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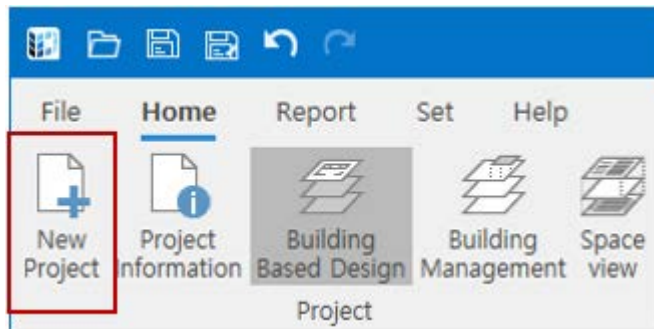
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# 1. Home

## 1.1. Project

### 1.1.1. New Project



Close the currently active project and create a new project.

#### 1.1.1.1. New project creation options

**Project Name** 1

**Customer Information** 2

Name  
Contact  
E-Mail  
Address

**Designer Information** 3

☐ The same as customer information 4

Name  
Contact  
E-Mail  
Address

**Design Condition**

Country: Korea 5  
City: 강릉 6

**Design Condition(Air)** 7

°C	Cooling		Heating	
	Outdoor	Indoor	Outdoor	Indoor
DB Temperature	32.5	27.0	-6.9	20.0
WB Temperature	24.1	19.0		15.0
Relative humidity	50.2	47.0	0.0	59.0

**Design Condition(Water)** 8

°C	Cooling		Heating	
	EW Temp.	LW Temp.	EW Temp.	LW Temp.
Cooling Water	30.0	35.0	20.0	15.0
Chilled Water	12.0	7.0	40.0	45.0

☐ Altitude Correction 9   m 10   Load design condition 11   Design Condition Management

OK 12   Cancel 13

- ① Project Name : You can set the name of the newly created project.
- ② Customer Information : You can set customer information (name, contact, email, address).
- ③ Designer Information : You can set the designer information (name, contact, email, address).
- ④ The same as customer information : Designer information can be set the same as customer information.
- ⑤ Country : You can set the country of the design site. Only designable countries are displayed in the list, and design countries can be added in configuration. The country cannot be changed after the project has been created.

- ⑥ City : You can set the city of the design site. Cities of the selected country are displayed in the list, and default values of design conditions (air), design conditions (water) and altitude are set according to the city.
- ⑦ Design Condition(Air) : You can set the dry bulb temperature, wet bulb temperature, and relative humidity for air. When the dry or wet bulb temperature is changed, the relative humidity is automatically calculated, and when the relative humidity is changed, the wet bulb temperature is automatically calculated.
- ⑧ Design Condition(Water) : You can set the leaving water temperature and entering water temperature for water.
- ⑨ Altitude Correction : When capacity correction, you can set default values for altitude correction.
- ⑩ Load Design Condition : Design condition (air), design condition (water), and altitude correction information can be set as design condition values managed by the design condition management function.
- ⑪ Design Condition Management : User can manage design condition (air), design condition (water), and altitude correction information.
- ⑫ OK : A new project is created with the entered information.
- ⑬ Cancel : Cancel the creation of a new project.

### 1.1.1.2. Design Condition Management

**Design Condition Management**

**Design Condition**

1 Add 2 Delete

New1

3

**Detail Information**

**Design Condition(Air)** 4

°C	Cooling		Heating	
	Outdoor	Indoor	Outdoor	Indoor
DB Temperature	32.5	27.0	-6.9	20.0
WB Temperature	24.1	19.0	0.0	15.0
Relative humidity	50.2	47.0	0.0	59.0

**Design Condition(Water)** 5

°C	Cooling		Heating	
	EW Temp.	LW Temp.	EW Temp.	LW Temp.
Cooling Water	30.0	20.0	35.0	15.0
Chilled Water	12.0	40.0	7.0	45.0

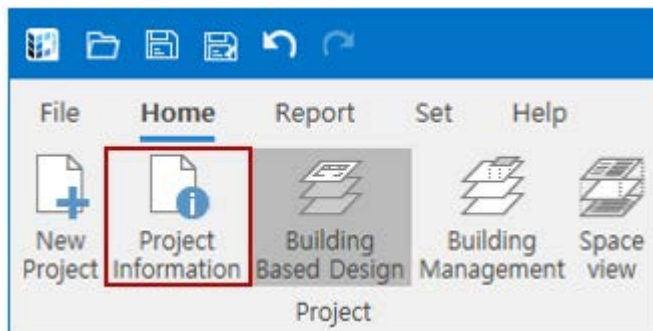
☐ Altitude Correction 6 0.00 m

7 Save 8 Close

- ① Add : You can add new design condition information to the design condition list.
- ② Delete : You can delete the selected design condition information from the design condition list.

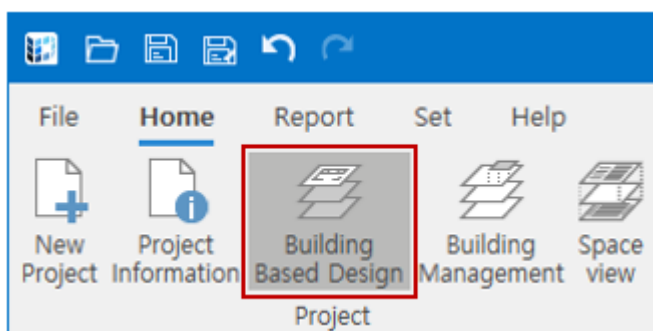
- ③ Design Condition List : Displays a list of design condition information.
- ④ Design Condition(Air) : You can set the dry bulb temperature, wet bulb temperature, and relative humidity for air. When the dry or wet bulb temperature is changed, the relative humidity is automatically calculated, and when the relative humidity is changed, the wet bulb temperature is automatically calculated.
- ⑤ Design Condition(Water) : You can set the leaving water temperature and entering water temperature for water.
- ⑥ Altitude Correction : When capacity correction, you can set default values for altitude correction.
- ⑦ Save : Save design condition information.
- ⑧ Close : Close the Design Condition Management Information window.

### 1.1.2. Project Information



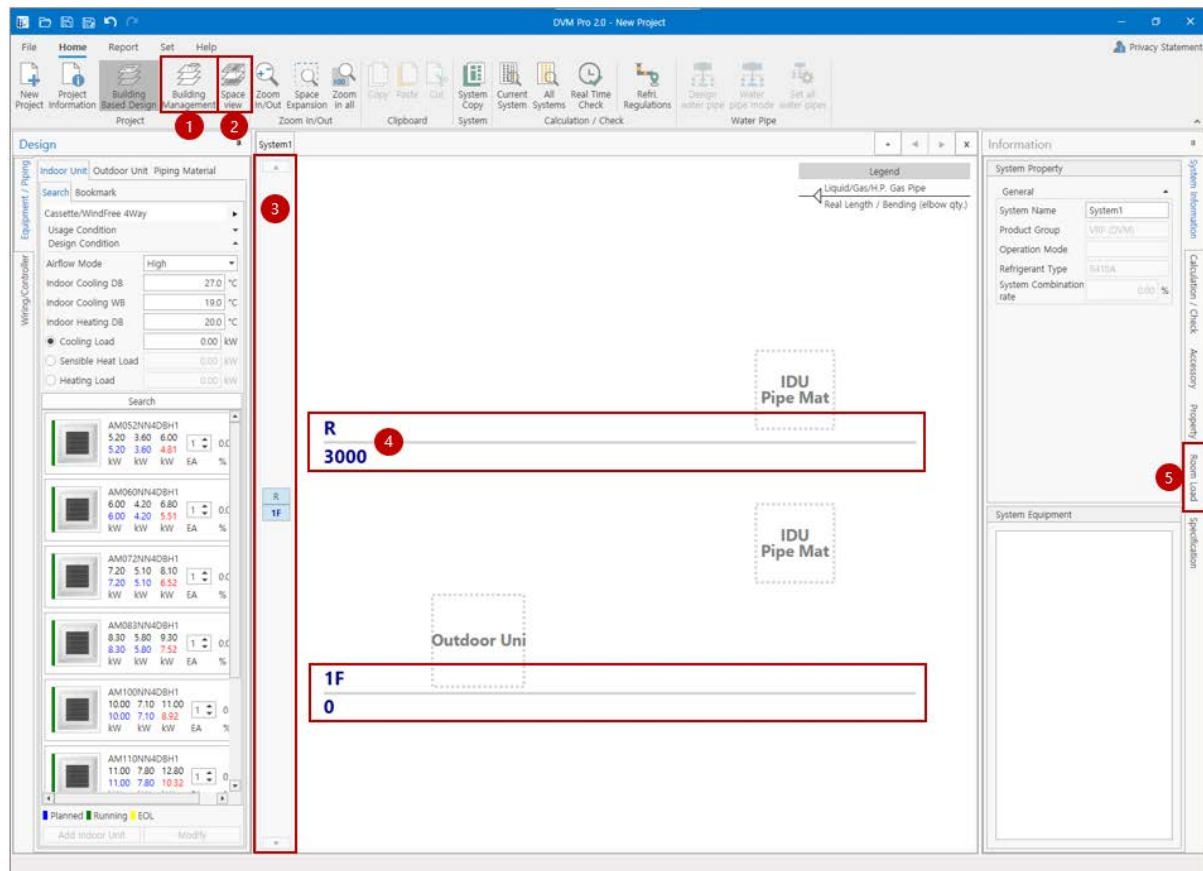
You can check and modify the information of the currently active project. (See new project)

### 1.1.3. Building Based Design

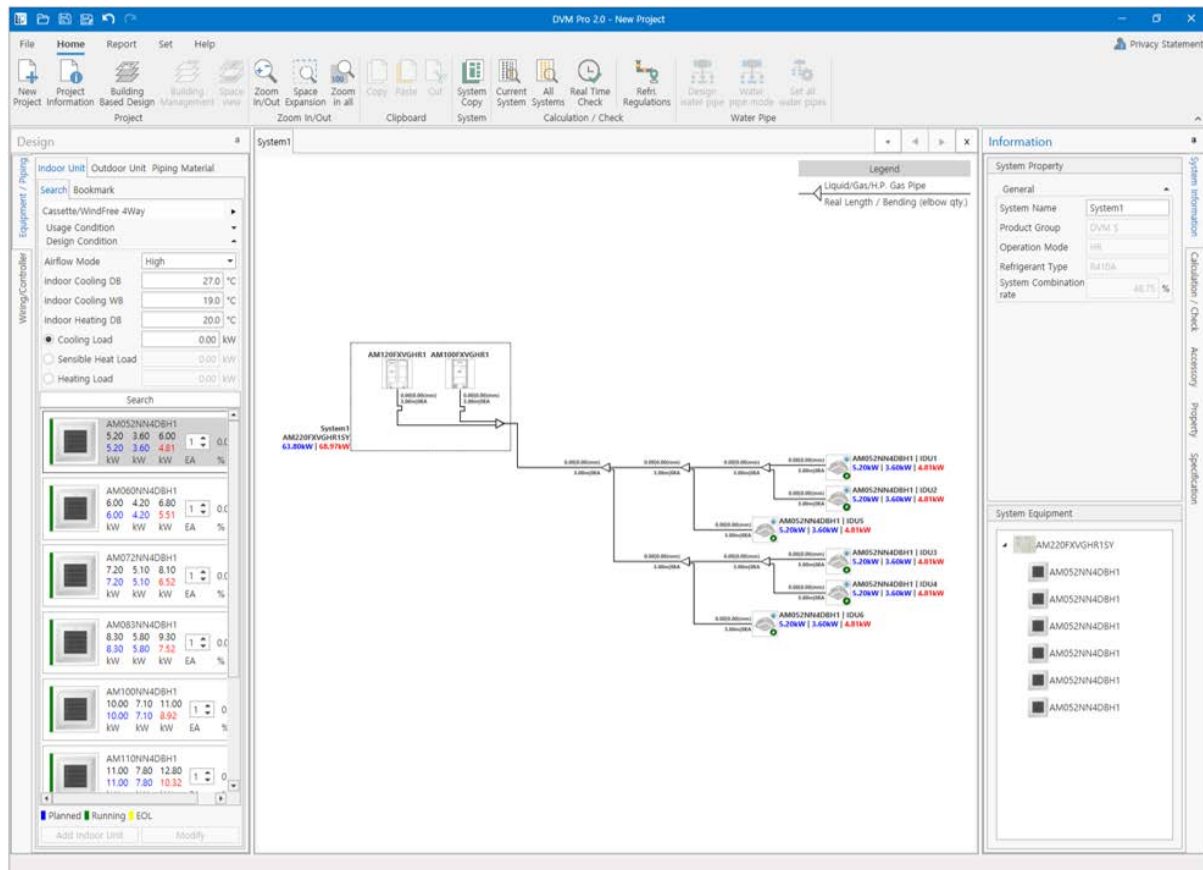


This toggle button allows you to set whether or not to building based design.

### 1.1.3.1. Building Based Design Difference



(For building based design)

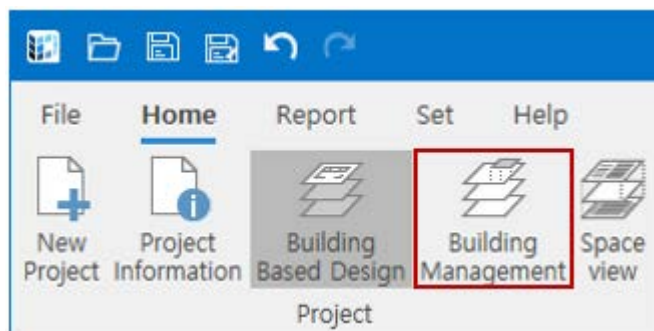


(For non-building based design)

Building based design means that the system air conditioner design is designed based on the concept of building, that is, floor, room, and building management related to building information in non-building based design (①), viewing space view (②), floor bar (③), floor (④) and room load (⑤) functions are disabled or hidden. When switching from a building based design to a non-building based design, the set space information is deleted, so caution is required. When switching from a non-building based design to a building based design, all equipment is automatically placed on the bottom floor, and the rooms responsible for the load of indoor units are not set.

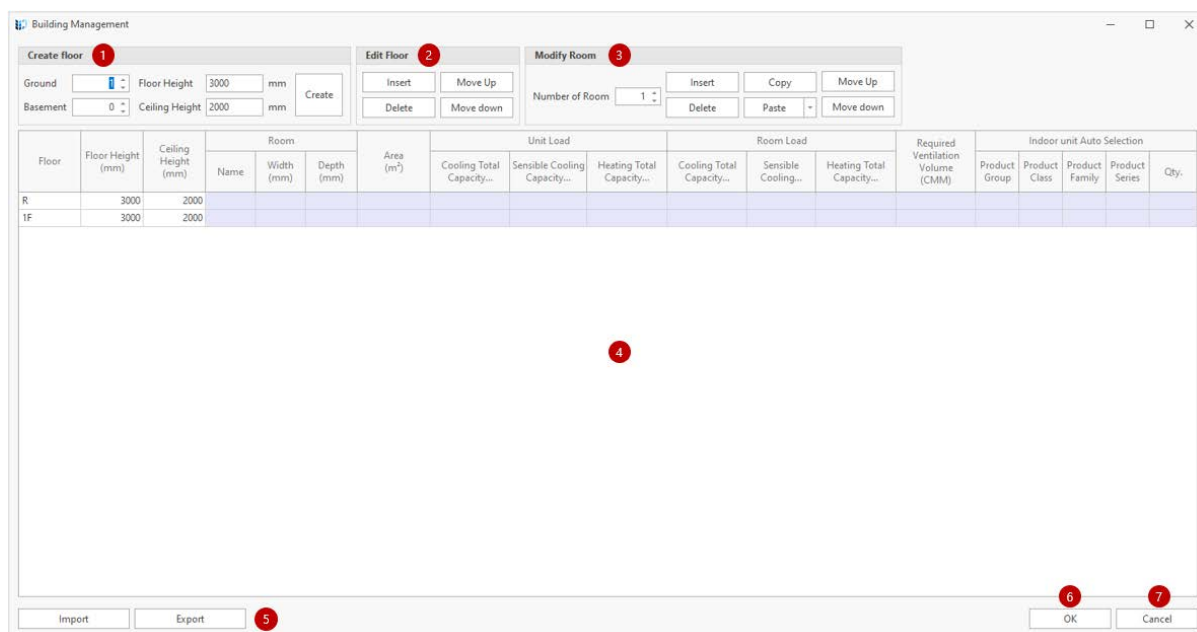


## 1.1.4. Building Management



You can manage information about building in building based design. In addition, you can calculate or set the required load for each room, and set classification and number information for automatic selection of indoor units.

### 1.1.4.1. Window Composition



- ① Create Floor : Initialize the floor/room.
- ② Edit Floor : You can insert and delete floors or move them.
- ③ Edit Room : You can insert, delete, copy, or move rooms on a specific floor.
- ④ Space Information List : You can check or set the floor, room, load, and automatic indoor unit selection information managed in the project.
- ⑤ Import/Export : You can import or export building information as an Excel file.
- ⑥ OK : The set building information is applied to the project.
- ⑦ Cancel : Cancels the building information setting.

### 1.1.4.2. Create Floor

Create floor

① Ground

1

↑

↓

Floor Height

3000

③

mm

② Basement

0

↑

↓

Ceiling Height

2000

④

mm

⑤

Create

Floor	Floor Height (mm)	Ceiling Height (mm)	Room		
			Name	Width (mm)	Depth (mm)
R	3000	2000			
1F	3000	2000			

- ① Ground : You can set the number of floors above the ground.
- ② Basement : You can set the number of basement floors in the building.
- ③ Floor Height : You can set the default height of the floor.
- ④ Ceiling Height : You can set the default ceiling height for the floor.
- ⑤ Create : All floors in the project are initialized using the set floor number and height.

### 1.1.4.3. Edit Floor

Create floor				Edit Floor		
Ground	<input type="text" value="1"/>	Floor Height	<input type="text" value="3000"/> mm	Create	<b>1</b> <input type="button" value="Insert"/>	<input type="button" value="Move Up"/>
Basement	<input type="text" value="0"/>	Ceiling Height	<input type="text" value="2000"/> mm		<b>2</b> <input type="button" value="Delete"/>	<input type="button" value="Move down"/>

Floor	Floor Height (mm)	Ceiling Height (mm)	Room			Area (m <sup>2</sup> )	Cooling Total Capacity...	Ser
			Name	Width (mm)	Depth (mm)			
R	3000	2000						
New Floor 1	3000	2000						
1F	3000	2000						

- ① Insert : You can insert a new floor directly above the floor selected in the space information list.
- ② Delete : You can delete the selected floor from the space information list. If there is even one equipment referencing the selected floor, it cannot be deleted.
- ③ Move Up : Moves the selected floor up one floor in the space information list.
- ④ Move Down : Moves the floor selected in the space information list down one floor.

In the space information list, floors must be entered from top to bottom, high (top) and low (bottom).

### 1.1.4.4. Edit Room

Create floor				Edit Floor		Modify Room						
Ground	<input type="text" value="1"/>	Floor Height	<input type="text" value="3000"/> mm	Create	Insert	Move Up	<b>1</b> Number of Room <input type="text" value="4"/>	<b>2</b> <input type="button" value="Insert"/>	<b>4</b> <input type="button" value="Copy"/>	<b>6</b> <input type="button" value="Move Up"/>		
Basement	<input type="text" value="0"/>	Ceiling Height	<input type="text" value="2000"/> mm					<b>3</b> <input type="button" value="Delete"/>	<b>5</b> <input type="button" value="Paste"/>	<b>7</b> <input type="button" value="Move down"/>		

Floor	Floor Height (mm)	Ceiling Height (mm)	Room			Area (m <sup>2</sup> )	Unit Load			Room Load		
			Name	Width (mm)	Depth (mm)		Cooling Total Capacity...	Sensible Cooling Capacity...	Heating Total Capacity...	Cooling Total Capacity...	Sensible Cooling...	Heating Total Capacity...
R	3000	2000										
New Floor 1	3000	2000	Room 1	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3000	2000	Room 2	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3000	2000	Room 3	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3000	2000	Room 4	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1F	3000	2000										

- ① Number of Room : When inserting rooms, you can set the number of rooms to be inserted.
- ② Insert : You can insert a room on the floor selected from the space information list.
- ③ Delete : You can delete the selected room from the space information list.
- ④ Copy : You can copy the room information selected from the space information list.
- ⑤ Paste : You can paste the copied information to the room selected in the space information list.

Copy and Paste

☒ Select All

☒ Room Width  
☒ Room Depth  
☒ Room Area  
☒ Unit Load Cooling Total Capacity  
☒ Unit Load Sensible Cooling Capacity  
☒ Unit Load Heating Total Capacity  
☒ Room Load Cooling Total Capacity  
☒ Room Load Sensible Cooling Capacity  
☒ Room Load Heating Total Capacity  
☒ Required Ventilation Volume  
☒ Product Group  
☒ Product Class  
☒ Product Family  
☒ Product Series  
☒ Qty.

- ⑥ Move Up : Moves the selected room up in the space information list.
- ⑦ Move Down : Moves the selected room down in the space information list.

#### 1.1.4.5. Space Information List

Create floor				Edit Floor		Modify Room							
Ground	1	Floor Height	3000 mm	<input type="button" value="Insert"/> <input type="button" value="Move Up"/>		<input type="button" value="Insert"/> <input type="button" value="Copy"/> <input type="button" value="Move Up"/>							
Basement	0	Ceiling Height	2000 mm	<input type="button" value="Delete"/> <input type="button" value="Move down"/>		<input type="button" value="Delete"/> <input type="button" value="Paste"/> <input type="button" value="Move down"/>							
Floor	Floor Height (mm)	Ceiling Height (mm)	Room			Area (m <sup>2</sup> )	Unit Load			Room Load			Required Ventilation Volume (CMM)
			Name	Width (mm)	Depth (mm)		Cooling Total Capacity...	Sensible Cooling Capacity...	Heating Total Capacity...	Cooling Total Capacity...	Sensible Cooling...	Heating Total Capacity...	
R	3000	2000											
New Floor 1	3000	2000	Room 1	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	3000	2000	Room 2	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	3000	2000	Room 3	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	3000	2000	Room 4	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
1F	3000	2000											

- ① Floor : You can check or set the floor name.
- ② Floor Height : You can check or set the height of the floor. It is used when calculating the height of the equipment.
- ③ Ceiling Height : You can check or set the ceiling height of the floor. It is used when calculating the height depending on the type of equipment.
- ④ Room Name : You can check or set the name of the room.
- ⑤ Room Width : You can check or set the width of the Room. When set, the area is automatically calculated.

- ⑥ Room Depth : You can check or set the length of the Room. When set, the area is automatically calculated.
- ⑦ Area : You can check or set the area of the room. When set, the room load is automatically calculated.
- ⑧ Unit Load for Cooling Total Capacity : You can check or set the unit load for cooling total capacity. When set, the room load for cooling total capacity is automatically calculated.
- ⑨ Unit Load for Sensible Cooling Capacity : You can check or set the unit load for sensible cooling capacity. When set, the room load for sensible cooling capacity is automatically calculated.
- ⑩ Unit Load for Heating Total Capacity: You can check or set the unit load for heating total capacity. When set, the room load for heating total capacity is automatically calculated.
- ⑪ Room Load for Cooling Total Capacity : You can check or set the room load for cooling total capacity.
- ⑫ Room Load for Sensible Cooling Capacity: You can check or set the room load for sensible cooling capacity.
- ⑬ Room Load for Heating Total Capacity : You can check or set the room load for heating total capacity.
- ⑭ Required Ventilation Volume : You can check or set the required ventilation volume.

#### 1.1.4.6. Indoor Unit Auto Selection

Indoor unit Auto Selection				
Product Group	Product Class	Product Family	Product Series	Qty.
1	2	3	4	5
				0
				0
				0
				0
				0
				0

- ① Product Group : Set the product group for automatic indoor unit selection. There are two product group that can be automatically selected: VRF and Chiller.
- ② Product Class : Set the product class for automatic indoor unit selection.
- ③ Product Family : Set the product family for automatic indoor unit selection.
- ④ Product Series : Set the product series for automatic indoor unit selection.
- ⑤ Qty : Set the quantity of indoor unit for automatic indoor unit selection.

In the room load tap, an automatic indoor unit selection function is provided, and the optimized model and quantity of indoor units are selected based on the input product class and quantity of indoor units.

### 1.1.4.7. Import and Export

Import
1

Export
2

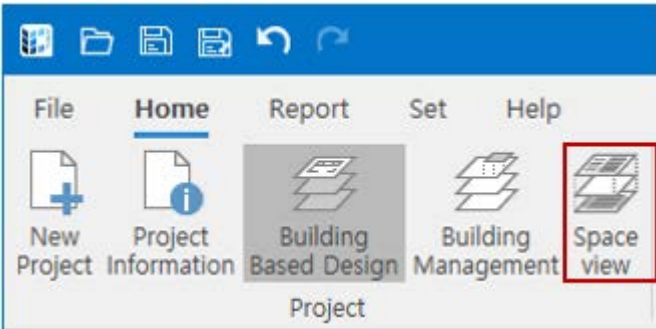
The screenshot shows an Excel spreadsheet titled 'Project Building Information.xlsx'. The spreadsheet contains a table with the following data:

	Floor	Floor Height (mm)	Room				Unit Heat Load			Room Load			Required Ventilation Volume (CMM)
			Name	Width (mm)	Depth (mm)	Area (m²)	Cooling Heat Transfer (kW/m²)	Sensible Heat (kW/m²)	Heating Heat Transfer (kW/m²)	Cooling Heat Transfer (kW)	Sensible Heat (kW)	Heating Heat Transfer (kW)	
1	R	3000	2000										
2	New Floor 1	3000	2000	Room 1	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0
3	New Floor 1	3000	2000	Room 2	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0
4	New Floor 1	3000	2000	Room 3	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0
5	New Floor 1	3000	2000	Room 4	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0
6	1F	3000	2000										

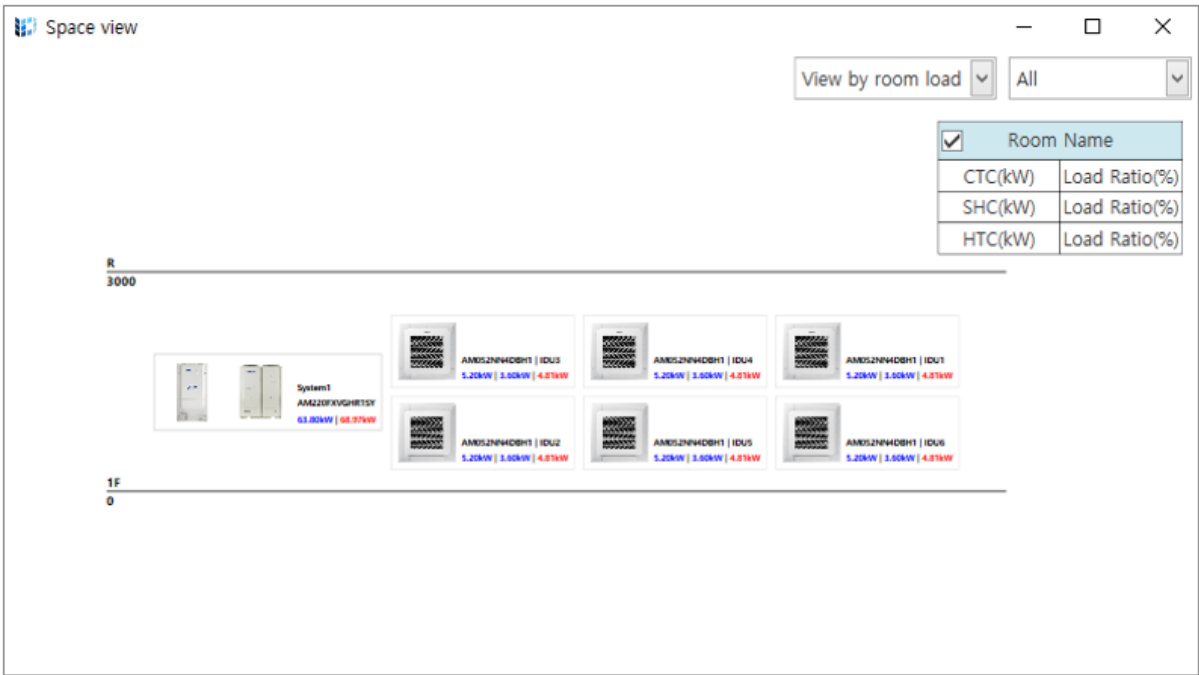
① Import : You can import space information saved as an Excel file and set it in batch.

② Export : Set space information can be exported to an Excel file.

1.1.5. Space View



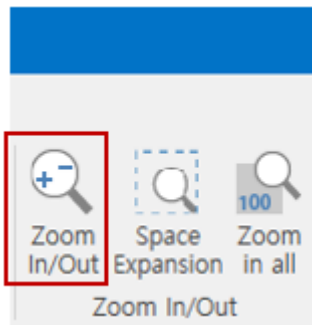
You can check or set the location of the space (floor, room) based equipment or the information of the room the equipment is responsible for. It is not activated in the non-building based design mode. For detailed functions of the space view, refer to the space view of the design view.



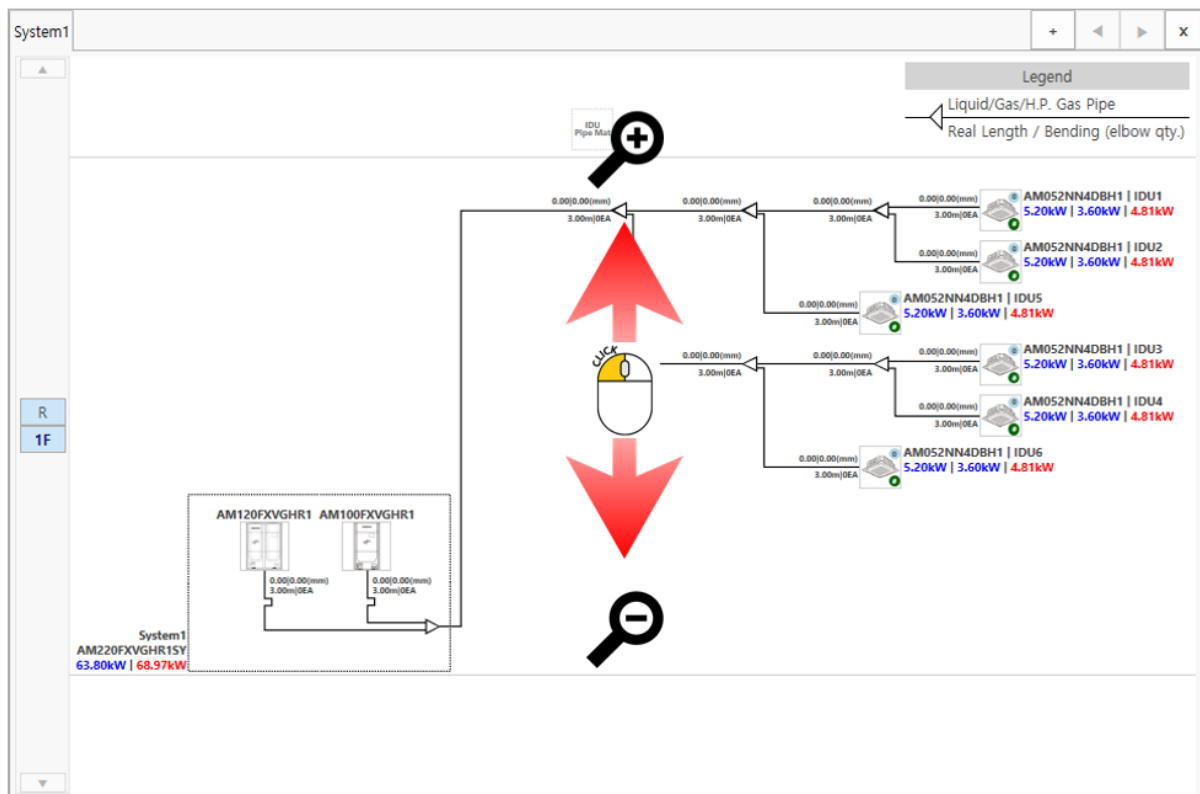


## 1.2. Zoom In/Out

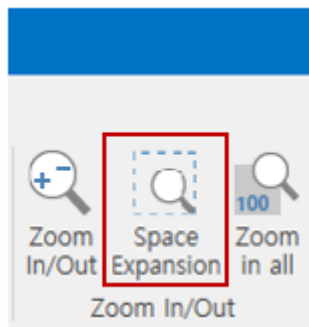
### 1.2.1. Zoom In/Out



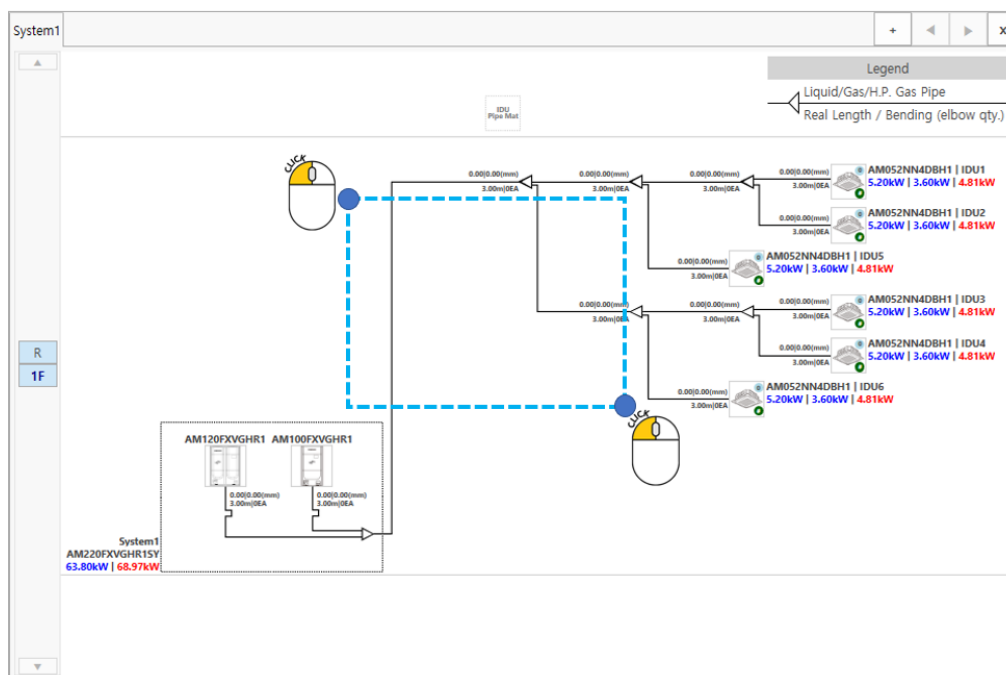
You can zoom in or out of the view by clicking and holding the left mouse button and dragging the mouse up or down.



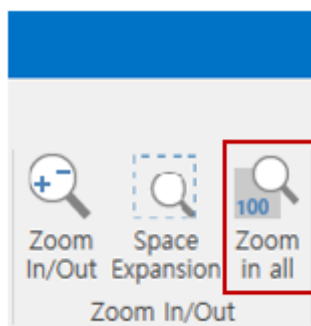
## 1.2.2. Space Expansion



You can zoom out the area by clicking on the area (two points) you want to zoom out.



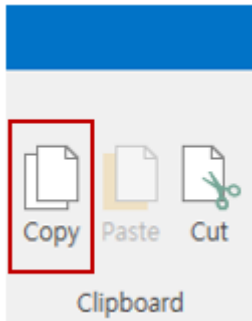
## 1.2.3. Zoom In All



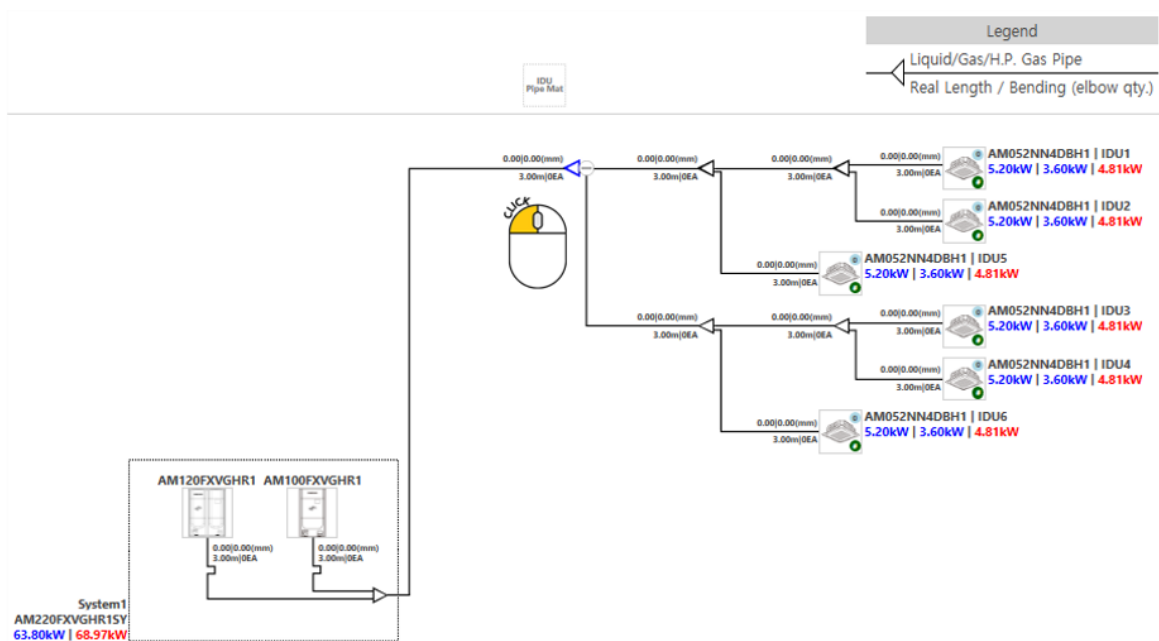
When the function is executed, it is automatically zoom out or in to fit all elements in the design view.

## 1.3. Clipboard

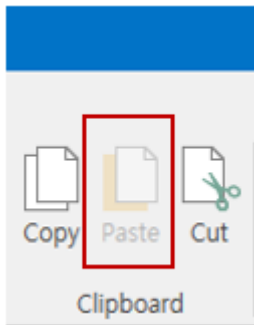
### 1.3.1. Copy



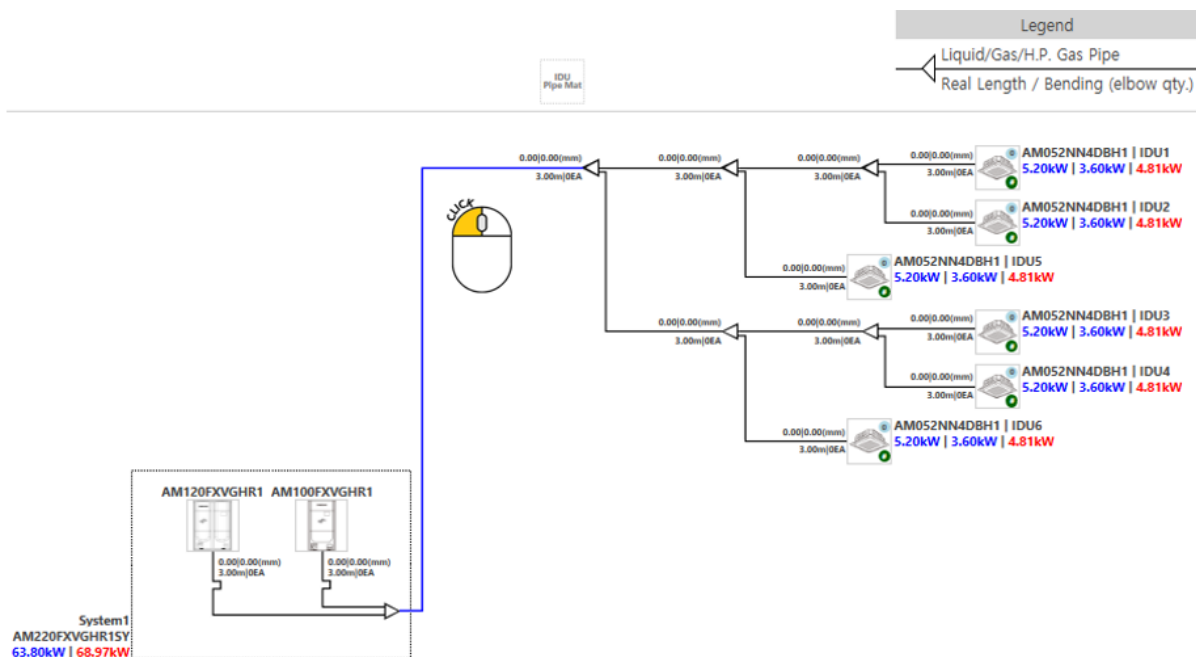
Selected elements in the design view can be copied to the clipboard. You can copy to the clipboard more conveniently by using the Ctrl+C keys.



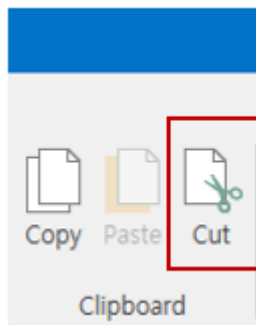
### 1.3.2. Paste



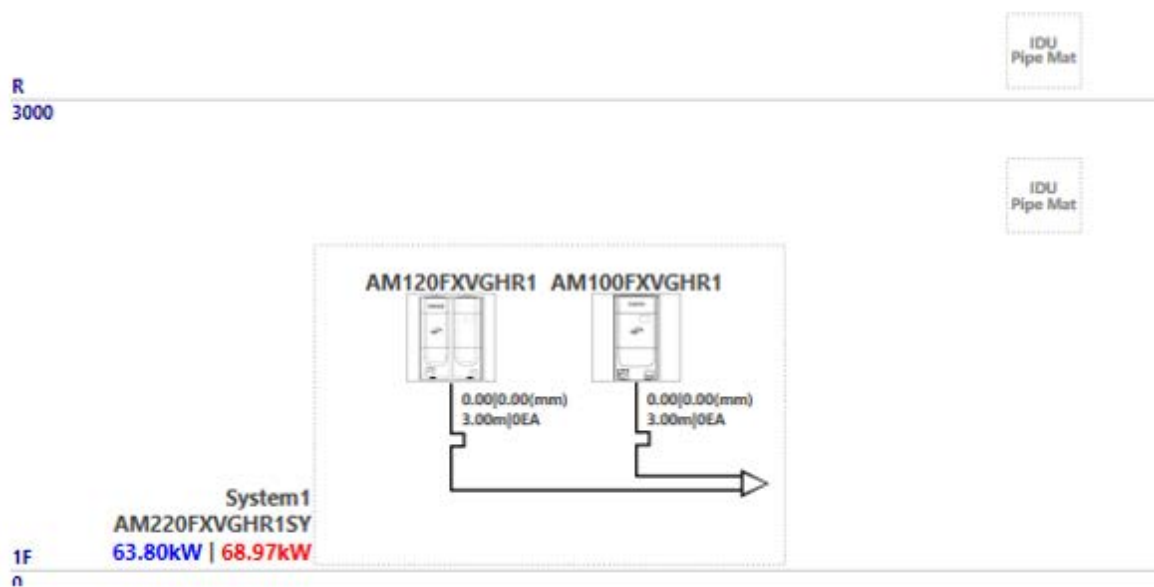
Elements copied to the clipboard can be pasted to the element selected in the design view. You can paste more conveniently by using the Ctrl+V keys.



### 1.3.3. Cut



Selected elements in the design view can be cut to the clipboard. You can cut to the clipboard more conveniently by using the Ctrl+X keys.

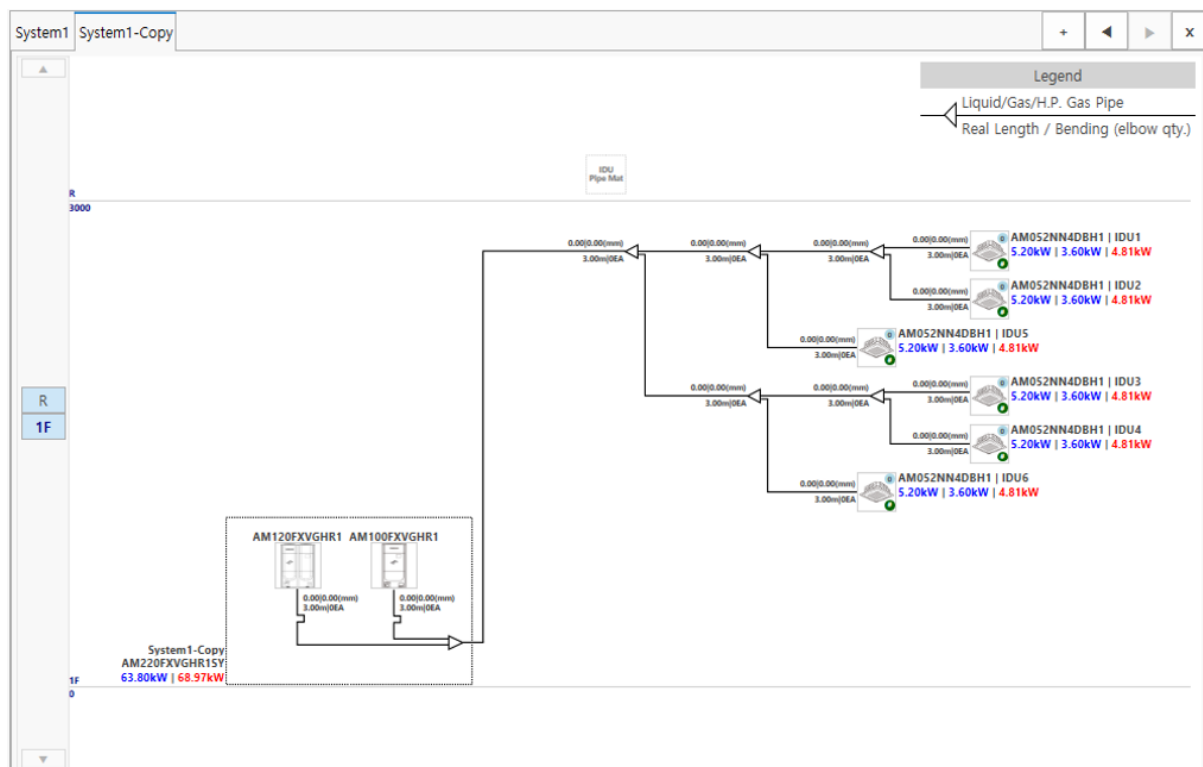


## 1.4. System

### 1.4.1. System Copy

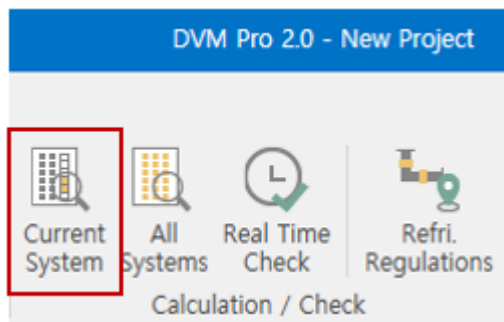


You can copy and create the same system as the active system (including equipment and piping information).



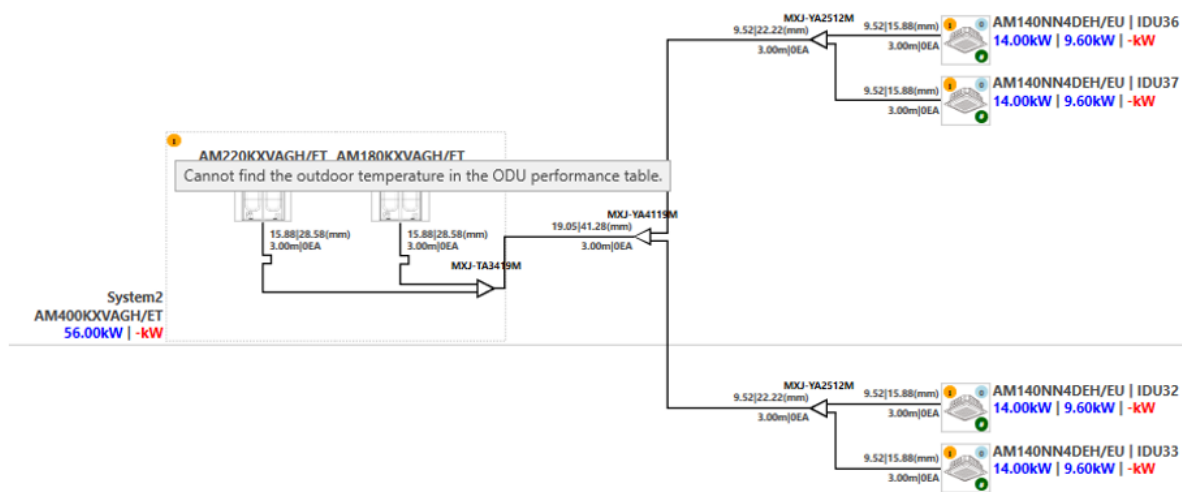
## 1.5. Calculation / Check

### 1.5.1. Current System



Calculation/inspection is performed based on the capacity correction of the currently active system and the designed state in the equipment/piping view. The capacity correction result is expressed in the equipment/piping view, and the calculation/check result of the equipment/piping view is expressed in the calculation/check tab. In the wiring/controller view, the function is disabled, and if the real time check option is enabled, the function is disabled.

Calculation and check results in equipment/piping design view



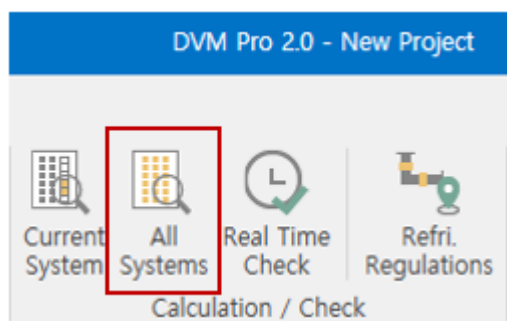
Information such as corrected capacity calculation of equipment, selection of pipe materials, and pipe diameter calculation of pipe is expressed on each equipment or pipe in the design view, and an orange exclamation mark is displayed on the upper left of the equipment when an error occurs. Hovering the mouse over the error symbol displays the error content.

Calculation and check results on the Calculation/Check tab

<b>Equipment Qty.</b> Required Accessory(Front Panel) has not been selected [ Required Accessory(Front Panel) has not been selected [ Required Accessory(Front Panel) has not been selected [ Required Accessory(Front Panel) has not been selected [ 
<b>Pipe Length</b> Long pipe length is 12.90 m (Restriction: 200.00 m). Total piping length is 29.40 m (Restriction: 1000.00 m). Piping length from first Y-Joint to the farthest IDU is 6.64 m.
<b>Height Difference</b> The reverse Height Difference is 1.00 m (Restriction: 110.00 m). New trip is 2.00 m (Restriction: 110.00 m). The Height Difference between IDUs(Excluded EEV) is 3.00 m. The Height Difference between IDUs(Included EEV) is 3.00 m. Height Difference from the lowest IDUs to the highest IDUs is 3.00 m.
<b>Refrigerant Amount</b> Factory charging refrigerant amount is 16.80 kg. Additional refrigerant amount is 5.81 kg.
<b>Capacity Correction</b> Equipment (5 EA) with errors in capacity correction exists.
<b>Effectiveness</b> A room to control IDU has not been selected [IDU32(AM A room to control IDU has not been selected [IDU33(AM A room to control IDU has not been selected [IDU36(AM A room to control IDU has not been selected [IDU37(AM

Additional calculation information such as pipe length, height difference, refrigerant amount, expansion tank volume, buffer tank volume, etc. is displayed in blue for each group. In addition, design errors such as quantity of equipment, connection suitability, effectiveness, pipe length, and height difference are displayed in red. If the error item in red is an error related to a specific equipment or piping, double-clicking on the related equipment or piping is zoom out in the design view.

### 1.5.2. All Systems

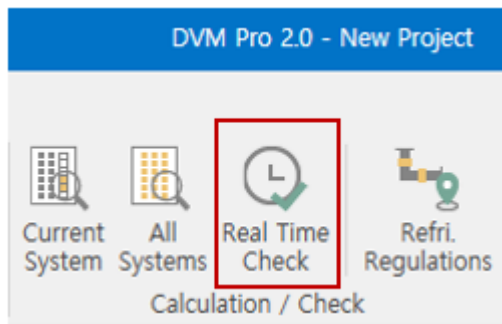


Capacity correction for all systems currently being designed and calculation/check for equipment/piping view or wiring/controller view are performed. The capacity correction is expressed



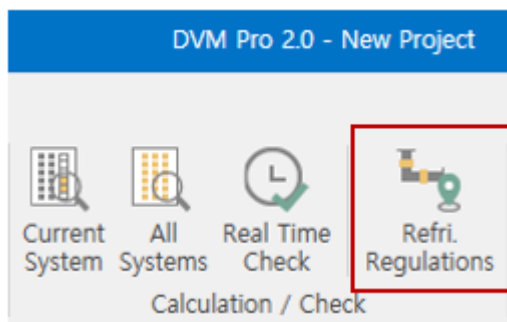
in the equipment/piping view, and the calculation/check result of the equipment/piping view is expressed in the calculation/check tab. If the currently active design tab is the wiring/controller tab, calculation/check for wiring/controller is performed and displayed on the calculation/check tab. If the real time check option is enabled, the feature is disabled.

### 1.5.3. Real Time Check



When design changes for the currently active system, capacity correction and calculation/check for equipment/piping view or wiring/controller view are performed in real time. If the function is activated as a toggle function, the "Current System" and "All Systems" functions are disabled. The capacity correction result is expressed in the real-time equipment/piping view, and the calculation check result for the equipment/piping view is expressed in the calculation/check tab. If the currently active design tab is the wiring/controller tab, calculation/check for wiring/controller is performed and displayed on the calculation/check tab.

### 1.5.4. Refrigerant Regulations



You can find notices on toxicity verification in accordance with the refrigerant regulations of the European standard EN378, notices on flammability, and check whether the refrigerant amount limit is exceeded.

**Ref. Regulation**

This calculator is for reference use only and Samsung holds no liability for the final installation of the system.

1 System:

2 **Ref. information**

Type:  Factory Charging:  kg  
Additional Charging:  kg Total Ref. Amt.:  kg

3 **Installation Space for Toxicity** ☐ User Input

Room Name:  Room Volume:  m<sup>3</sup>  
Ceiling Height:  mm Room Area:  m<sup>2</sup>

4 **Installation Space for Flammability** ☐ User Input

Room Name:  Room Volume:  m<sup>3</sup>  
Ceiling Height:  mm Room Area:  m<sup>2</sup>  
Installation Location:  mm

5 **Safety classification and information about refrigerant**

Acute toxicity exposure limit/oxygen deprivation limit(ATEL, ODL):  kg/m<sup>3</sup>  
Lower flammability limit:  kg/m<sup>3</sup>

6 **Access category(Human comfort)**:

7 **Location Classification**:

8 **Calculation Result**

Charged limit based on Toxicity:  kg

Notice about Toxicity

Charged limit based on flammability:  kg

Notice about Flammability

9

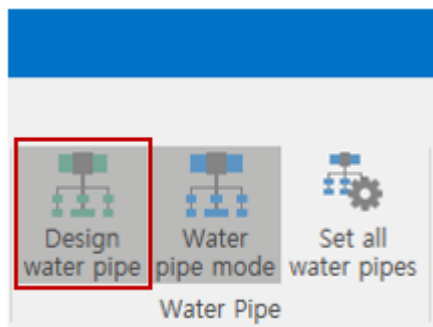
- ① System : Among the systems currently being designed, there are no errors in calculation/check and systems using R410A and R32 refrigerants are listed, and one system can be selected.
- ② Ref. Information : Refrigerant information of the selected system is displayed. The amount of refrigerant is information calculated during calculation/check.

- Type : Expresses the type of refrigerant in the selected system.
  - Factory Charging : Represents the factory charge amount in the selected system.
  - Additional Charging : Expresses the additional charge amount in the selected system.
  - Total Ref. Amt. : Expresses the total refrigerant amount in the selected system.
- ③ Installation Space for Toxicity : Set space information to verify toxicity.
- User Input : Set whether to input directly by the user.
  - Room Name : If user input is not checked, the name of the room with the smallest volume among the rooms used in the selected system is displayed.
  - Room Volume : You can enter or check the volume of the room (when checking user input).
  - Ceiling Height : You can enter or check the ceiling height of the room (when user input is checked). If you change the ceiling height, the room volume is automatically calculated.
  - Room Area : You can enter or check the area of the room (when user input is checked). If you change the room area, the room volume is automatically calculated.
- ④ Installation Space for Flammability : Set space information for flammability. This function is only active if the selected system is R32 refrigerant.
- User Input : User input or not.
  - Room Name : If user input is not checked, the name of the room with the smallest area among the rooms used in the selected system is displayed.
  - Room Volume : You can enter the volume of the room (when user input is checked) or check.
  - Ceiling Height : You can enter or check the ceiling height of the room (when user input is checked). If you change the ceiling height, the room volume is automatically calculated.
  - Room Area : You can enter the area of the room (when user input is checked) or check. If you change the room area, the room volume is automatically calculated.
  - Installation Location : Floor, wall mounted, ceiling mounted three options are displayed and you can select the installation location.
  - Installation Height : The height is displayed according to the installation location.
- ⑤ Safety Classification and Information About Refrigerant :
- Acute toxicity exposure limit/oxygen deprivation limit(ATEL, ODL) : The exposure limit and deprivation limit is displayed. For systems using R410A refrigerant, 0.42kg/m<sup>3</sup>, and for systems using R32 refrigerant, 0.3g/m<sup>3</sup> are provided as default and can be changed.
  - Lower flammability limit : The Lower flammability limit is displayed For systems using R32 refrigerant only, a concentration of 0.307m<sup>3</sup> is provided as default and cannot be changed.

- ⑥ Access category(Human comfort) : Three categories are provided, select a category. When you select a category, you can see the category description.
- ⑦ Location Classification : Four classifications are provided and select a classification. When you select a classification, you can see the classification description.
- ⑧ Calculation Result : You can check the charged limit and notice according to the calculation.
  - Charged limit based on Toxicity : You can check the charged limit according to the toxicity.
  - Notice about Toxicity : You can check the notice about toxicity.
  - Charged limit based on flammability : You can check the charged limit according to the flammability.
  - Notice about Flammability : You can check the notice about flammability.
  - Whether the refrigerant amount limit is exceeded : You can check whether the refrigerant amount limits for toxicity and flammability are exceeded.
- ⑨ Close : Cancel the refrigerant regulation function. and close the window.

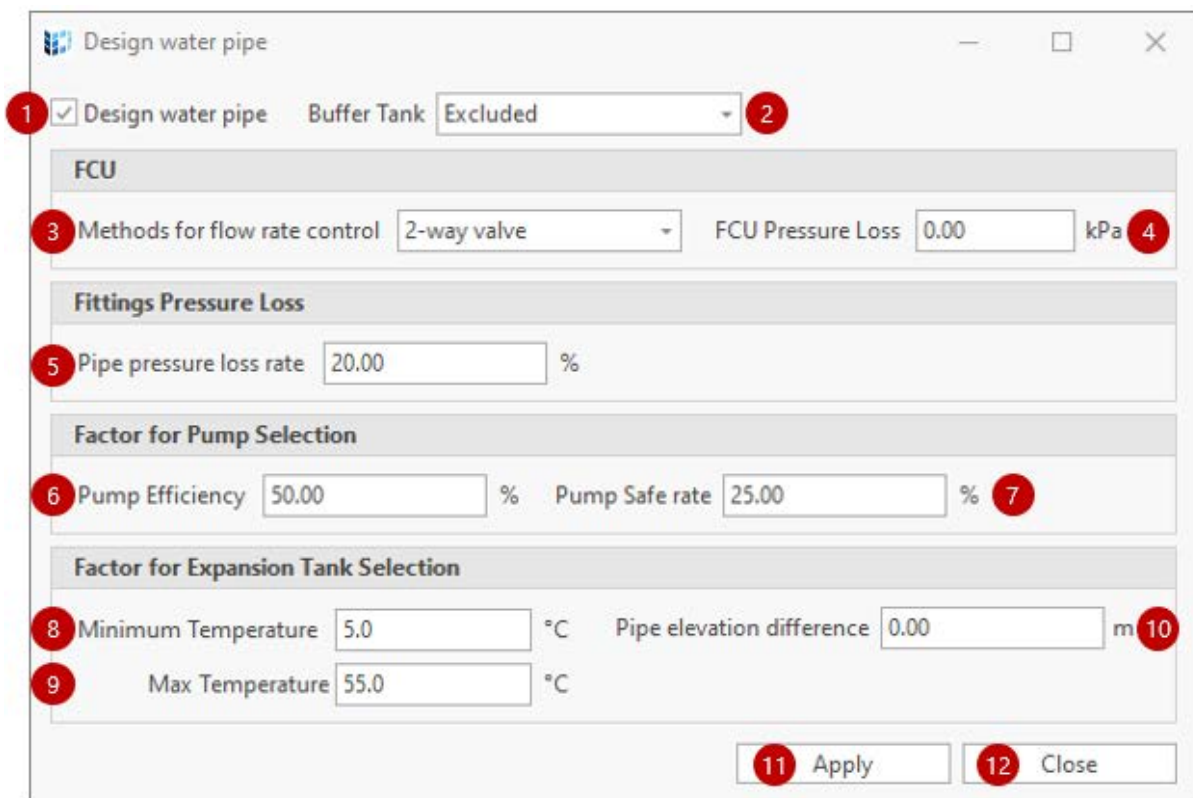
## 1.6. Water Pipe

### 1.6.1. Design Water Pipe

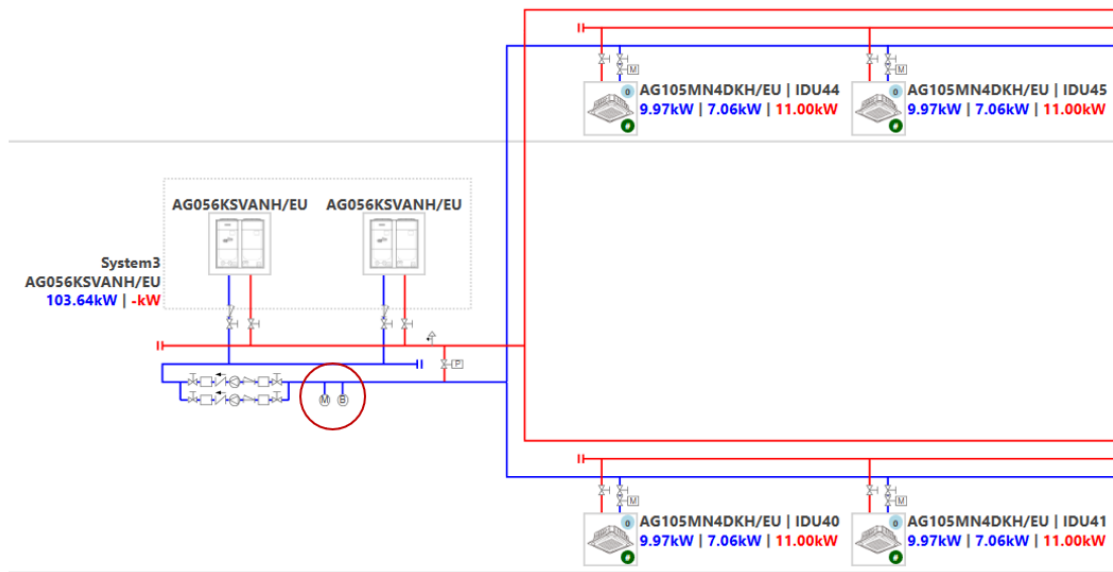


Set options for water piping design of chiller system or EHS system. When the water pipe design is checked, the head loss related to water pipe, pump specification, and tank volume are calculated and expressed during calculation/check.

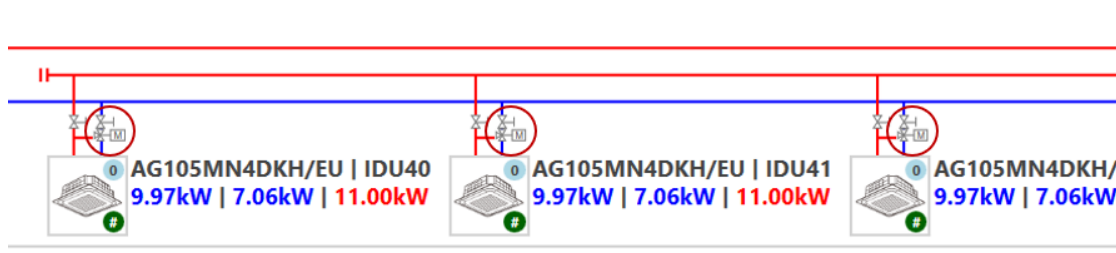
#### 1.6.1.1. Design Water Pipe for Chiller

A screenshot of the 'Design water pipe' dialog box. It features several sections with input fields and checkboxes, numbered 1 through 12. Section 1: 'Design water pipe' checkbox (checked) and 'Buffer Tank' dropdown (set to 'Excluded'). Section 2: 'FCU' section. Section 3: 'Methods for flow rate control' dropdown (set to '2-way valve') and 'FCU Pressure Loss' input field (0.00 kPa). Section 4: 'Fittings Pressure Loss' section. Section 5: 'Pipe pressure loss rate' input field (20.00 %). Section 6: 'Factor for Pump Selection' section. Section 7: 'Pump Efficiency' input field (50.00 %) and 'Pump Safe rate' input field (25.00 %). Section 8: 'Factor for Expansion Tank Selection' section. Section 9: 'Minimum Temperature' input field (5.0 °C) and 'Max Temperature' input field (55.0 °C). Section 10: 'Pipe elevation difference' input field (0.00 m). Section 11: 'Apply' button. Section 12: 'Close' button.

- ① Design water pipe : Set whether to design water piping. When checked, options related to water piping are activated.
- ② Buffer Tank : Set whether to include the buffer tank. When included, the buffer tank symbol is displayed.



- ③ Methods for flow rate control : Set the flow control method of the FCU. The shape of the valve is determined by a two-way or three-way valve.



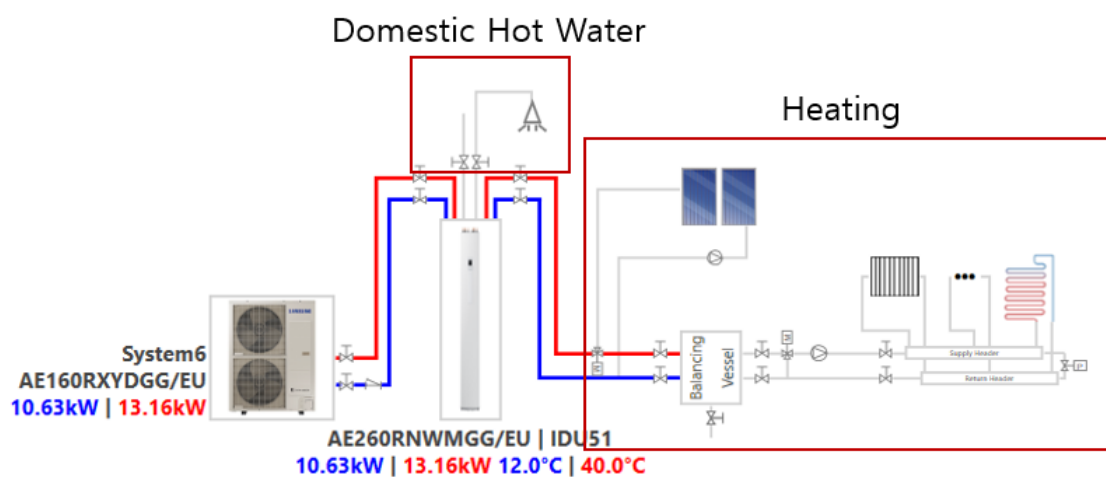
- ④ FCU Pressure Loss : Set the pressure loss in the FCU. In the Chiller Only system, the item is not displayed.
- ⑤ Pipe pressure loss rate : Set the piping pressure loss ratio of fittings.
- ⑥ Pump Efficiency : Set the efficiency of the pump.
- ⑦ Pump Safe rate : Set the safety rate of the pump.
- ⑧ Minimum Temperature : Set the lowest temperature for the expansion tank.
- ⑨ Maximum Temperature : Set the maximum temperature for the expansion tank.
- ⑩ Pipe elevation difference : Set the pipe elevation difference for the expansion tank.
- ⑪ Apply : Apply the set water piping option and close the window.
- ⑫ Close : Cancel the water piping option setting and close the window.

### 1.6.1.2. Design Water Pipe for EHS

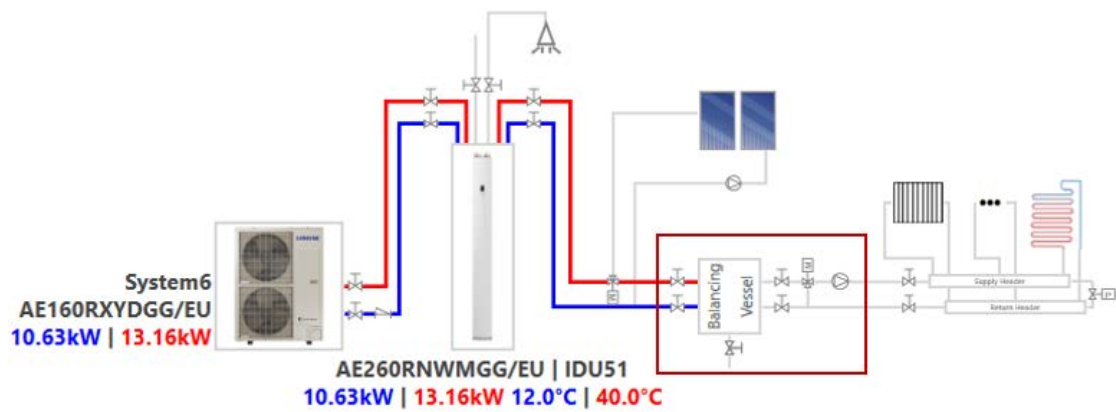
The screenshot shows the 'Design water pipe' dialog box with the following elements:

- 1** ☒ Design water pipe
- 2** Operation Type: Heating
- 3** Indirect Heating
- 4** ☒ Use Solar Panel
- 5** Fittings Pressure Loss: Pipe pressure loss rate 50.00 %
- 6** Factor for Pump Selection: Pump Efficiency 55.00 %
- Pump Safe rate 20.00 % **7**
- 8** Apply
- 9** Close

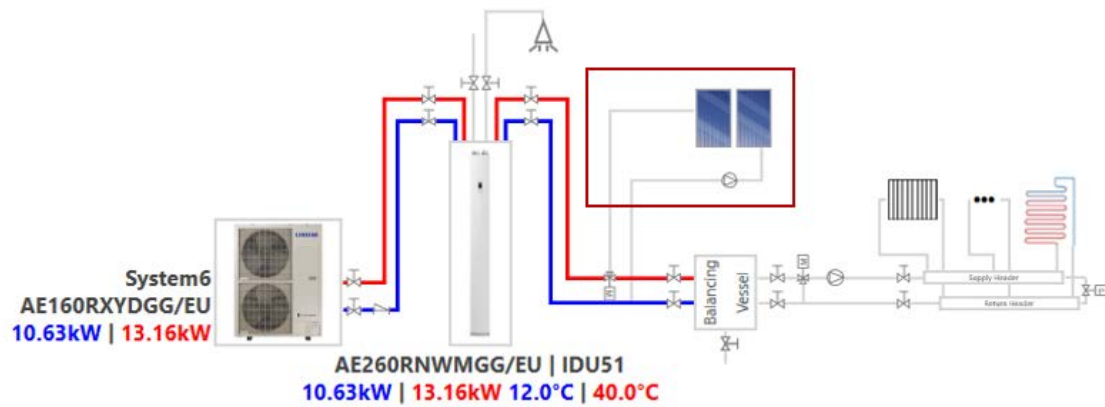
- ① Design water pipe : Set whether to design water piping. When checked, options related to water piping are activated.
- ② Heating classification : Set the division for heating and domestic hot water supply. The configuration of water pipes varies depending on whether heating or domestic hot water is included.



- ③ Heating : Set Indirect Heating or Direct Heating. The configuration of water piping varies depending on whether it is Direct or not.



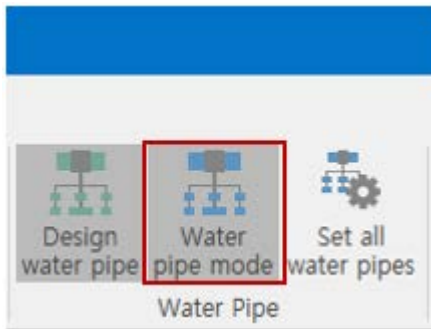
- ④ Solar panel : Set whether to design the Solar Panel. Solar Panel is displayed when checking Solar Panel.



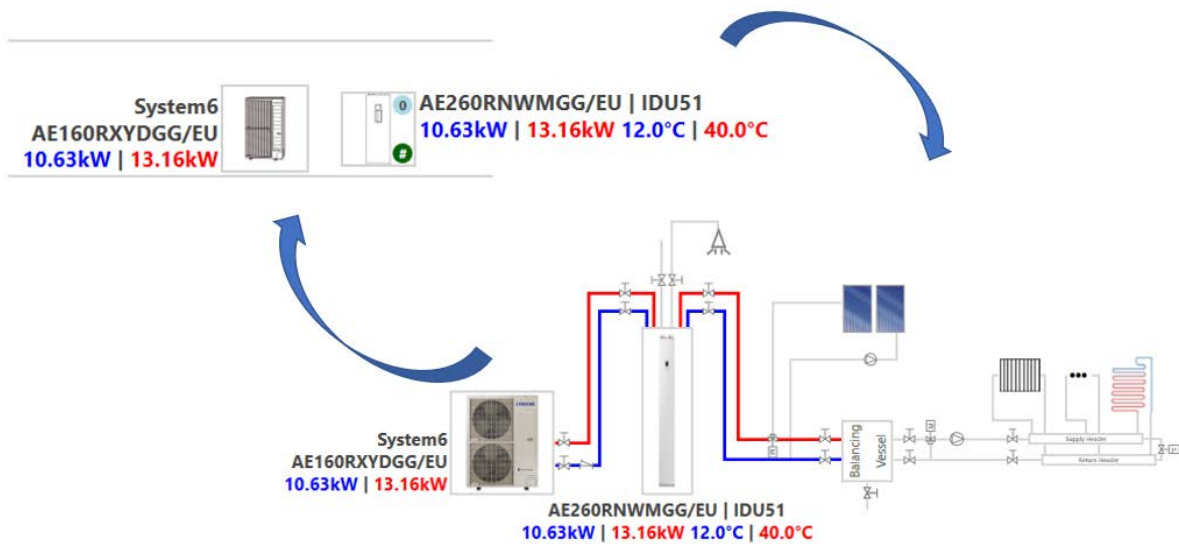
- ⑤ Pipe pressure loss rate : Set the pipe pressure loss rate of fittings.
- ⑥ Pump efficiency : Set the efficiency of the pump.
- ⑦ Pump safe rate : Set the safe rate of the pump.
- ⑧ Apply : Apply the set water pipe option and close the window.
- ⑨ Close : Cancel the water pipe option setting and close the window.



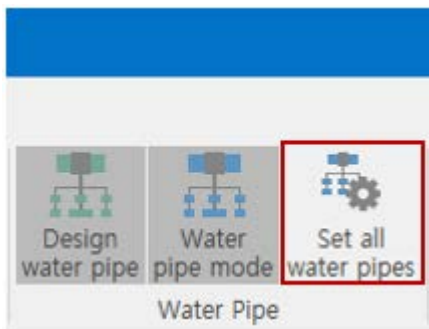
## 1.6.2. Water Pipe Mode



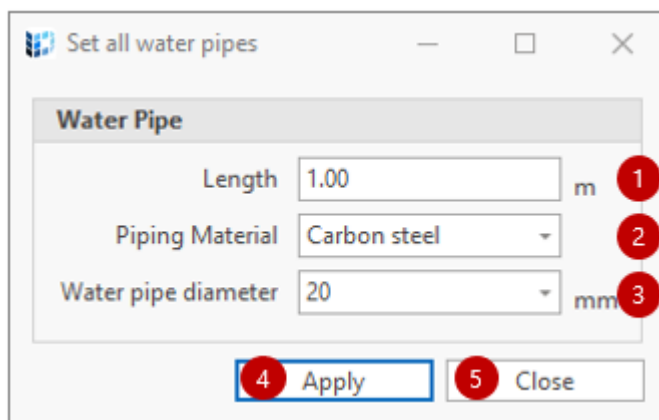
When the water piping mode function is activated, the equipment/piping view is switched to the water piping view. Equipment cannot be modified in water piping mode.



### 1.6.3. Set All Water Pipes



Batch set the information of all water pipes of the currently active system.

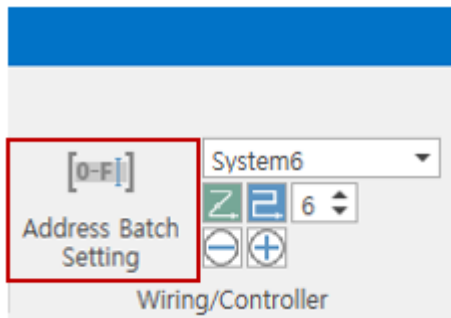


- ① Length : Set the length of water pipes.
- ② Piping Material : Set the material of water pipes.
- ③ Water pipe diameter : Set the diameter of water pipes
- ④ Apply : The set information applies to all water pipes and closes the window.
- ⑤ Close : Cancel the batch set of water pipes and close the window.

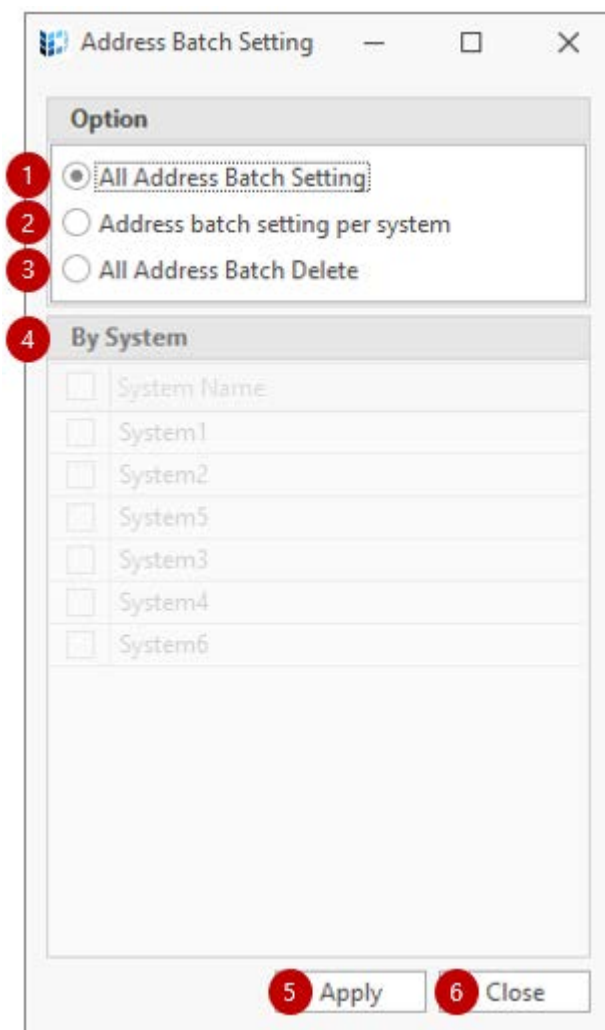
## 1.7. Wiring/Controller

It is displayed only in the wiring/controller view and provides a batch setting function.

### 1.7.1. Address Batch Setting

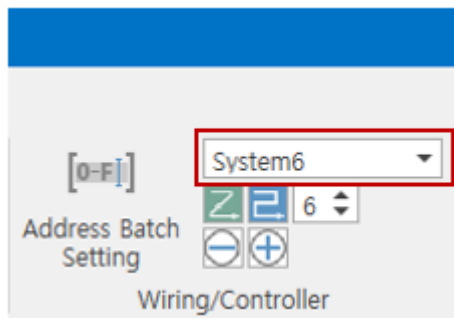


Batch Set the address of the current project controllers, outdoor units, and indoor units



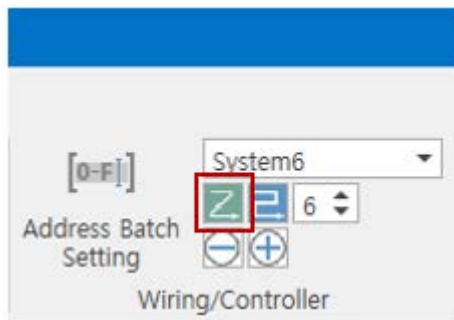
- ① All address batch setting : Batch set the addresses of all controllers, outdoor units, and indoor units.
- ② Address batch setting per system : Batch set the addresses of controllers, outdoor units, and indoor units for selected system
- ③ All address batch delete : Delete the addresses of all controllers, outdoor units, and indoor units. (Set to -1)
- ④ By system : This is activated when the address batch setting per system option is selected, and selects the system for address setting.
- ⑤ Apply : Apply the address with the selected option and close the window.
- ⑥ Close : Cancel the address batch setting function and close the window.

### 1.7.2. Find System

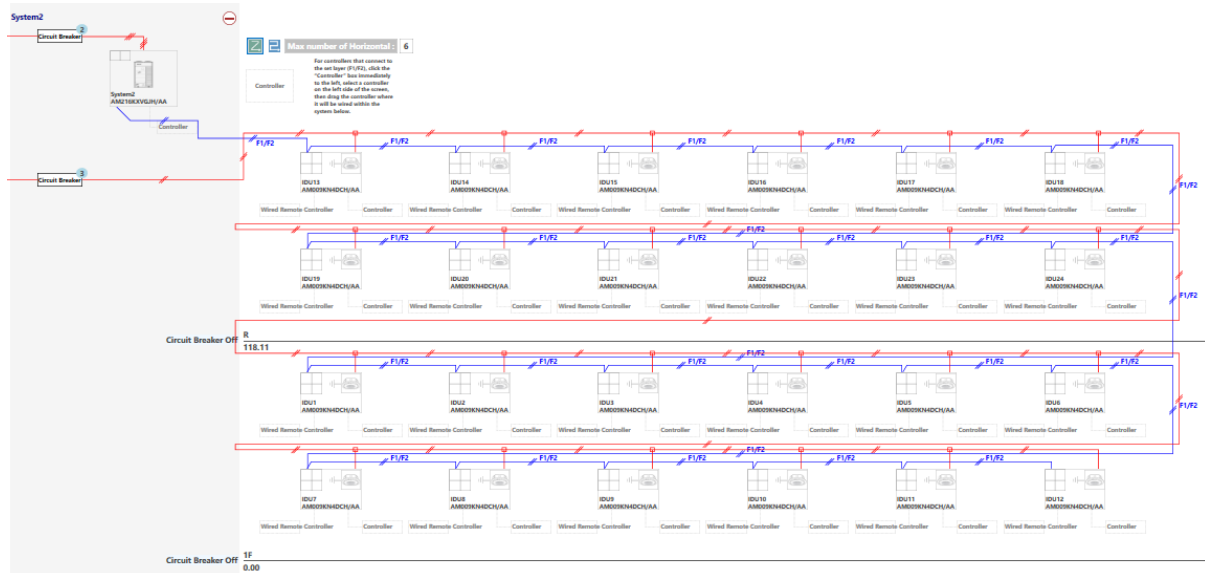


Displays a list of systems being designed in the current project, and when a specific system is selected, the view is moved from the wiring/controller view to the selected system.

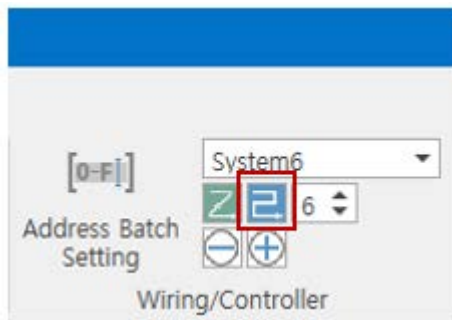
### 1.7.3. All Left Alignment



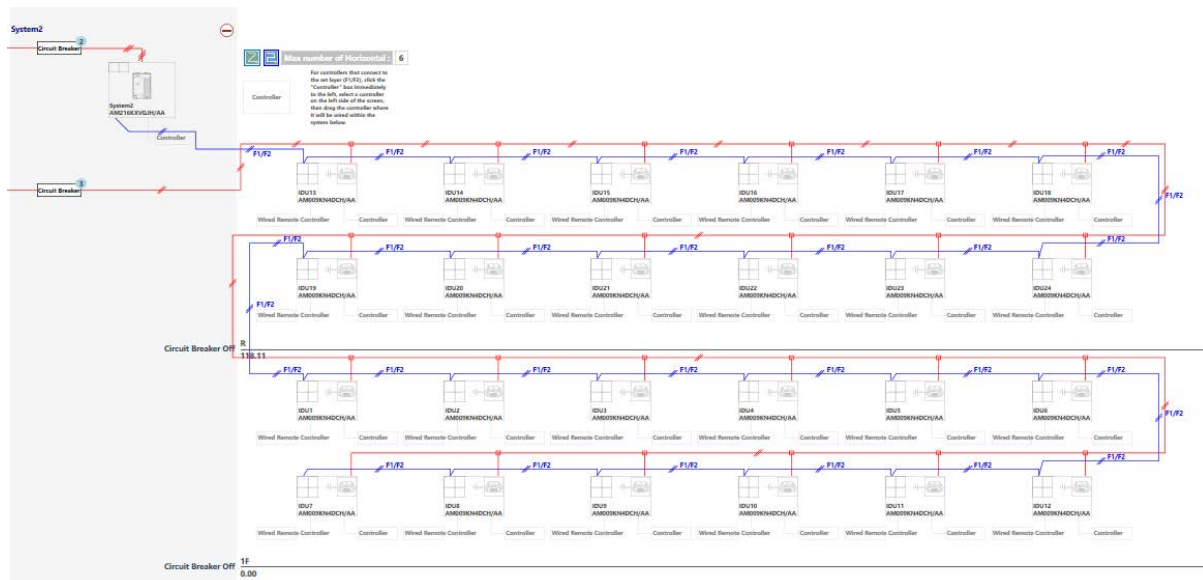
In the wiring/controller view, arrange the communication wire connection directions of all systems' devices from left to right.



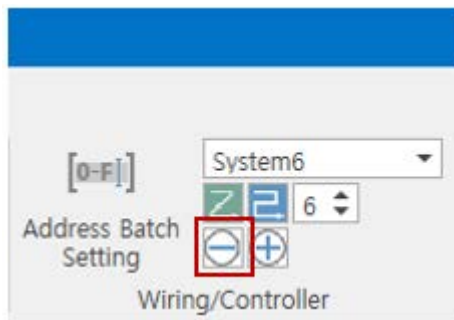
## 1.7.4. All Cross Alignment



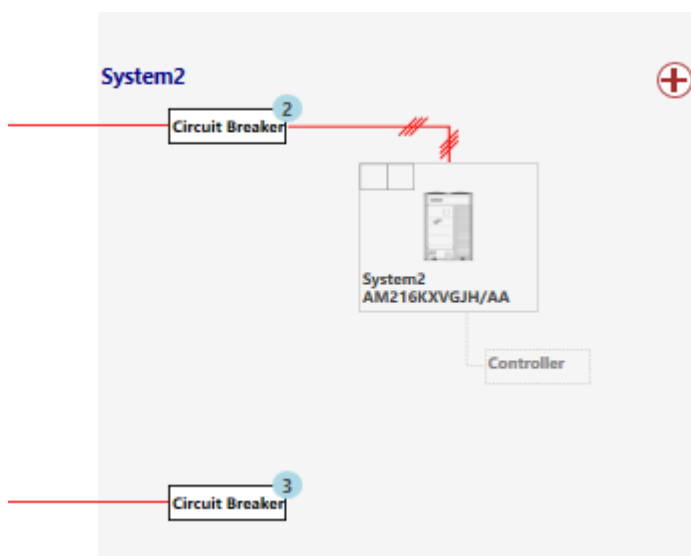
In the wiring/controller view, arrange the communication wire connection directions of all the systems' devices from left to right and right to left to cross-connect once.



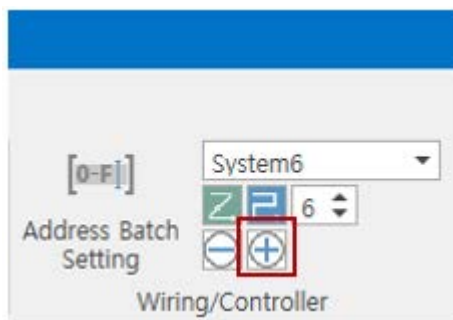
### 1.7.5. All Collapse



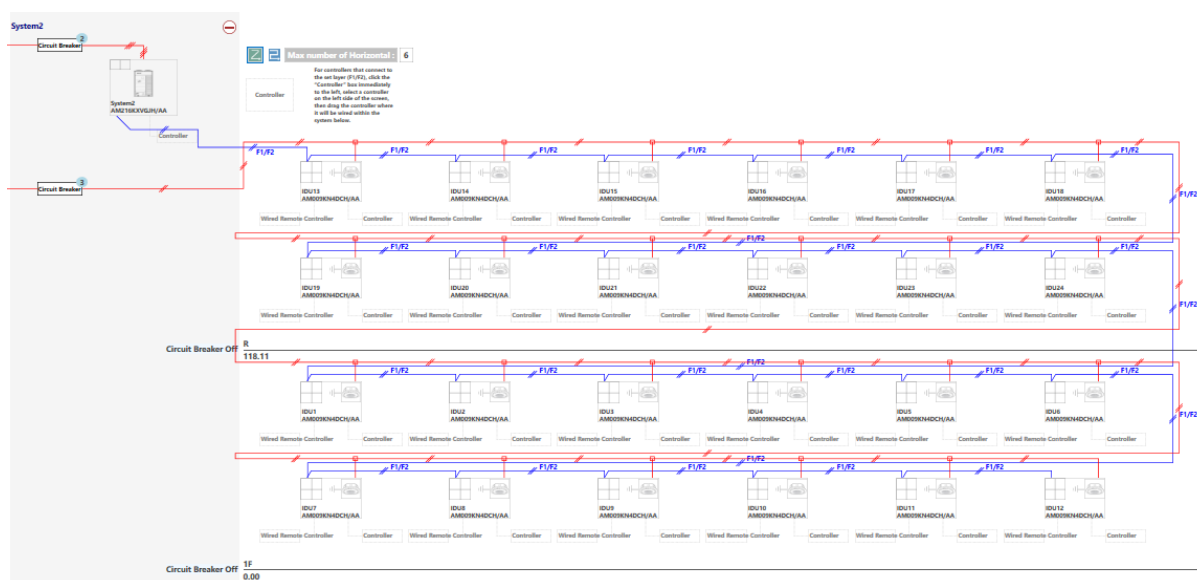
Collapse all system sub devices in the wiring/controller view and hide in the screen.



### 1.7.6. All Expand

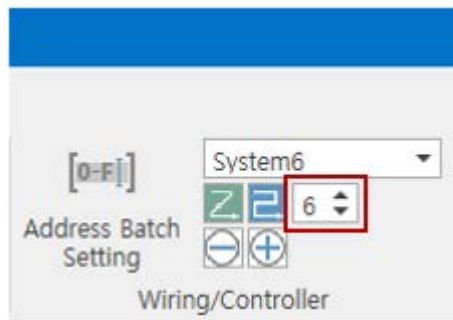


Expand all the sub devices in the wiring/controller view and show in the screen.





### 1.7.7. Set Column Count of All Systems



Set the count of columns of all systems in the wiring/controller view.

