region.

Product :

The default setting is selected when creating a new project.

System Type :

The default setting is selected when creating a new project.

Remote Controller :


Set as the header when creating an indoor unit.

You can use the "Update all" button to update the remote controller of the whole system.


Prepared By, Prepared By, Project Reference :

Enter them if necessary.

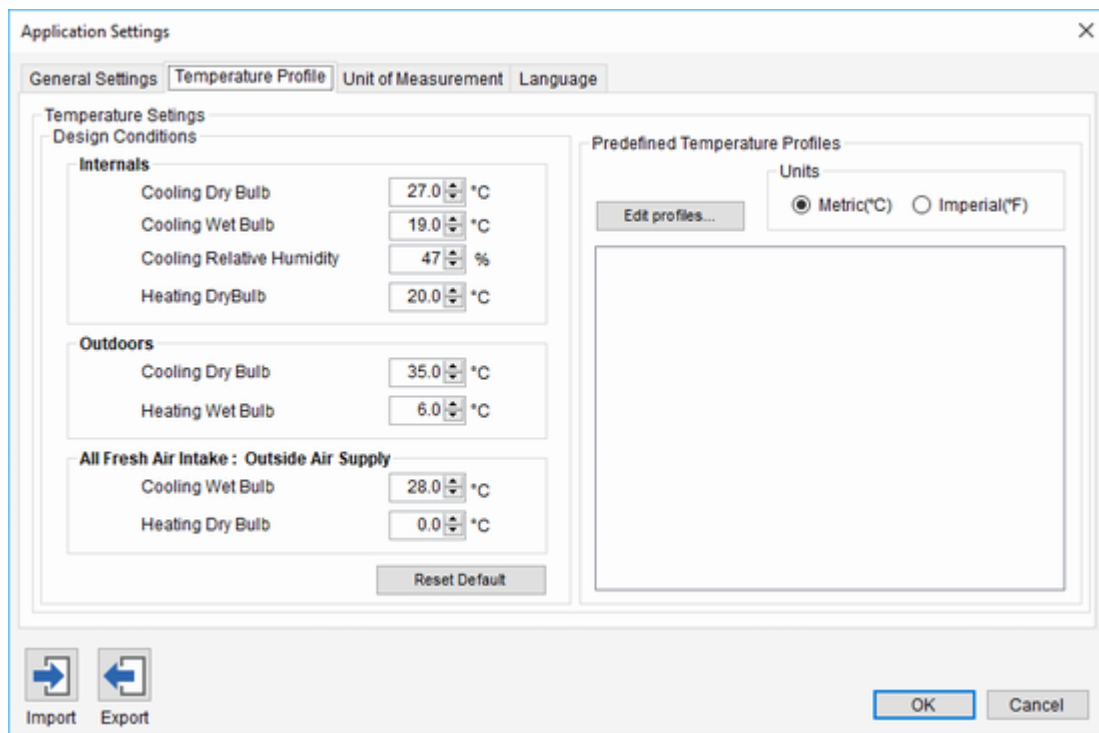
User logo :

Displays a place to save the file specified as the User logo.
file selection window opens by clicking the  button.

Default projects path :

Specify the default project file save destination.
folder selection window opens by clicking the  button.

Temperature Profile



Temperature Settings :

Set the Each Temperature.

When the indoor dry bulb temperature and wet bulb temperature are entered
in the general temperature settings,
the relative humidity is automatically calculated.

Predefined Temperature Profiles :

Select the pre-registered Profile and apply it to the Design Conditions.

Use Metric/Imperial to filter.

You can also edit from "Edit profiles....".

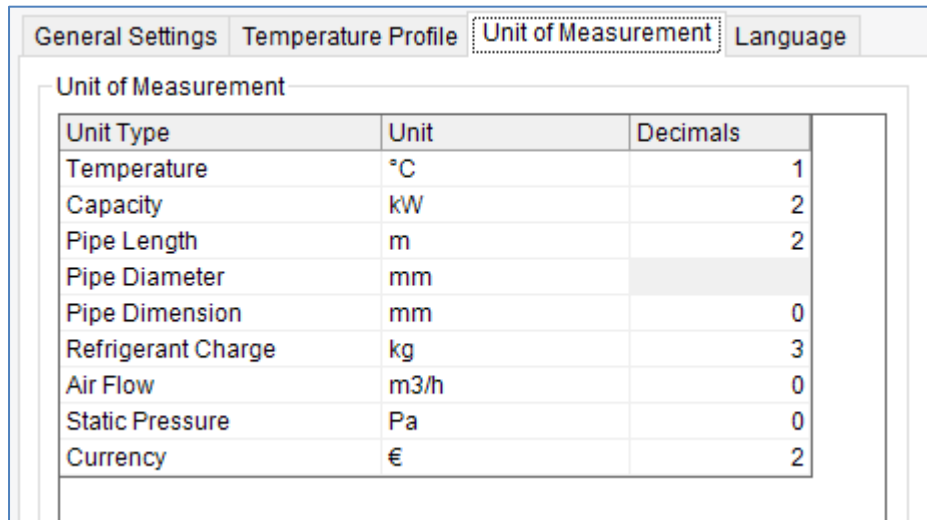
Import :

Import the design condition you set up elsewhere.

Export :

Export the set design condition.

Unit of Measurement

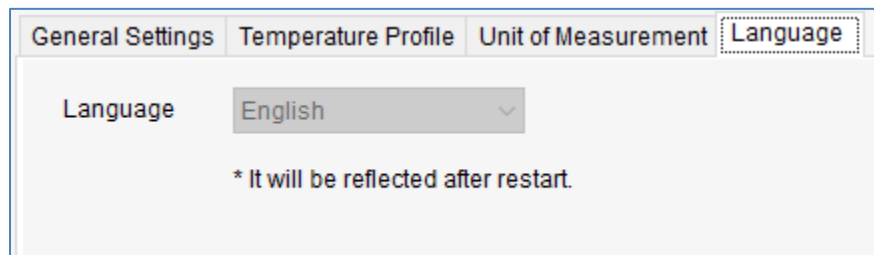


Unit Type	Unit	Decimals
Temperature	°C	1
Capacity	kW	2
Pipe Length	m	2
Pipe Diameter	mm	
Pipe Dimension	mm	0
Refrigerant Charge	kg	3
Air Flow	m3/h	0
Static Pressure	Pa	0
Currency	€	2

This sets units such as the temperature, capacity, and length.

*Decimals : Set the number of decimal places.

Language



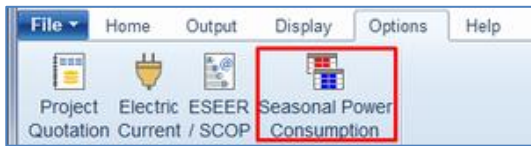
Language English

* It will be reflected after restart.

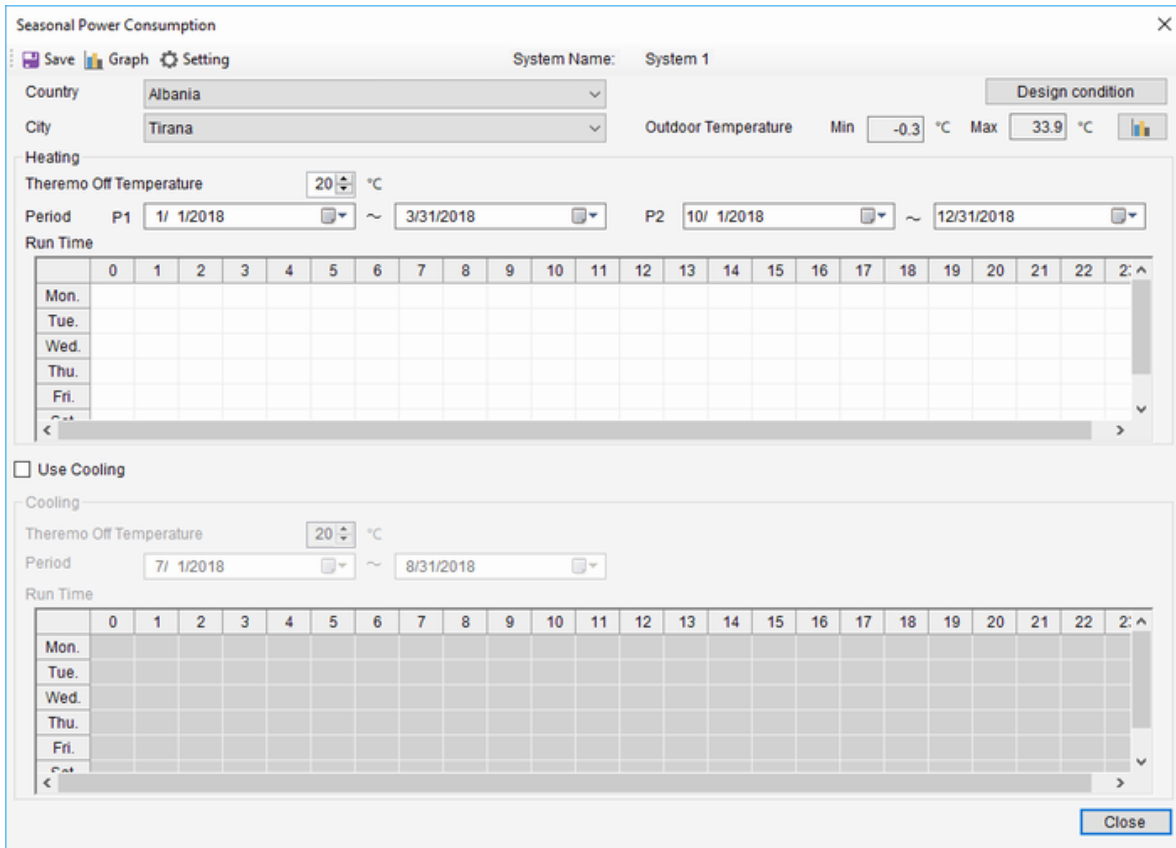
This sets the language.

Press the drop button and select the language to be used from the drop-down list.

7. Seasonal Power Consumption



Display the power consumption window for the duration of the displayed system.



Country , City : Select the Country and city.

Design Conditions : Call the Design Condition setting of the selected system.

Outdoor Temperature : Display the outside air temperature of the selected city.

 : Display the Weather Data graph of the selected city.

Heating

Theremo Off Temperature : Specify a temperature at which Theremo turns off.

Period : Set the heating period to P1 and P2.

Run Time : Define the heating time for each day of the week.

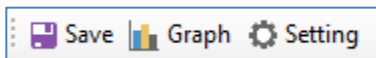
Use Cooling , Cooling :

To use cooling, select it and then specify each item in the same way as heating.

* Only one type of cooling operation period is available.

Input example

The screenshot shows the 'Seasonal Power Consumption' window for 'System 1'. It includes settings for Country (Finland), City (Vantaa), and Outdoor Temperature (Min: -14.6 °C, Max: 27.0 °C). Heating settings include Theremo Off Temperature (18 °C) and two periods: P1 (1/1/2018 to 3/31/2018) and P2 (10/1/2018 to 12/31/2018). A 'Run Time' grid shows red blocks for heating periods. Cooling settings include 'Use Cooling' checked, Theremo Off Temperature (22 °C), and a period from 6/15/2018 to 8/31/2018. A 'Run Time' grid shows blue blocks for cooling periods. The interface also has 'Save', 'Graph', and 'Setting' buttons.



Save : Save data.

Graph : Display graph.

Setting : Display the setting window.

Setting

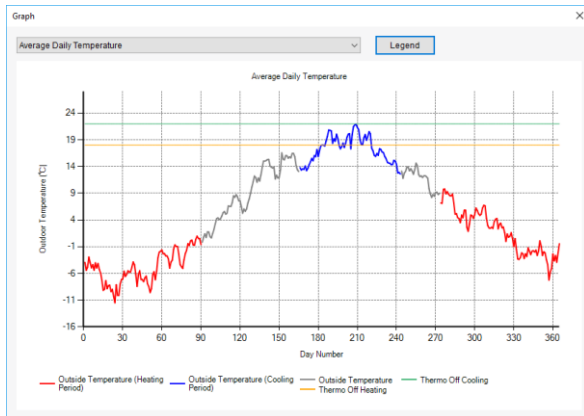
The screenshot shows the 'Rate charge Type Setting' window. It has two tabs: 'Rate charge Type Setting' (selected) and 'Block charge Type Setting'. Under 'Rate charge Type Setting', there are radio buttons for 'Uniform Rate', 'Two-stage Setting' (selected), and 'Three-stage Setting'. There are input fields for 'High' (0.00) and 'Low' (0.00). A grid shows 'L' in every cell for all days (0-23) from Monday to Friday. At the bottom, there are radio buttons for 'Low' (selected) and 'High', a 'Reset' button, and 'OK' and 'Close' buttons.

Specify the unit price and charge type of electricity.

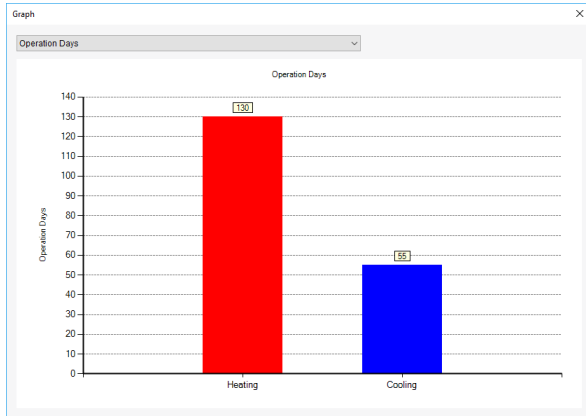
Graph : Display each graph after computation.

* The display will take some time.

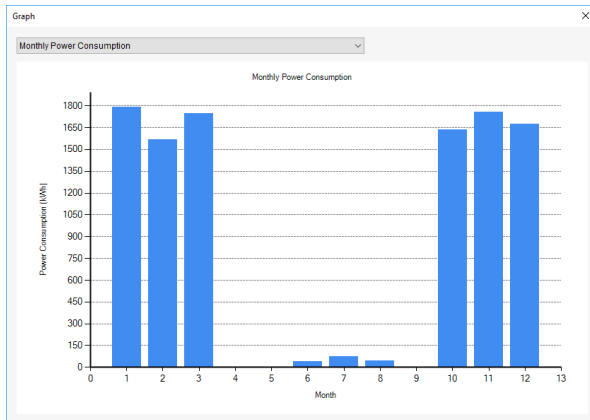
Average Daily Temperature



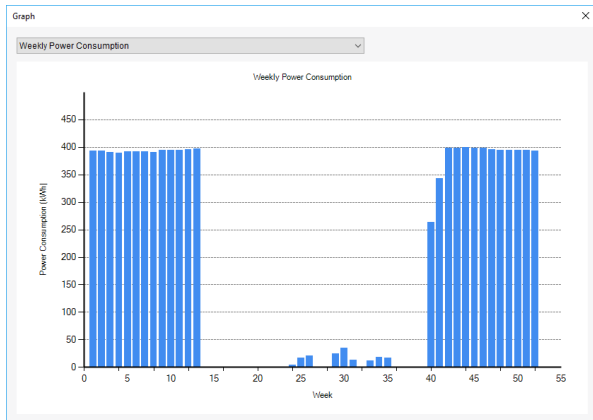
Operation Days



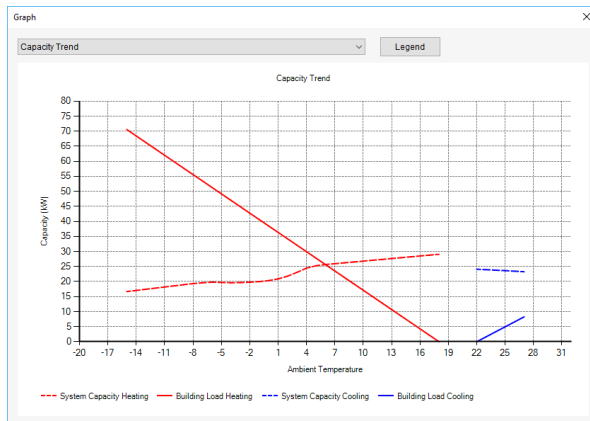
Monthly Power Consumption



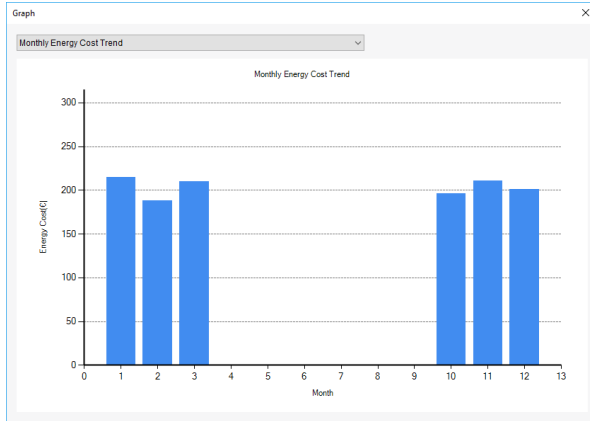
Weekly Power Consumption



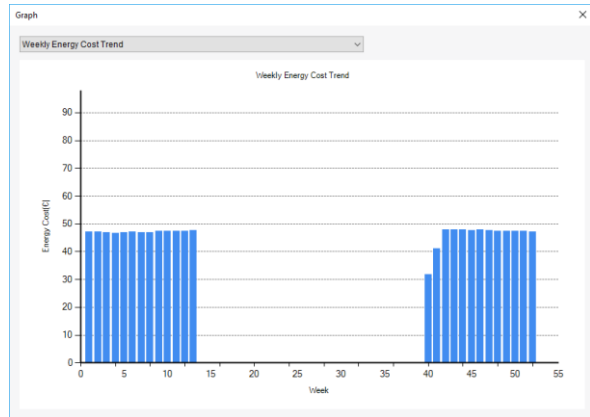
Capacity Trend



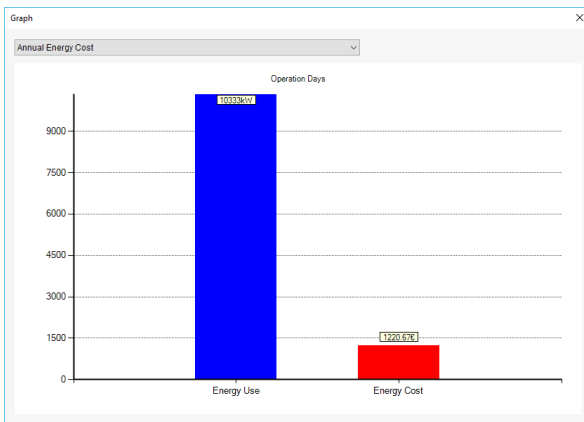
Monthly Energy Cost Trend



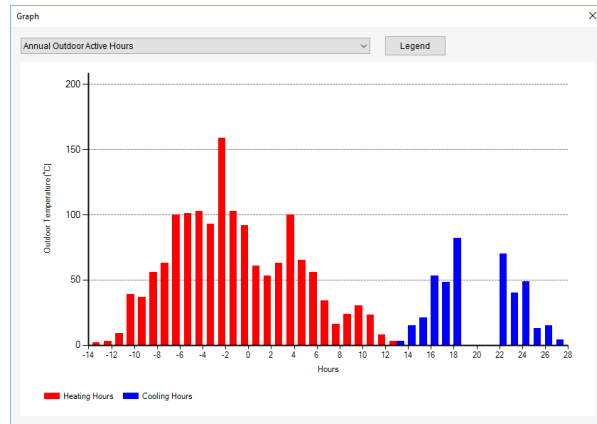
Weekly Energy Cost Trend



Annual Energy Cost



Annual Outdoor Active Hours



Selection Tool Mode
Operation Manual

2nd Edition Created in June 2018

Created by: TOSHIBA CARRIER CORPORATION