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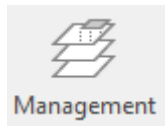
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# 1. Design

## 1.1. Building

### 1.1.1. 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.

#### 1.1.1.1. Window Composition

The screenshot shows the 'Building Management' window with the following components:

- Create floor (1):** Includes fields for Ground, Floor Height (3000 mm), and Ceiling Height (2000 mm), with a 'Create' button.
- Edit Floor (2):** Includes buttons for Insert, Move Up, Delete, and Move down.
- Modify Room (3):** Includes a 'Number of Room' field (set to 1) and buttons for Insert, Copy, Move Up, Delete, Paste, and Move down.
- Table (4):** A large table with columns for Floor, Room, Area, Unit Load, Room Load, Required Ventilation Volume, and Indoor unit Auto Selection. The table has two rows: 'R' and '1F'.
- Import/Export (5):** Buttons for 'Import' and 'Export'.
- OK/Cancel (6, 7):** Buttons for 'OK' and 'Cancel'.

- 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.

### 1.1.1.2. Create Floor

1

Ground

1

2

Basement

0

3

Floor Height

3000

mm

4

Ceiling Height

2000

mm

5

Create

- 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.

### 1.1.1.3. Edit Floor

1

Ground

1

2

Basement

0

3

Floor Height

3000

mm

4

Ceiling Height

2000

mm

5

Create

1

Insert

3

Move Up

2

Delete

4

Move down

- 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).

### 1.1.1.4. Edit Room

Create floor				Edit Floor		Modify Room						
Ground	1	Floor Height	3000 mm	Create	Insert	Move Up	1 Number of Room	4	2 Insert	4 Copy	6 Move Up	
Basement	0	Ceiling Height	2000 mm						3 Delete	5 Paste	7 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	
<input checked="" type="checkbox"/>	Select All
<input checked="" type="checkbox"/>	Room Width
<input checked="" type="checkbox"/>	Room Depth
<input checked="" type="checkbox"/>	Room Area
<input checked="" type="checkbox"/>	Unit Load Cooling Total Capacity
<input checked="" type="checkbox"/>	Unit Load Sensible Cooling Capacity
<input checked="" type="checkbox"/>	Unit Load Heating Total Capacity
<input checked="" type="checkbox"/>	Room Load Cooling Total Capacity
<input checked="" type="checkbox"/>	Room Load Sensible Cooling Capacity
<input checked="" type="checkbox"/>	Room Load Heating Total Capacity
<input checked="" type="checkbox"/>	Required Ventilation Volume
<input checked="" type="checkbox"/>	Product Group
<input checked="" type="checkbox"/>	Product Class
<input checked="" type="checkbox"/>	Product Family
<input checked="" type="checkbox"/>	Product Series
<input checked="" type="checkbox"/>	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.

### 1.1.1.5. Space Information List

Create floor				Edit Floor				Modify Room					
Ground	1	Floor Height	3000 mm	Insert		Move Up		Number of Room		4	Insert	Copy	Move Up
Basement	0	Ceiling Height	2000 mm	Delete		Move down					Delete	Paste	Move down

Floor	Floor Height (mm)	Ceiling Height (mm)	Room			Area (m <sup>2</sup> )	Unit Load			Room Load			Required Ventilation Volume (CMH)	
			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	Room 1	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
New Floor 1	3000	2000	Room 2	0	0	0.00	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	0.00	0
	3000	2000	Room 4	0	0	0.00	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.

#### 1.1.1.6. 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.

### 1.1.1.7. Import and Export

Import
1

Export
2

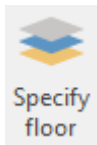
The screenshot shows an Excel spreadsheet titled 'Project Building Information.xlsx'. The spreadsheet contains a table with the following data:

	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										

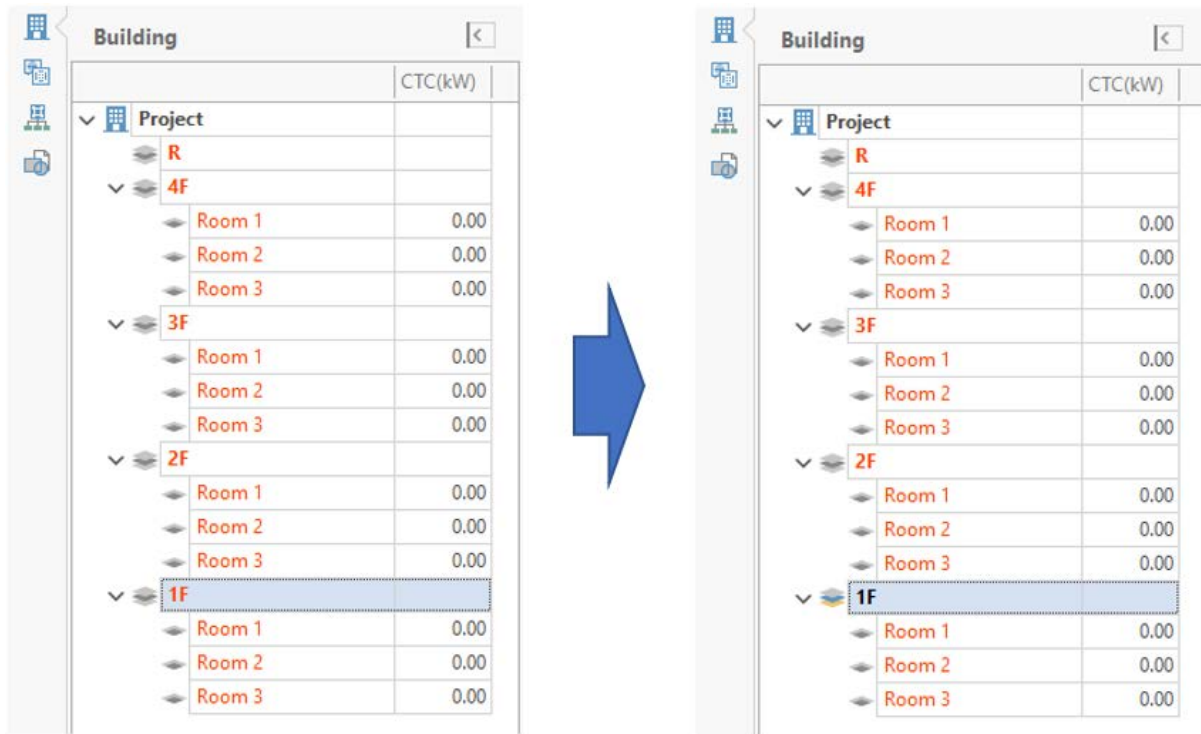
- ① Import : You can import space information saved as an Excel file and set it in batch.
- ② Export : Set space information can be exported to an Excel file.

### 1.1.2. Specify Floors

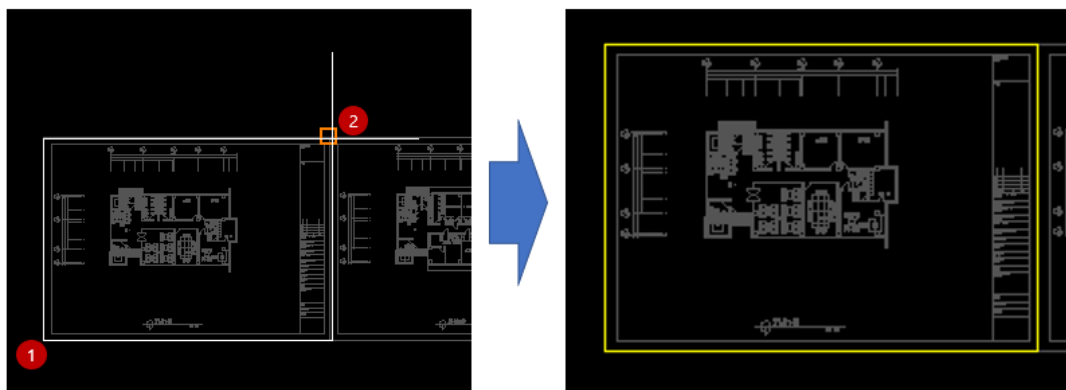
Command : DVMSETFLOOREACHAREA



Specifies area (polyline) objects for individual layers.



In the building tab, select the floor to designate the floor area object. When a floor area object is specified, the floor name is set to black. If a floor is not selected in the building tab, you cannot specify a floor area object.

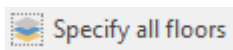


- > Command Window
- > Specify 1F' Area
- > Specify the first corner : Click ①
- > Specify the other corner point : Click ②

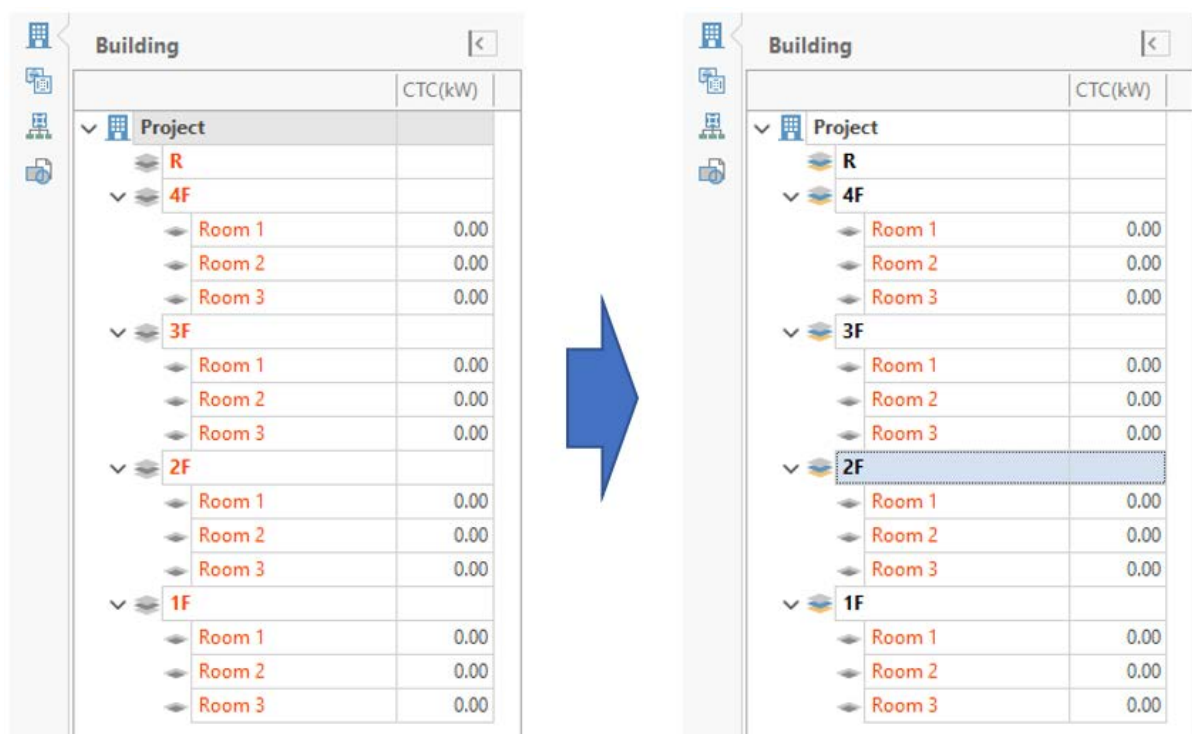
If you specify an area using two points, a floor area object is created with a polyline.

### 1.1.3. Specify All Floors

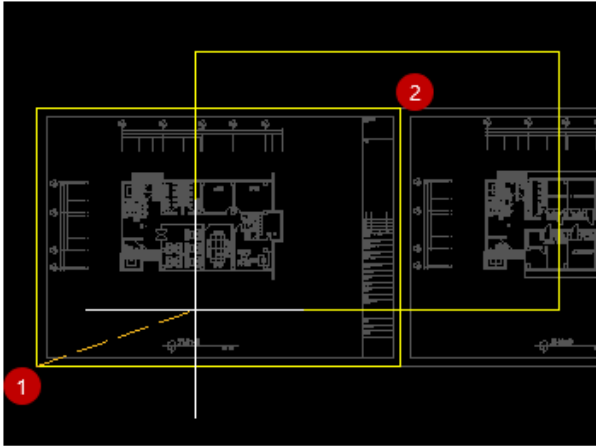
명령어 : DVMSETFLOORBLOCAREA



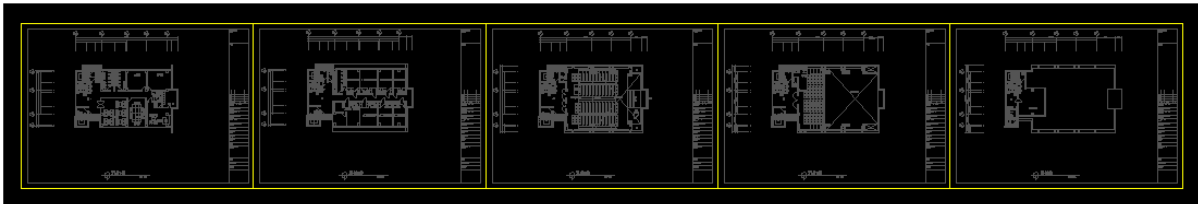
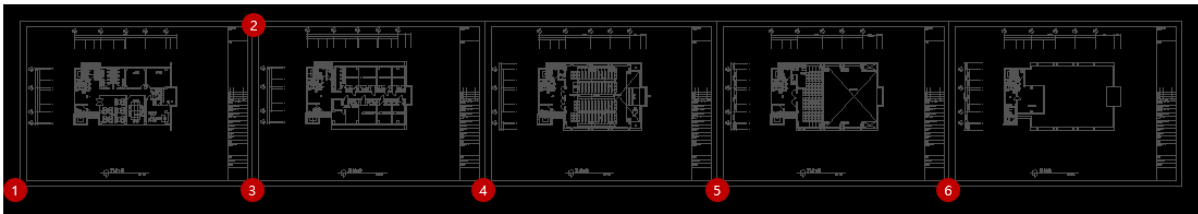
Specifies an area (polyline) object for the all floors.



When an area object for all floors is specified, the floor is named black.



Set two points for creating an area object on the first base floor. At this time, the first designated point becomes the reference point. By specifying both points and moving the mouse, you can specify the base point for the next floor.



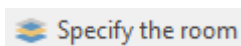
The remaining floors can also be positioned in succession to create a floor area object, and the areas are designated in order from low to high.

- > **Command Window**
- > **Specify 1F' Area**
- > **Specify the first corner : Click ①**
- > **Specify the other corner point : Click ②**
- > **Specify 2F' Area**
- > **Specify a position : Click ③**
- > **Specify 3F' Area**
- > **Specify a position : Click ④**

- > Specify 4F' Area
- > Specify a position : Click ⑤
- > Specify R' Area
- > Specify a position : Click ⑥

#### 1.1.4. Specify The Room

Command : DVMSETROOMEACHAREA



Specifies an area (polyline) object for the room. You can add a new room while specifying the room area object.

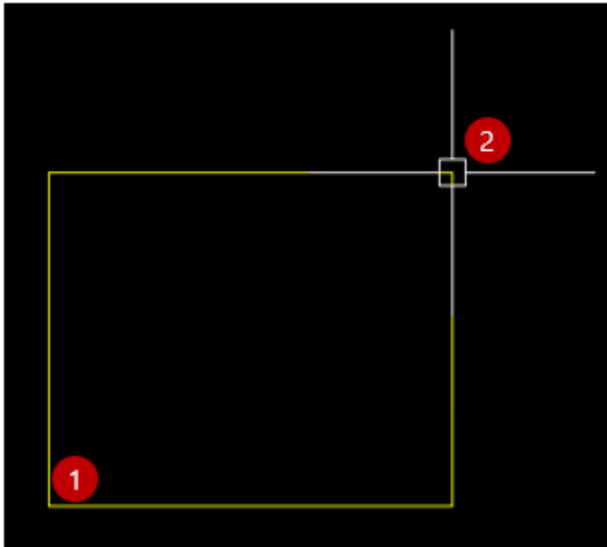
##### 1.1.4.1. Specify Existing Room Area

Building		CTC(kW)
Project		
R		
4F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	
3F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	
2F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	
1F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	

Building		CTC(kW)
Project		
R		
4F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	
3F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	
2F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	
1F		
Room 1	0.00	
Room 2	0.00	
Room 3	0.00	

In the Building tab, select the room to designate the room area object. When a room area object is specified, the name of the room is set to black.

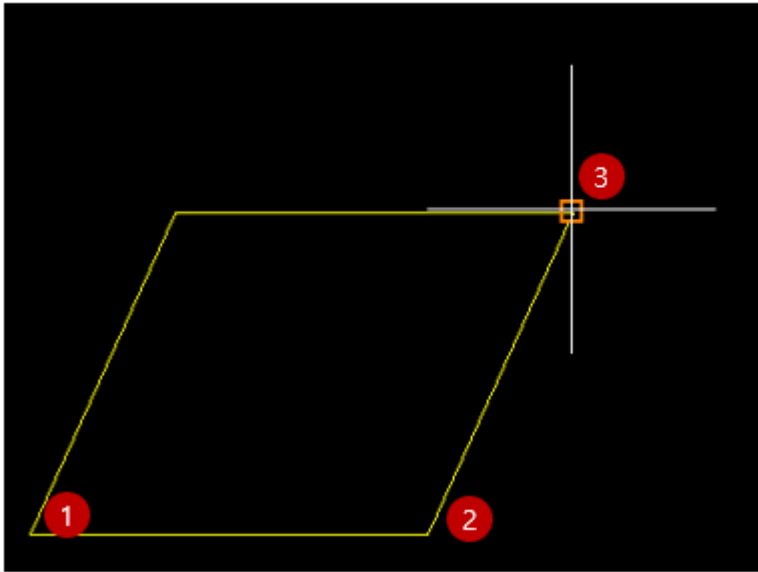
#### 1.1.4.1.1. Specify Two Point Area



If you specify an area using two points, a room area object is created with a polyline.

- > **Command Window**
- > **Specify Room 1' Area**
- > **The first corner or [3 Point(A) / Polygon(P)] : Click ①**
- > **Specify the other corner point : Click ②**

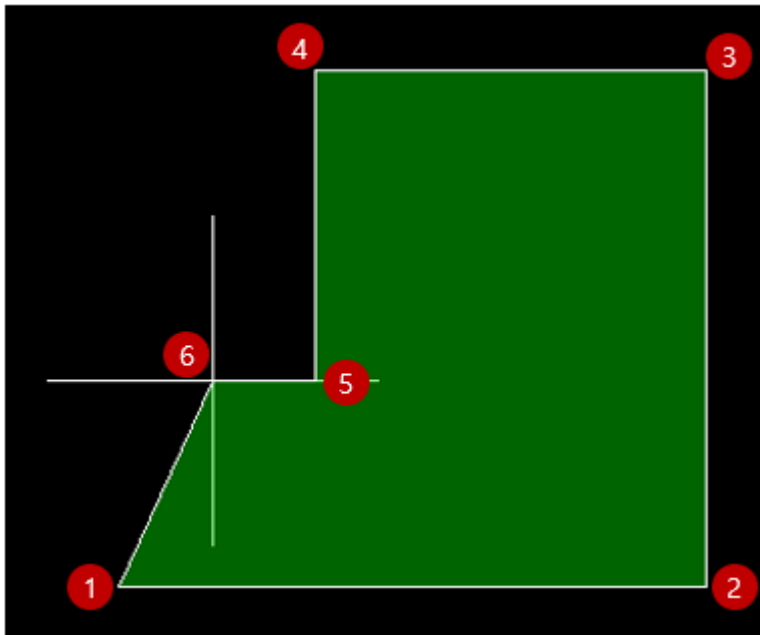
#### 1.1.4.1.2. Specify Three Point Area



If you specify an area using three points, a room area object is created with a polyline.

- > **Command Window**
- > **Specify Room 1' Area**
- > **The first corner or [3 Point(A) / Polygon(P)] : Input A**
- > **Specify the first point : Click ①**
- > **Specify the second point : Click ②**
- > **Specify direction point : Click ③**

#### 1.1.4.1.3. Specify Polygon Area



When a polygonal area is specified, a room area object is created with a polyline.

> **Command Window**

> **Specify Room 1' Area**

> **The first corner or [3 Point(A) / Polygon(P)] : Input P**

> **Specify the first corner : Click ①**

> **Next point(Dimension) or [Done(Enter)/Undo(U)] : Click ②**

> **Next point(Dimension) or [Done(Enter)/Undo(U)] : Click ③**

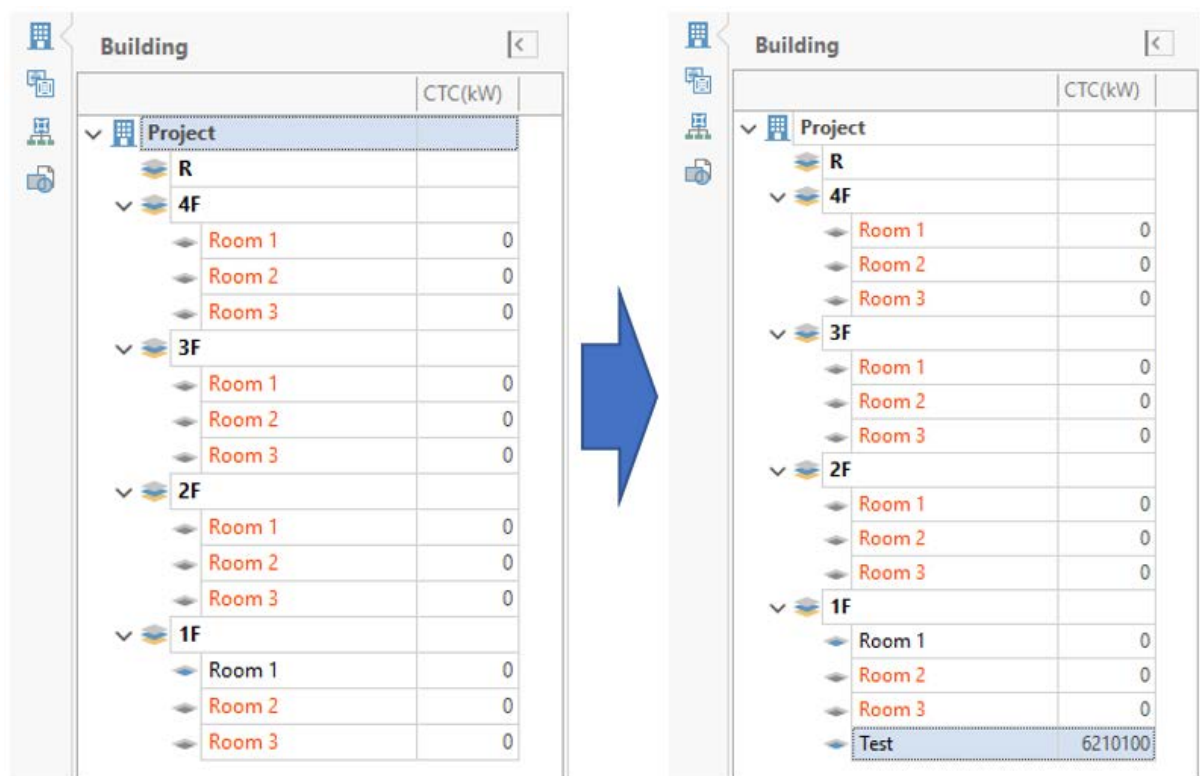
> **Next point(Dimension) or [Done(Enter)/Undo(U)] : Click ④**

> **Next point(Dimension) or [Done(Enter)/Undo(U)] : Click ⑤**

> **Next point(Dimension) or [Done(Enter)/Undo(U)] : Click ⑥**

> **Next point(Dimension) or [Done(Enter)/Undo(U)] : Input Enter or U**

### 1.1.4.2. Specify Room Area and Add Room



If a project or floor other than a room is selected in the building tab, a new room can be added when performing the room designation function. When a new room is added, you can check the added room information in the building tab.

#### > Command Window

- > The first corner or [3 Point(A) / Polygon(P)] : Same as specify existing room area
- > Specify the other corner point : Same as specify existing room area
- > Enter room name : Input room name
- > Enter unit load(kW) <0> : Input unit load

### 1.1.5. Delete

Command : DVMDELETESPACE



Deletes the floor area object or the room area object created in the drawing. The floor or room is not deleted, only the area object.

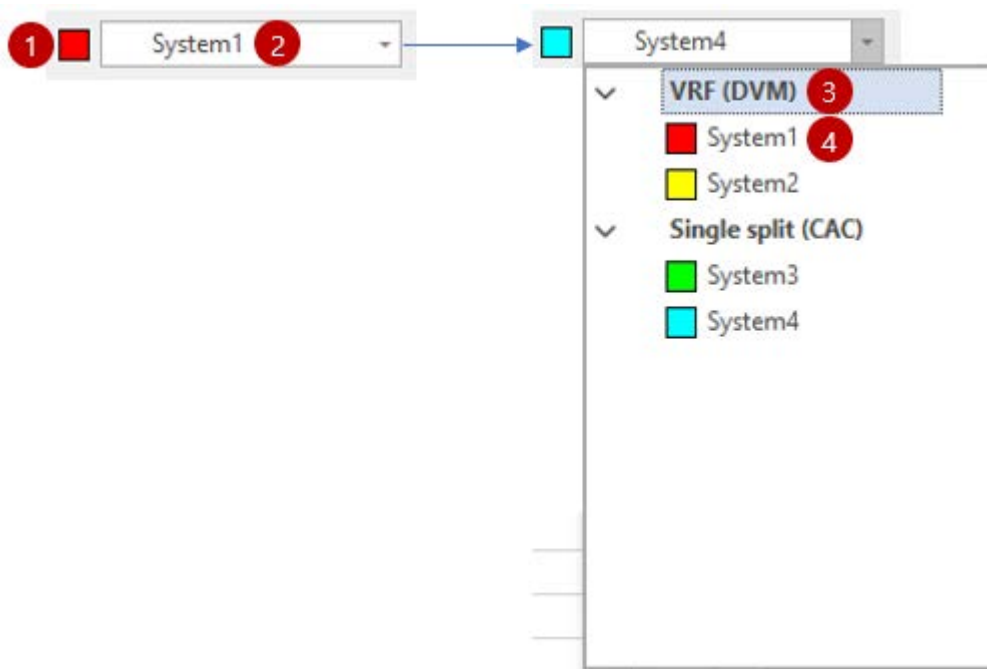
> **Command Window**

> **Select floor ro room object : Select floor area object or room area object**

## 1.2. System

### 1.2.1. System List

A list of all systems in the current project is displayed by system type, and when a specific system is selected, the system is activated.

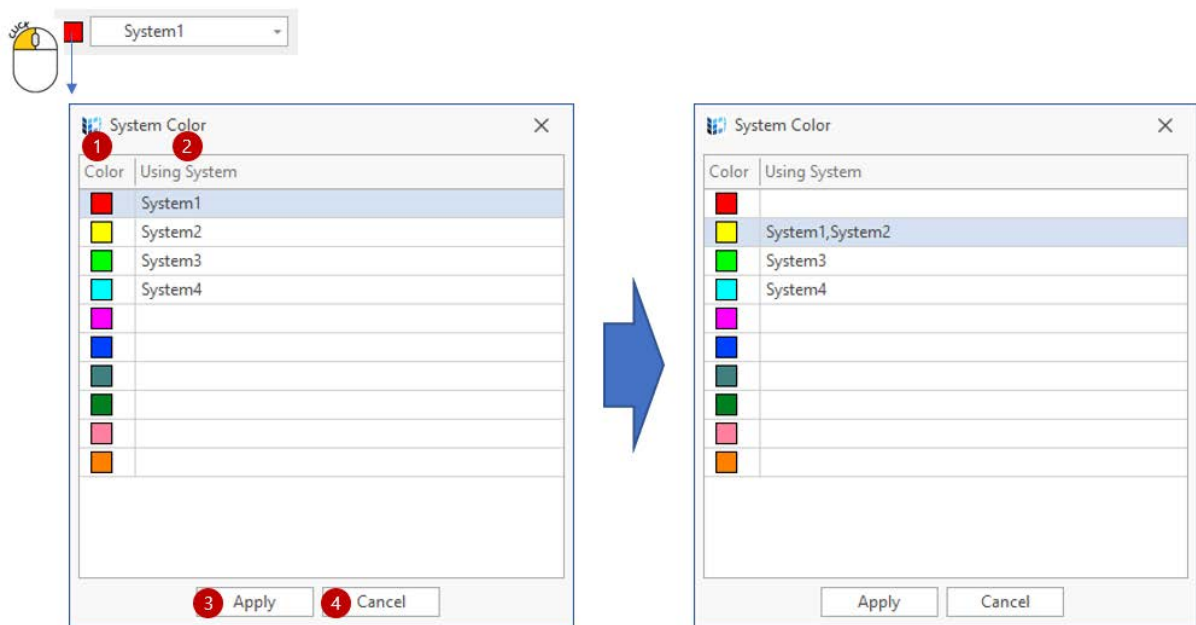


- ① Color : The color of the currently active system is displayed. The equipment included in the system is represented on the drawing in corresponding color.
- ② Active System : The name of the currently active system is displayed.
- ③ System Group : Groups are represented by system type.
- ④ System : The name and the color of the system are displayed. When you select a system, the system is activated.

### 1.2.2. Change The System Color

Command : DVMCHANGESYSTEMCOLOR

The color of the system is applied sequentially each time the system is created using 10 colors, and the color of the system can be changed. Double-clicking the color button on the left side of the system list activates the system color window. Selecting a color and clicking the Apply button sets the system color.



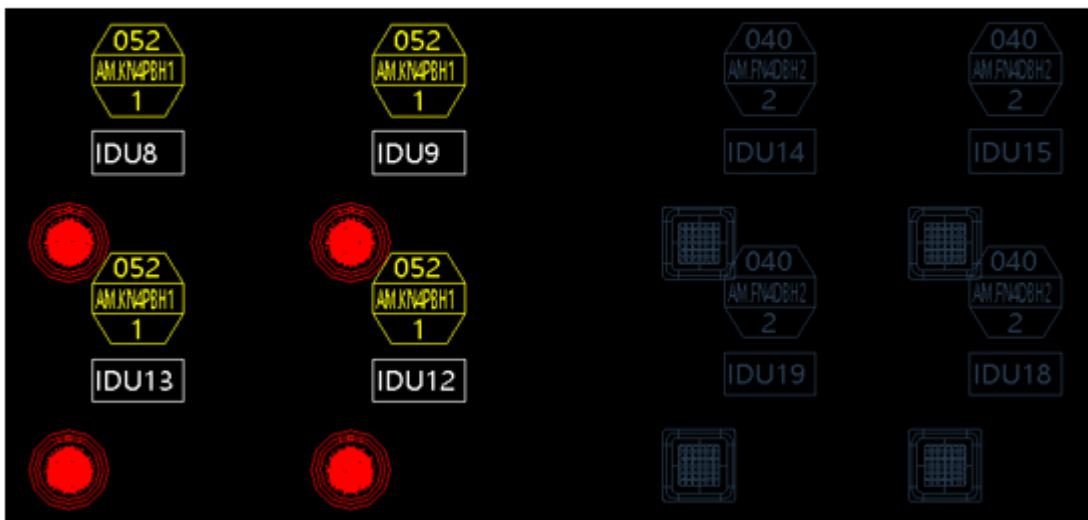
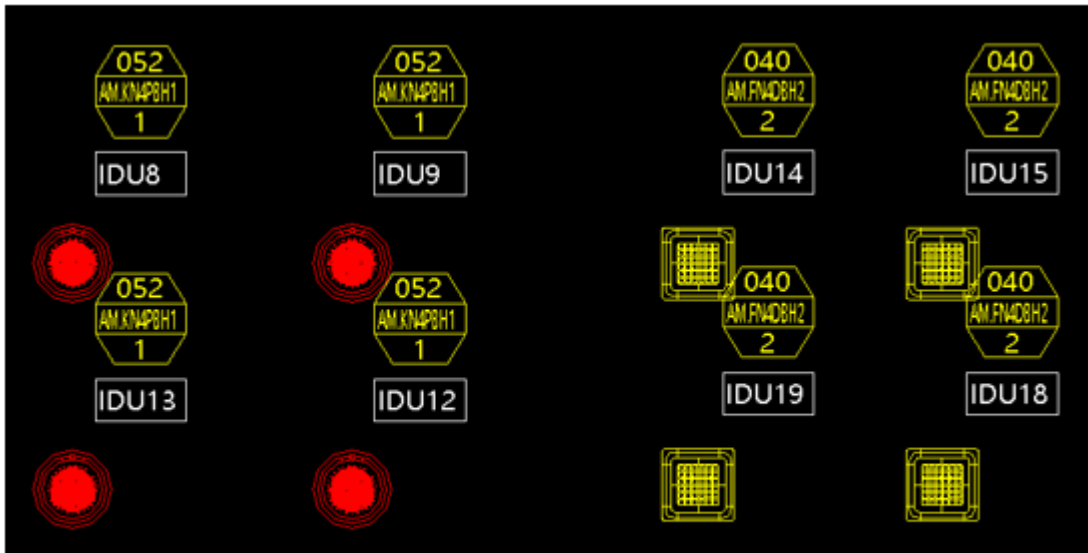
- ① Color : A list of system colors that can be set is displayed, and the color you want to set is selected.
- ② Using System : A list of systems using colors is represented by ';;'.
- ③ Apply : Clicking the Apply button changes the color of the currently active system and closes the window.
- ④ Cancel : Clicking the Cancel button cancels the system color change and closes the window.

### 1.2.3. Emphasize on the current system

Command : DVMHIGHLIGHTSYSTEM

☐ Emphasize on the current system

When emphasize on the current system function is activated, all equipment in the drawing except objects related to the currently active system is set to dark.

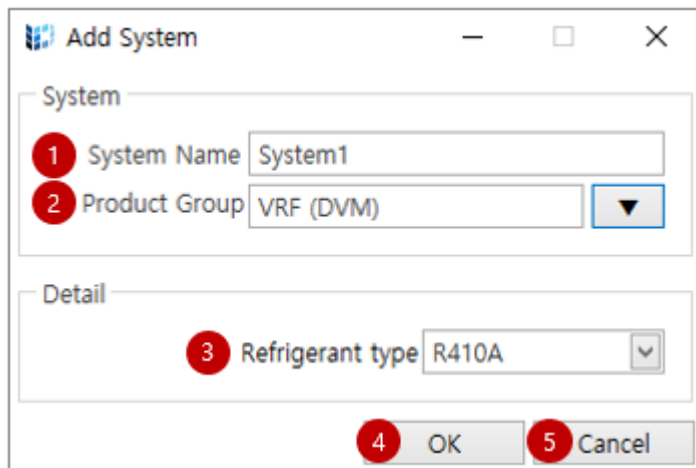


### 1.2.4. New



Add a new system to the project you are designing.

#### 1.2.4.1. VRF General



- ① System Name : Set the name of the system.
- ② Product Group : Select the VRF (DVM) group.
- ③ Refrigerant Type : Select the type of refrigerant for the VRF (DVM) system.
- ④ OK : Add the VRF (DVM) system and exit the window.
- ⑤ Cancel : Cancel the VRF (DVM) system add and exit the window.

#### 1.2.4.2. VRF Home (Single Piping)

The 'Add System' dialog box for VRF Home (Single Piping) contains the following fields and controls:

- System Section:**
  - System Name:** Text input field containing 'System1'.
  - Product Group:** Dropdown menu showing 'DVM Home (단배관)'.
- Detail Section:**
  - Refrigerant type:** Dropdown menu showing 'R410A'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

- ① System Name : Set the name of the system.
- ② Product Group : Select the DVM Home (Single Piping) group.
- ③ Refrigerant Type : Select the type of refrigerant for the DVM Home (Single Piping).
- ④ OK : Add the DVM Home (Single Piping) system and exit the window.
- ⑤ Cancel : Cancel the DVM Home (Single Piping) system add and exit the window.

#### 1.2.4.3. VRF Home (Multi Piping)

The 'Add System' dialog box for VRF Home (Multi Piping) contains the following fields and controls:

- System Section:**
  - System Name:** Text input field containing 'System1'.
  - Product Group:** Dropdown menu showing 'DVM Home (다배관)'.
- Detail Section:**
  - Refrigerant type:** Dropdown menu showing 'R410A'.
  - Indoor Unit Qty.:** Dropdown menu showing '3'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

- ① System Name : Set the name of the system.
- ② Product Group : Select the DVM Home (Multi Piping) group.
- ③ Refrigerant Type : Select the type of refrigerant for the DVM Home (Multi Piping).
- ④ Indoor Unit Qty. : DVM Home (Multi Piping) system Select the number of indoor units.
- ⑤ OK : Add the DVM Home (Multi Piping) system and exit the window.

- ⑥ Cancel : Cancel the DVM Home (Multi Piping) system add and exit the window.

#### 1.2.4.4. Chiller

The 'Add System' dialog box for a Chiller system. It contains the following fields and controls:

- System Section:**
  - System Name:** Text input field containing 'System1'.
  - Product Group:** Dropdown menu showing 'Air-cooled Modular Chiller'.
- Detail Section:**
  - Type:** Dropdown menu showing 'Chiller + AHU/FC'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

- ① System Name : Set the name of the system.
- ② Product Group : Select the Air-cooled Modular Chiller group.
- ③ Type : Select the type of Air-cooled Modular Chiller system.
- ④ OK : Add the Air-cooled Modular Chiller system and exit the window.
- ⑤ Cancel : Cancel the Air-cooled Modular Chiller system add and exit the window.

#### 1.2.4.5. CAC

The 'Add System' dialog box for a CAC system. It contains the following fields and controls:

- System Section:**
  - System Name:** Text input field containing 'System1'.
  - Product Group:** Dropdown menu showing 'Single split (CAC)'.
- Detail Section:**
  - Refrigerant type:** Dropdown menu showing 'R410A'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

- ① System Name : Set the name of the system.
- ② Product Group : Select the Single Split (CAC) group.
- ③ Refrigerant Type : Select the type of refrigerant for the Single Split (CAC).
- ④ OK : Add the Single Split (CAC) system and exit the window.

- ⑤ Cancel : Cancel the Single Split (CAC) system add and exit the window.

#### 1.2.4.6. PAC

The screenshot shows the 'Add System' dialog box with the following fields and controls:

- System** section:
  - ① System Name: Text box containing 'System1'.
  - ② Product Group: Dropdown menu showing '싱글 PAC' (Single PAC).
- Detail** section:
  - ③ Refrigerant type: Dropdown menu showing 'R410A'.
- Buttons at the bottom:
  - ④ OK
  - ⑤ Cancel

- ① System Name : Set the name of the system.
- ② Product Group : Select the Single (PAC) group.
- ③ Refrigerant Type : Select the type of refrigerant for the Single (PAC).
- ④ OK : Add the Single (PAC) system and exit the window.
- ⑤ Cancel : Cancel the Single (PAC) system add and exit the window.

#### 1.2.4.7. RAC

The screenshot shows the 'Add System' dialog box with the following fields and controls:

- System** section:
  - ① System Name: Text box containing 'System1'.
  - ② Product Group: Dropdown menu showing 'Single split (RAC)'.
- Detail** section:
  - ③ Refrigerant type: Dropdown menu showing 'R410A'.
- Buttons at the bottom:
  - ④ OK
  - ⑤ Cancel

- ① System Name : Set the name of the system.
- ② Product Group : Select the Single Split (RAC) group.
- ③ Refrigerant Type : Select the type of refrigerant for the Single Split (RAC).
- ④ OK : Add the Single Split (RAC) system and exit the window.

- ⑤ Cancel : Cancel the Single Split (RAC) system add and exit the window.

#### 1.2.4.8. FJM

The screenshot shows a window titled "Add System" with standard Windows window controls (minimize, maximize, close). The window is divided into two main sections: "System" and "Detail".

**System Section:**

- ① System Name: A text input field containing "System1".
- ② Product Group: A dropdown menu showing "Multi Split (FJM)" with a blue downward arrow button to its right.

**Detail Section:**

- ③ Refrigerant type: A dropdown menu showing "R410A".
- ④ Indoor Unit Qty.: A dropdown menu showing "2".
- ⑤ Combination Index: A dropdown menu showing "24+24".

**Buttons:**

- ⑥ OK: A button to confirm the configuration.
- ⑦ Cancel: A button to cancel the configuration.

- ① System Name : Set the name of the system.
- ② Product Group : Select the Multi Split (FJM) group.
- ③ Refrigerant Type : Select the type of refrigerant for the Multi Split (FJM).
- ④ Indoor Unit Qty. : Multi Split (FJM) system Select the number of indoor units.
- ⑤ Combination Index : Select the combination index of indoor units of the Multi Split (FJM) system.
- ⑥ OK : Add the Multi Split (FJM) system and exit the window.
- ⑦ Cancel : Cancel the Multi Split (FJM) system add and exit the window.

#### 1.2.4.9. EHS Mono

The screenshot shows a window titled 'Add System' with a standard Windows interface (minimize, maximize, close buttons). The window is divided into two main sections: 'System' and 'Detail'. In the 'System' section, there are two fields: 'System Name' with the value 'System1' and 'Product Group' with a dropdown menu showing 'Mono'. In the 'Detail' section, there are two more dropdown menus: 'Refrigerant type' showing 'R410A' and 'Tank' showing 'Tank Included'. At the bottom of the window, there are two buttons: 'OK' and 'Cancel'. Red circular callouts with numbers 1 through 6 point to each of these elements in sequence.

- ① System Name : Set the name of the system.
- ② Product Group : Select the Mono group.
- ③ Refrigerant Type : Select the type of refrigerant for the Mono.
- ④ Tank : Select whether to include tanks in the Mono system.
- ⑤ OK : Add the Mono system and exit the window.
- ⑥ Cancel : Cancel the Mono system add and exit the window.

#### 1.2.4.10. EHS Split

This screenshot shows the same 'Add System' window as the previous one, but with the 'Product Group' dropdown set to 'Split'. The 'System Name' is still 'System1', 'Refrigerant type' is 'R410A', and 'Tank' is 'Tank Included'. The 'OK' and 'Cancel' buttons are at the bottom. Red circular callouts with numbers 1 through 6 point to the same elements as in the previous screenshot, but the 'Product Group' field is now 'Split'.

- ① System Name : Set the name of the system.
- ② Product Group : Select the Split group.
- ③ Refrigerant Type : Select the type of refrigerant for the Split.

- ④ Tank : Select whether to include tanks in the Split system.
- ⑤ OK : Add the Split system and exit the window.
- ⑥ Cancel : Cancel the Split system add and exit the window.

#### 1.2.4.11. EHS TDM Plus

- ① System Name : Set the name of the system.
- ② Product Group : Select the Split group.
- ③ Refrigerant Type : Select the type of refrigerant for the Split.
- ④ Air to Air Indoor Unit : Select whether to include A2A indoor unit in the TDM Plus system.
- ⑤ OK : Add the TDM Plus system and exit the window.
- ⑥ Cancel : Cancel the TDM Plus system add and exit the window.

#### 1.2.4.12. Ventilation ERV

- ① System Name : Set the name of the system.
- ② Product Group : Select the Energy Recovery Ventilation group.

- ③ OK : Add the Energy Recovery Ventilation system and exit the window.
- ④ Cancel : Cancel the Energy Recovery Ventilation system add and exit the window.

#### 1.2.4.13. Ventilation Split DOAS

- ① System Name : Set the name of the system.
- ② Product Group : Select the Split DOAS group.
- ③ Refrigerant Type : Select the type of refrigerant for the Split DOAS.
- ④ OK : Add the Split DOAS system and exit the window.
- ⑤ Cancel : Cancel the Split DOAS system add and exit the window.

#### 1.2.4.14. Ventilation Packaged DOAS

- ① System Name : Set the name of the system.
- ② Product Group : Select the Packaged DOAS group.
- ③ OK : Add the Packaged DOAS system and exit the window.
- ④ Cancel : Cancel the Packaged DOAS system add and exit the window.

### 1.2.5. Delete



Deletes the currently active system from the project. However, if there is even one device designed in the system, it cannot be deleted.

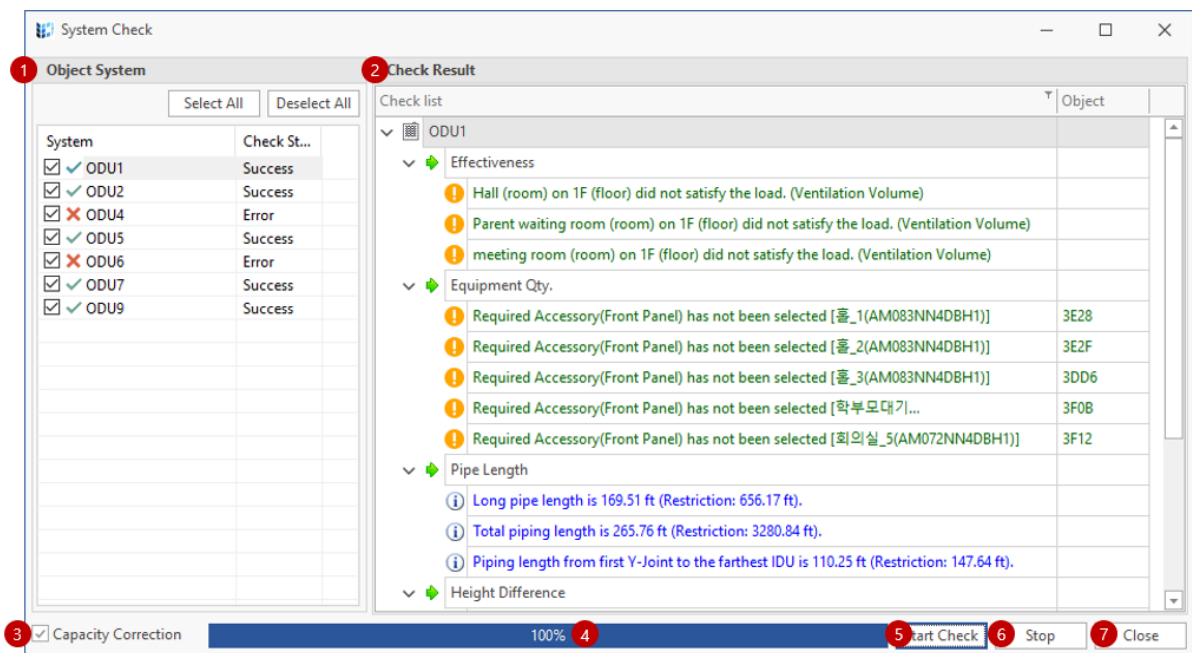
### 1.2.6. Check

Command : DVMCHECKPIPING



Performs capacity correction and system check for all systems designed in the current project.

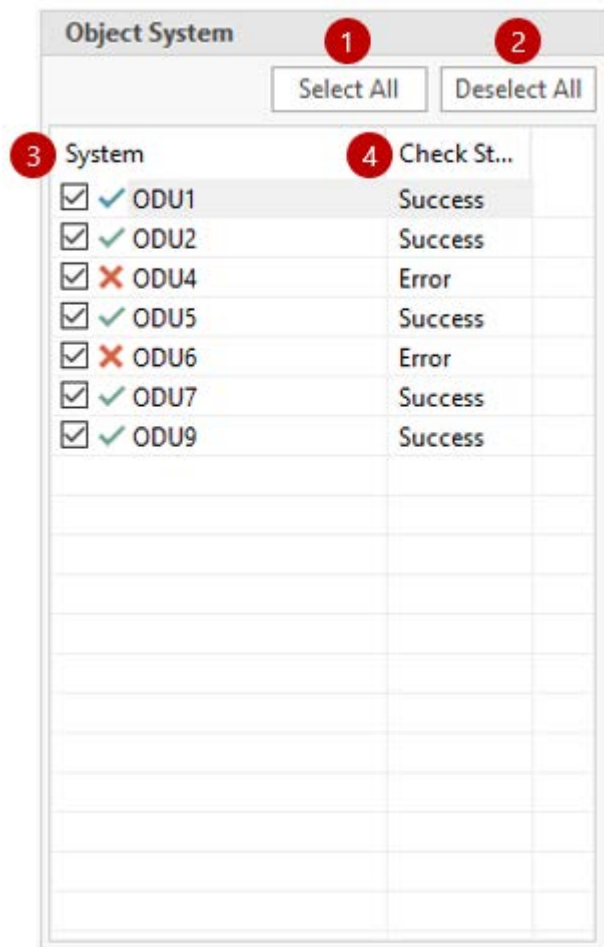
#### 1.2.6.1. Window Composition



- ① Object System : All systems that exist in the current project are displayed, select a system for system check, and check the status after system check.
- ② Check List : Check the system check result of the system selected in the target system.
- ③ Capacity Correction : Set whether to perform capacity correction when checking the system.
- ④ Progress : You can check the progress of the system check.
- ⑤ Start Check : When the button is clicked, the system check starts for the systems checked in the target system.
- ⑥ Stop : When the button is clicked, the system check operation is stopped.

- ⑦ Close : Cancel the system check operation and close the window.

### 1.2.6.2. Object System



- ① Select All : Select all systems for system check.
- ② Deselect All : Deselect all systems for system check.
- ③ System Name : Display the choice for system check and can be individually selected. The icon for the status of the system check result is displayed and the system name is displayed.
- ④ Check Status : The system check status is displayed as a string.

### 1.2.6.3. Check Result

Check Result		
Check list	Object	
<div> <div> <div></div> <div>ODU1</div> </div> <div> <div></div> <div>Effective class</div> </div> <div> <div></div> <div>Hall (room) on 1F (floor) did not satisfy the load. (Ventilation Volume)</div> </div> <div> <div></div> <div>Parent waiting room (room) on 1F (floor) did not satisfy the load. (Ventilation Volume)</div> </div> <div> <div></div> <div>meeting room (room) on 1F (floor) did not satisfy the load. (Ventilation Volume)</div> </div> </div>		
<div> <div> <div></div> <div>Equipment Qty.</div> </div> <div> <div></div> <div>Required Accessory(Front Panel) has not been selected [홀_1(AM083NN4DBH1)]</div> </div> <div> <div></div> <div>Required Accessory(Front Panel) has not been selected [홀_2(AM083NN4DBH1)]</div> </div> <div> <div></div> <div>Required Accessory(Front Panel) has not been selected [홀_3(AM083NN4DBH1)]</div> </div> <div> <div></div> <div>Required Accessory(Front Panel) has not been selected [학부모대기...]</div> </div> <div> <div></div> <div>Required Accessory(Front Panel) has not been selected [회의실_5(AM072NN4DBH1)]</div> </div> </div>	3E28	3E2F
	3DD6	
	3F0B	
	3F12	
<div> <div> <div></div> <div>Pipe Length</div> </div> <div> <div></div> <div>Long pipe length is 169.51 ft (Restriction: 656.17 ft).</div> </div> <div> <div></div> <div>Total piping length is 265.76 ft (Restriction: 3280.84 ft).</div> </div> <div> <div></div> <div>Piping length from first Y-Joint to the farthest IDU is 110.25 ft (Restriction: 147.64 ft).</div> </div> </div>		
<div> <div> <div></div> <div>Height Difference</div> </div> </div>		

- ① **System** : The first level of the check item displays the name of the system selected in the target system list.
- ② **Type** : The second level of the check item represents the type of the check item.
- ③ **Item** : In the third level of the check item, the message of the item is expressed in red for error, green for warning, and blue for information. The message presented depends on the system-specific design state.
- ④ **Object** : The object handle corresponding to the message of the item is displayed, and when you double-click the item, the object is enlarged in the view.

## 1.2.7. Refrigerant Regulations

### Refrigerant Regulation

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.

The screenshot shows a software window titled "Ref. Regulation" with a disclaimer: "This calculator is for reference use only and Samsung holds no liability for the final installation of the system." The window is divided into several sections, each with a numbered callout:

- 1 System**: A dropdown menu for selecting a system.
- 2 Ref. information**: Fields for Type, Factory Charging (kg), Additional Charging (kg), and Total Ref. Amt. (kg).
- 3 Installation Space for Toxicity**: Fields for Room Name, Room Volume (m³), Ceiling Height (mm), and Room Area (m²). Includes a "User Input" checkbox.
- 4 Installation Space for Flammability**: Similar fields to section 3, but includes an "Installation Location" dropdown and "mm" unit.
- 5 Safety classification and information about refrigerant**: Fields for Acute toxicity exposure limit/oxygen deprivation limit (ATEL, ODL) (kg/m³) and Lower flammability limit (kg/m³).
- 6 Access category(Human comfort)**: A dropdown menu.
- 7 Location Classification**: A dropdown menu.
- 8 Calculation Result**: Displays "Charged limit based on Toxicity" (kg) and "Charged limit based on flammability" (kg). Below each is a "Notice about Toxicity" and "Notice about Flammability" section.
- 9 Close**: A button at the bottom right.

- 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.

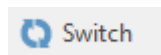
- User Input : Set whether to input directly by the user.
  - Room Name : If user input is not checked, the name of the room with the smallest volume among the rooms used in the selected system is displayed.
  - Room Volume : You can enter or check the volume of the room (when checking user input).
  - 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.

### 1.2.8. Switch

명령어 : DVMSWITCHSYSTEM



After performing the function, if you select an indoor unit or an outdoor unit in the drawing of the current project, the system to which the equipment belongs is activated as the current system.

#### > Command Window

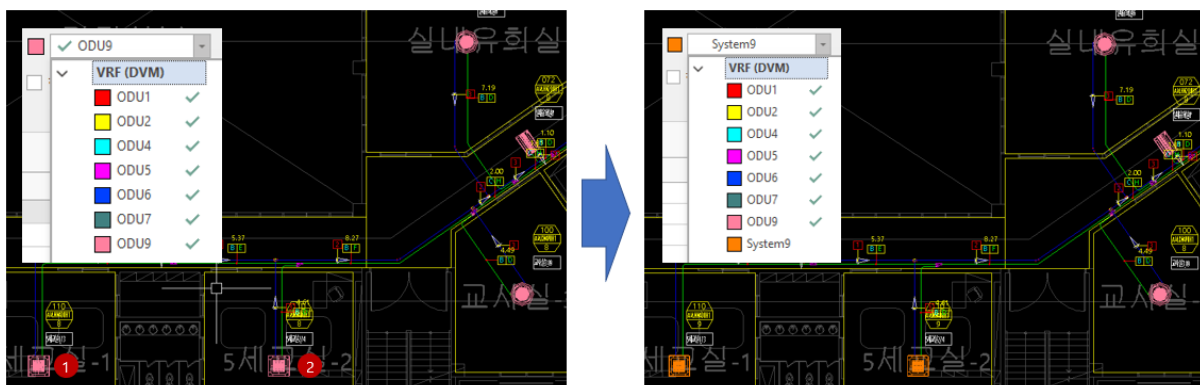
> **Select indoor or outdoor unit : Select an indoor unit or an outdoor unit in the drawing.**

### 1.2.9. Separation

명령어 : DVMSPLITSYSTEM



The indoor units belonging to a specific system that is designed are selected and separated into a new system.



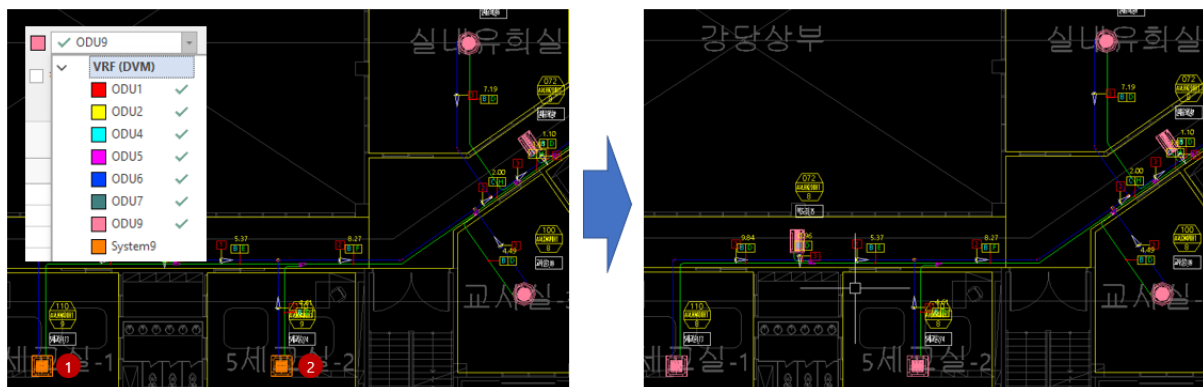
- > Command Window
- > Select indoor units to separate into new system
- > Select objects : Click ①, ②
- > The selected 2 newly created "System9" systems have been separated.
- > (Please arrange the piping connected to the separated indoor unit according to the system configuration.)

### 1.2.10. Merge

명령어 : DVMMERGESYSTEM



Select indoor units belonging to a specific designed system and merge them into the currently active system (system move).



- > Command Window
- > Select indoor units to combine into the current system
- > Select object : Click ①, ②
- > The selected 2 indoor units have been merged into the "ODU2" system
- > (Please arrange the piping connected to the separated indoor unit according to the system configuration.)

## 1.3. Equipment

### 1.3.1. Indoor Auto Selection

명령어 : DVMAUTOSELINDOOR



The indoor unit is automatically selected for each room. If there is an indoor unit already selected in the room, it will not be automatically selected.

Building Management

Create floor

Ground

1

Floor Height

3000

mm

Create

Basement

0

Ceiling Height

2000

mm

Edit floor

Insert

Move Up

Delete

Move down

Modify Room

Number of Room

1

Insert

Copy

Move Up

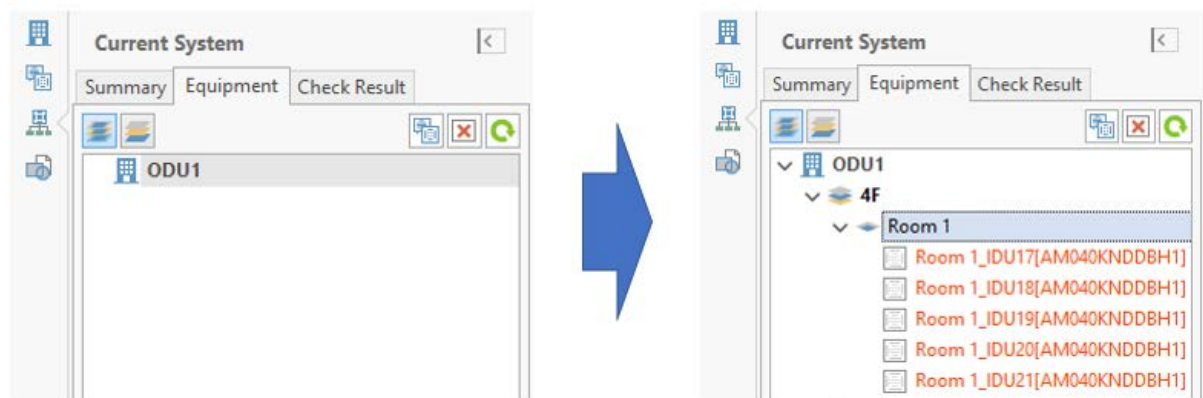
Delete

Paste

Move down

Floor	Floor Height (mm)	Ceiling Height (mm)	Room			Area (m <sup>2</sup> )	Unit Load			Room Load			Required Ventilation Volume (CMM)	Indoor unit Auto Selection				
			Name	Width (mm)	Depth		Cooling Total Capacity	Sensible Cooling Capacity	Heating Total Capacity	Cooling Total Capacity	Sensible Cooling Cap...	Heating Total Capacity		Product Group	Product Class	Product Family	Product Series	Qty.
R	0																	
	3000	2000	Room 1	0	0	100.00	0.17	0.00	0.00	17.00	0.00	0.00						
4F	3000	2000	Room 2	0	0	98.25	0.00	0.00	0.00	0.00	0.00	0.00		0 VRF (D...	Wall...	벽걸이...		1

The indoor unit auto selection automatically selects the optimal indoor unit by using the product group, product class, product family, product series, number of units, and load of the room set for each room in space management.



When the indoor unit is automatically selected, the indoor unit is added to the selected room. You can drag the indoor unit automatically selected in the equipment list and place it on the drawing.

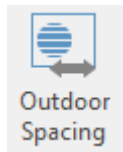
> **Command Window**

> **Select rooms to place indoor unit automatically**

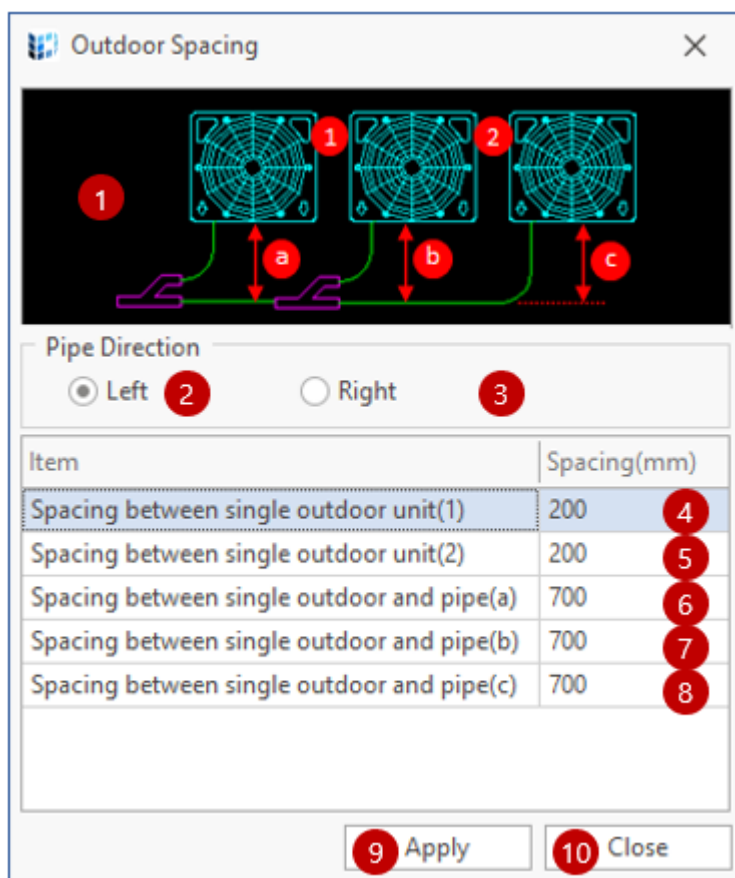
> **Select object : Select room in drawing**

### 1.3.2. Outdoor Spacing

명령어 : DVMOUTDOORSPACING



In the case of a module outdoor unit, modify the pipe direction, the distance between the unit outdoor unit, and the distance between the outdoor unit and the pipe.



- ① Image : The concept of the location of each item in the module outdoor unit is expressed as an image.
- ② Left : Set the pipe direction to the left.
- ③ Right : Set the pipe direction to the right.
- ④ Spacing between single outdoor unit(1) : Refer to the image and enter the spacing between units.
- ⑤ Spacing between single outdoor unit (2) : Refer to the image and enter the spacing between units.

- ⑥ Spacing between single outdoor and pipe(a) : Refer to the image and enter the distance between the unit and the pipe.
- ⑦ Spacing between single outdoor and pipe(b) : Refer to the image and enter the distance between the unit and the pipe.
- ⑧ Spacing between single outdoor and pipe(c) : Refer to the image and enter the distance between the unit and the pipe.
- ⑨ Apply : When the button is clicked, the module outdoor unit is modified according to the set pipe direction and spacing and the window is closed.
- ⑩ Cancel : Cancel the module outdoor unit spacing adjustment function and close the window.

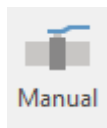
#### > Command Window

> Select module outdoor unit : Select the module outdoor unit in the drawing.

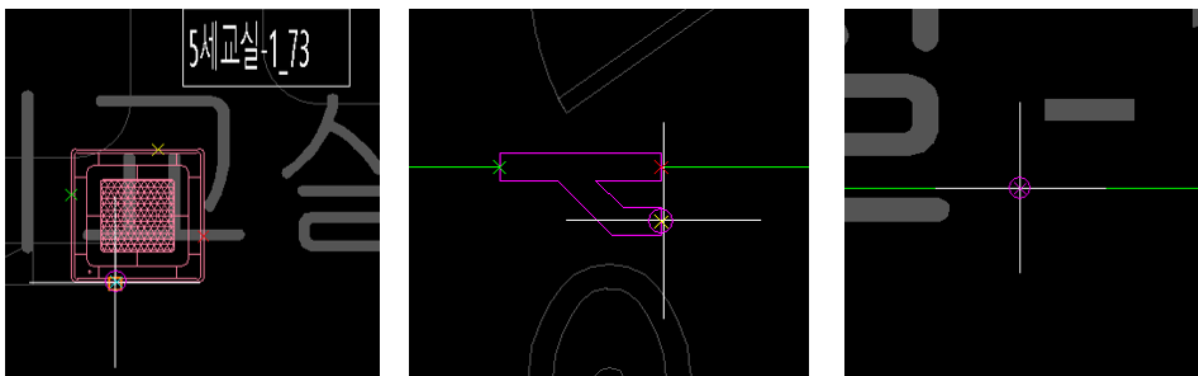
## 1.4. Piping

### 1.4.1. Manual

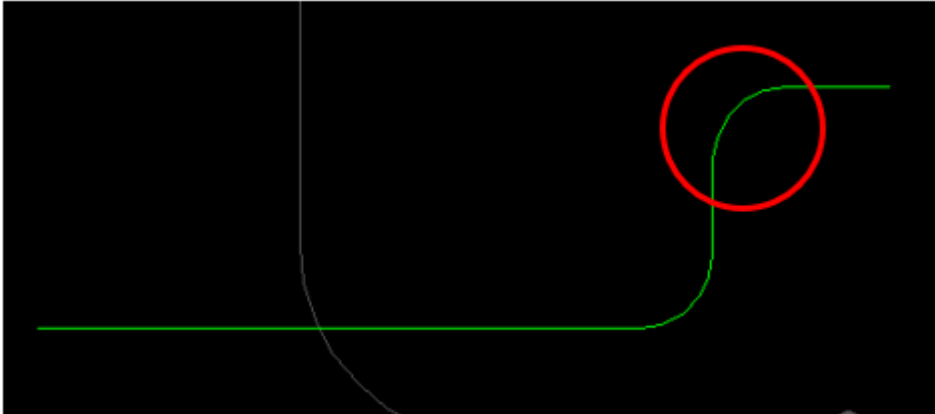
Command : DVMDRAWLIQUID



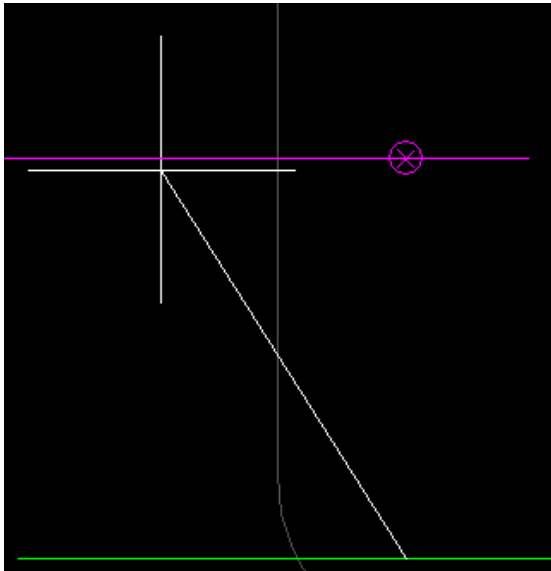
Manually create piping between equipment (outdoor unit, indoor unit, piping material) and PIT (vertical piping).



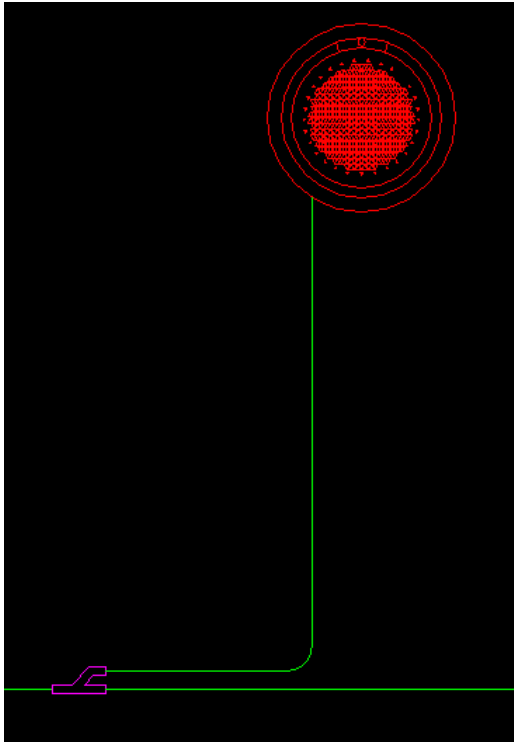
After executing the pipe manual drawing function, if you move the mouse over the outdoor unit, indoor unit, pipe material, PIT, or pipe, the 'X' mark is activated so that you can easily find the pipe connection point. When the 'O' mark is displayed over the 'X' mark, you can click the mouse to set the point.



When manual drawing of the pipe is completed, the pipe curvature radius set in the environment setting is applied to the part where the pipe is bent.



While manually drawing a pipe, the Virtual Intersection feature is activated while holding down the Ctrl key, making it easy to set pipe points by finding virtual orthogonal intersections, even if the mouse is not positioned correctly.



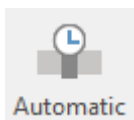
When connecting the pipe to other equipment or another pipe, the Y-joint is automatically inserted.

#### > Command Window

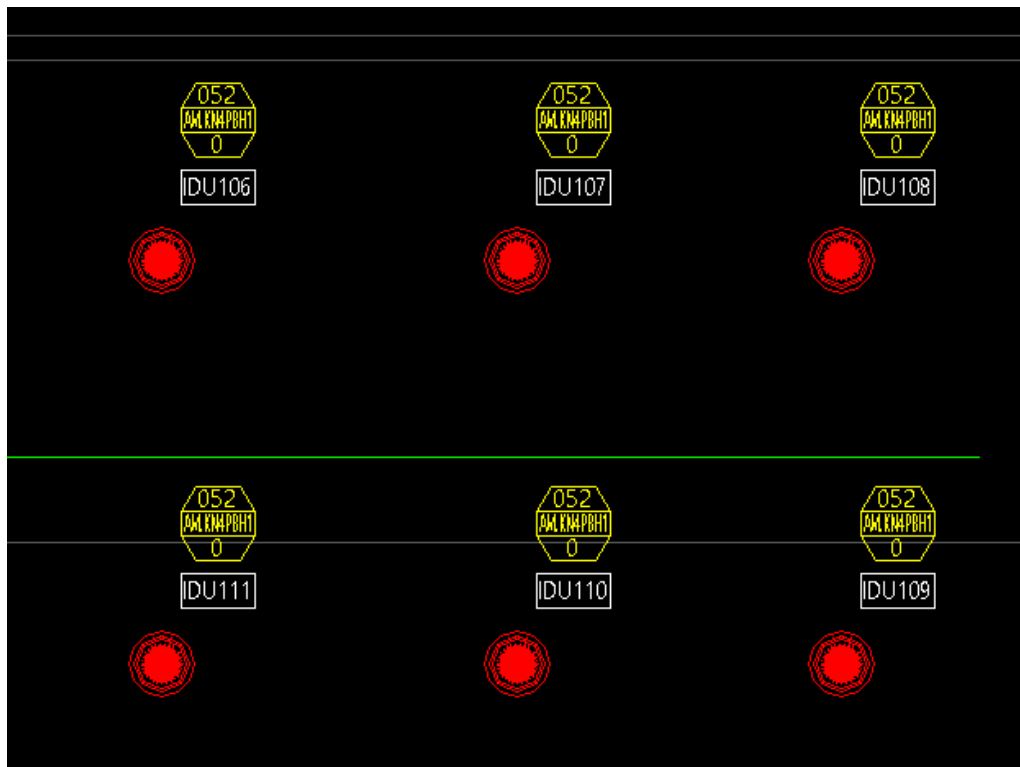
- > Specify start point : Pick the starting point for creating the pipe.
- > Specify the next point(CTRL:Virtual intersection) or [Undo(U)] : Pick the next point on the pipe, or press the 'U' key to cancel the recently picked point.
- > Specify the next point(CTRL:Virtual intersection) or [Undo(U)/Done(Enter)] : You can specify the next point of the pipe, or press the 'U' key to cancel the recently specified point, or press the Enter key to complete the manual pipe drawing function. The corresponding pipe point designation is repeated until the manual pipe drawing function is completed.

### 1.4.2. Automatic

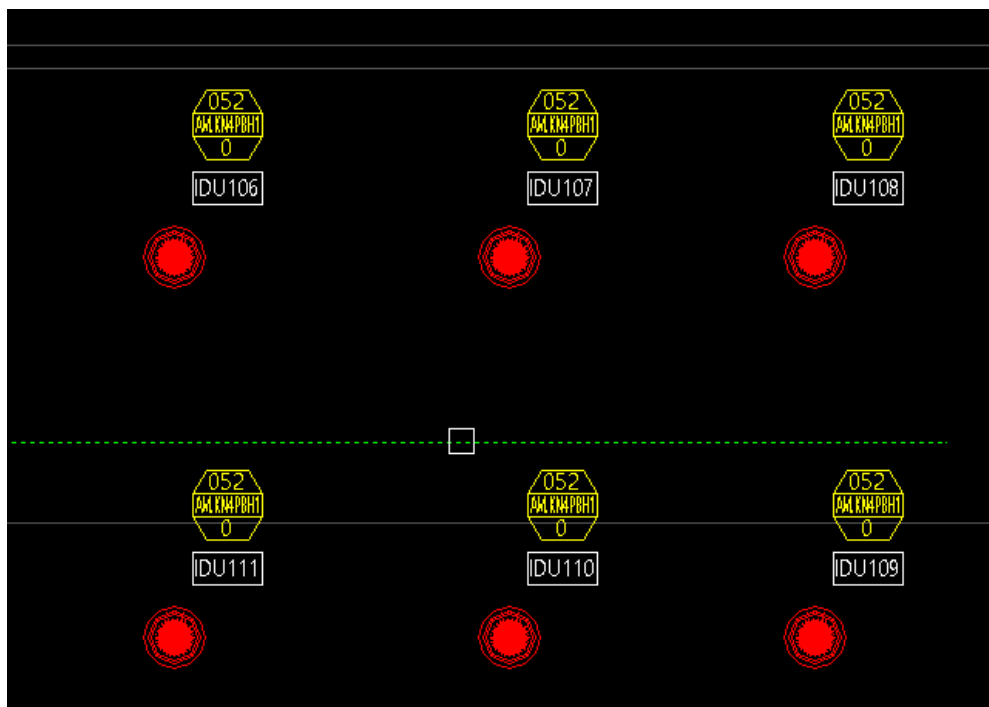
Command : DVMDRAWAUTOLIQUID



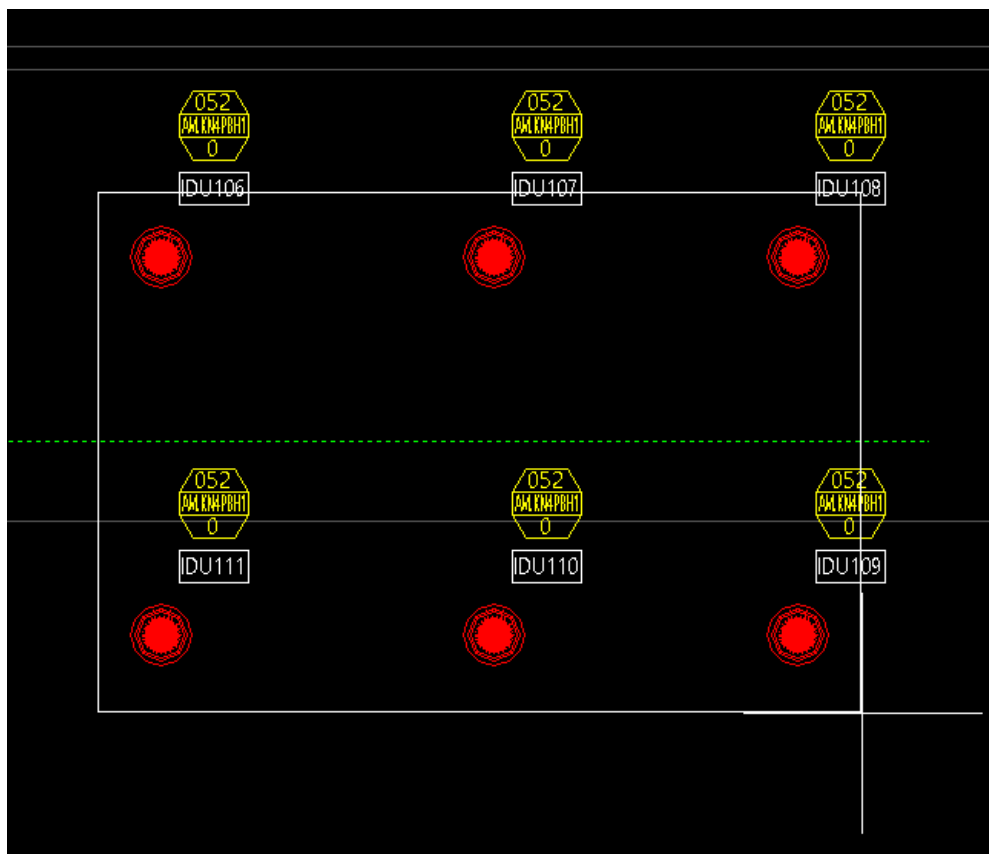
If you need to repeatedly connect indoor units to one pipe, you can automatically create a pipe.



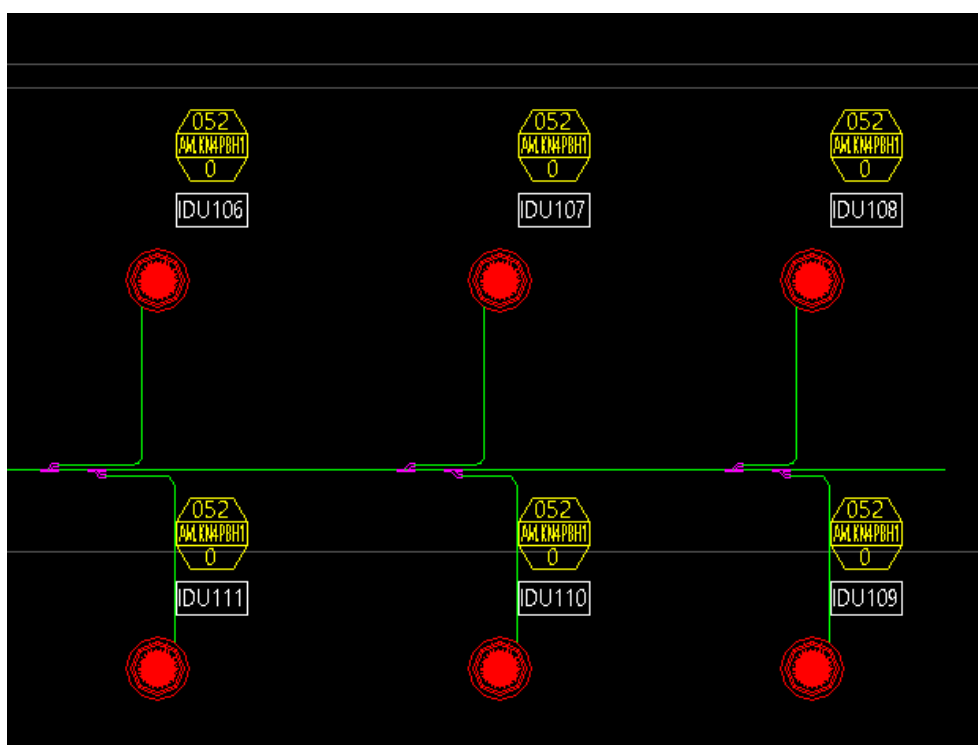
Assuming that the currently active system has piping passing between 6 indoor units and indoor units,



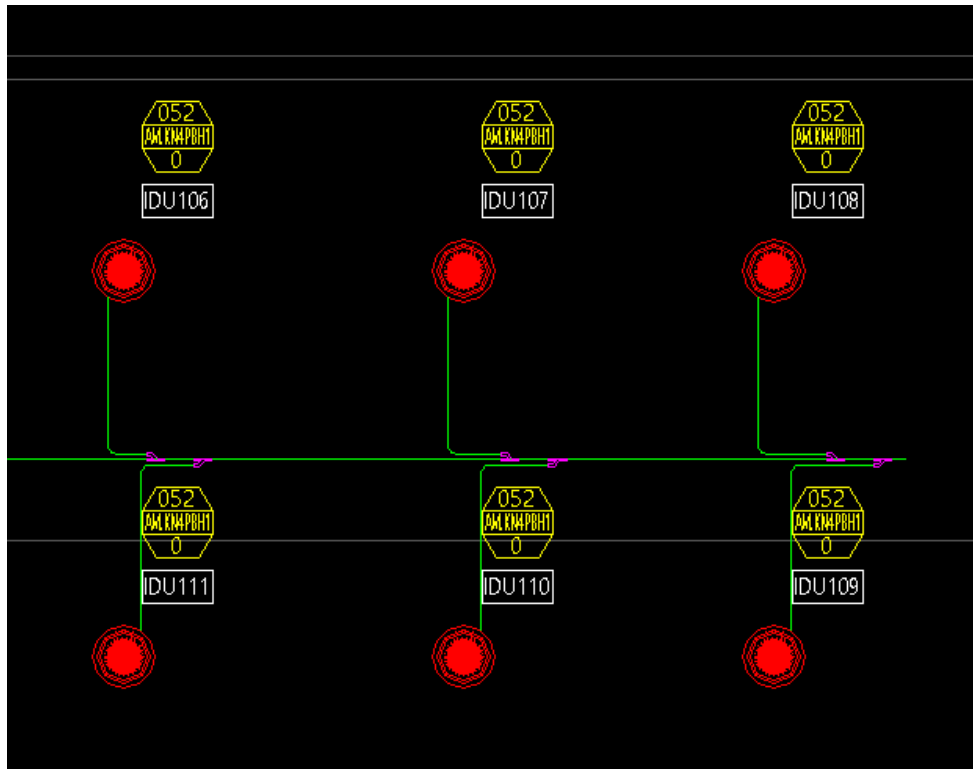
First, select a pipe to connect the indoor units.



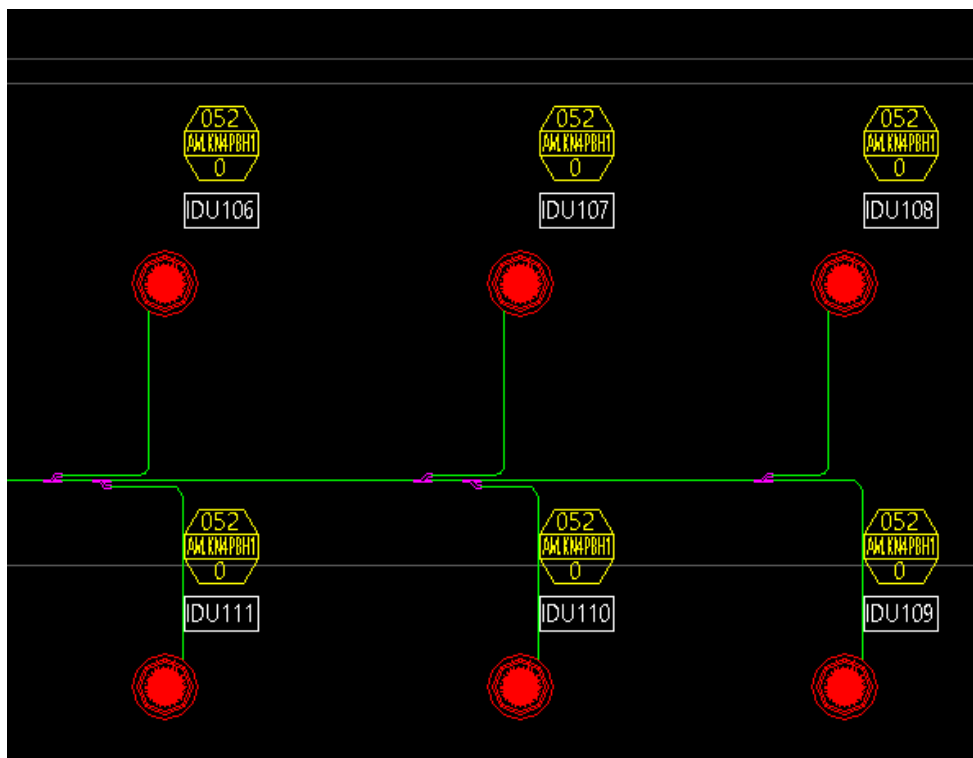
And select indoor units to be connected to the selected pipe.



After selecting an indoor unit, a pipe and Y-joint are automatically created between the selected pipe and the indoor units.



You can change the direction of the Y-joint.



Finally, you can connect the indoor units connected to the selected pipe.

#### > Command Window

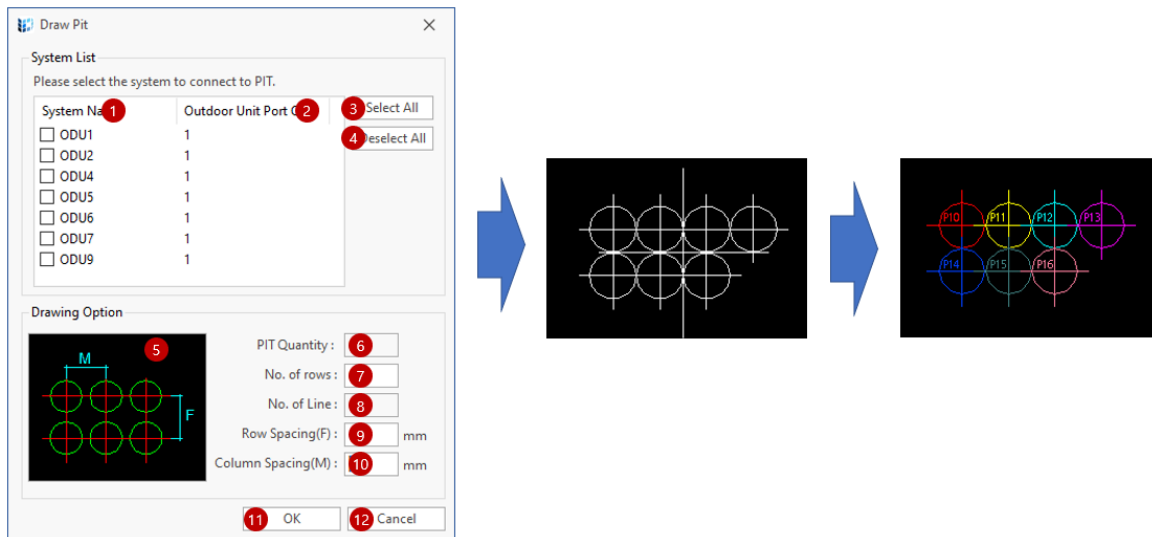
- > Select a refrigerant pipe : Select a pipe to connect the indoor units.
- > Select Indoor Units : Select indoor units to be connected to the selected pipe.
- > Do you want to change the Y-joint direction? [Yes(Y)/No(N)] <N> : Enter 'Y' to change the direction of the Y-joint.
- > Do you want to connect to the last indoor unit ? [Yes(Y) / No (N))] <N> : Enter 'Y' to connect the last indoor unit and piping.

### 1.4.3. PIT

Command : DVMDRAWPIT



Create a PIT corresponding to the concept of vertical piping between floors.



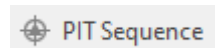
- ① System Name : The names of all systems present in the project are expressed and the system to create PIT can be individually selected.
- ② Outdoor Unit Port Qty : Expresses the number of outdoor unit ports per system.
- ③ Select All : Selection all systems to create PIT.
- ④ Deselect All : Deselect all systems on which to write the PIT.
- ⑤ Image : Expresses a conceptual image of the PIT drawing option.
- ⑥ PIT Quantity : The number of PITs is displayed. When selecting a system to connect to the PIT, the number is automatically calculated.
- ⑦ No. of rows : If you have multiple PITs, you can express and set the number of rows to display. When you set the number of rows, the number of columns is calculated automatically.
- ⑧ No. of Line : For multiple PITs, express the number of columns to represent.
- ⑨ Row Spacing : If you have multiple PITs, you can express and set the spacing between rows.
- ⑩ Column Spacing : If you have multiple PITs, you can express and set the spacing between columns.
- ⑪ OK : Close the draw PIT window and specify where the PIT will be created in the drawing.
- ⑫ Cancel : Cancel the draw PIT function and close the window.

> Command Window

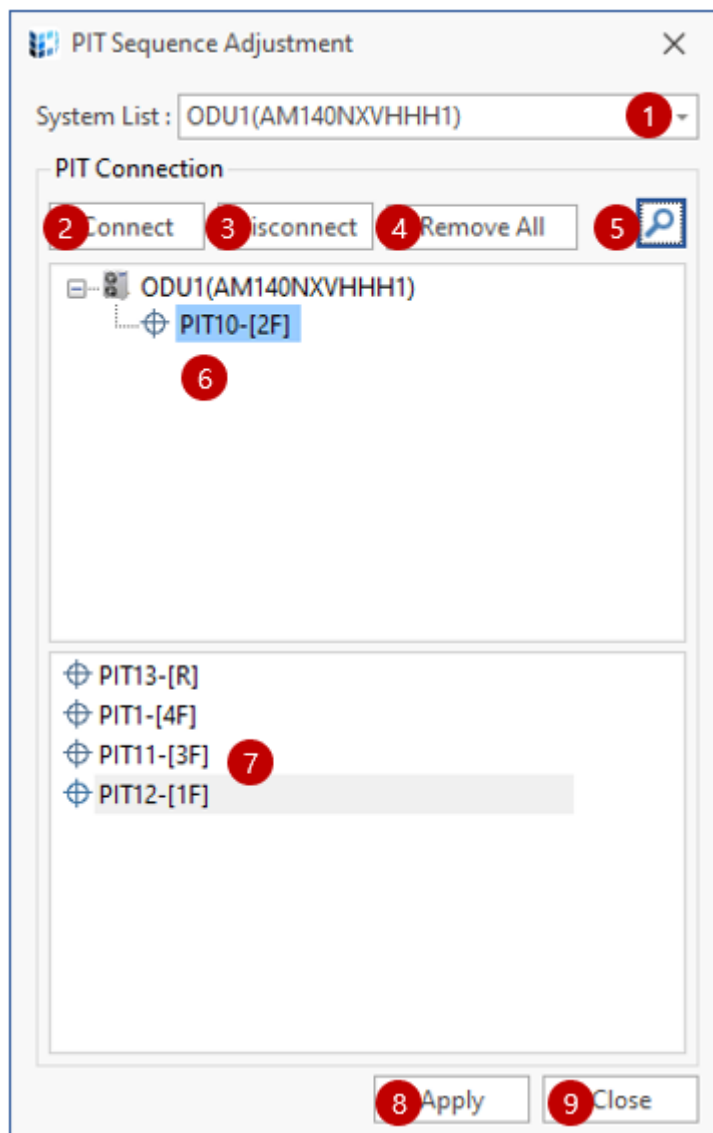
> Specify insert point : Pick the insertion point to create the PIT.

#### 1.4.4. PIT Sequence

Command : DVMCM DPITORDER



You can set the order of PITs when there are two or more PITs connected to the outdoor unit of one system in one floor.



- ① System List : The names of all systems present in the project are displayed, and the system to adjust the PIT sequence is selected.
- ② Connect : Connects the PIT selected in the connected PIT list and the PIT selected in the unconnected PIT list.
- ③ Disconnect : Disconnects the PIT selected from the connected PIT list. When disconnected, the disconnected PIT is added to the unconnected PIT list.
- ④ Remove All : Disconnect all PITs connected to the connected PIT list.
- ⑤ Find : Finds the selected PIT in the drawing and zooms in.
- ⑥ List of connected PIT : It represents the connection structure of the PITs of the currently selected system.
- ⑦ Unconnected PIT list : PITs that are not connected are displayed.
- ⑧ Apply : Reorder the PITs according to the list of connected PITs and close the window.
- ⑨ Close : Cancels the PIT sequence adjustment function and closes the window.

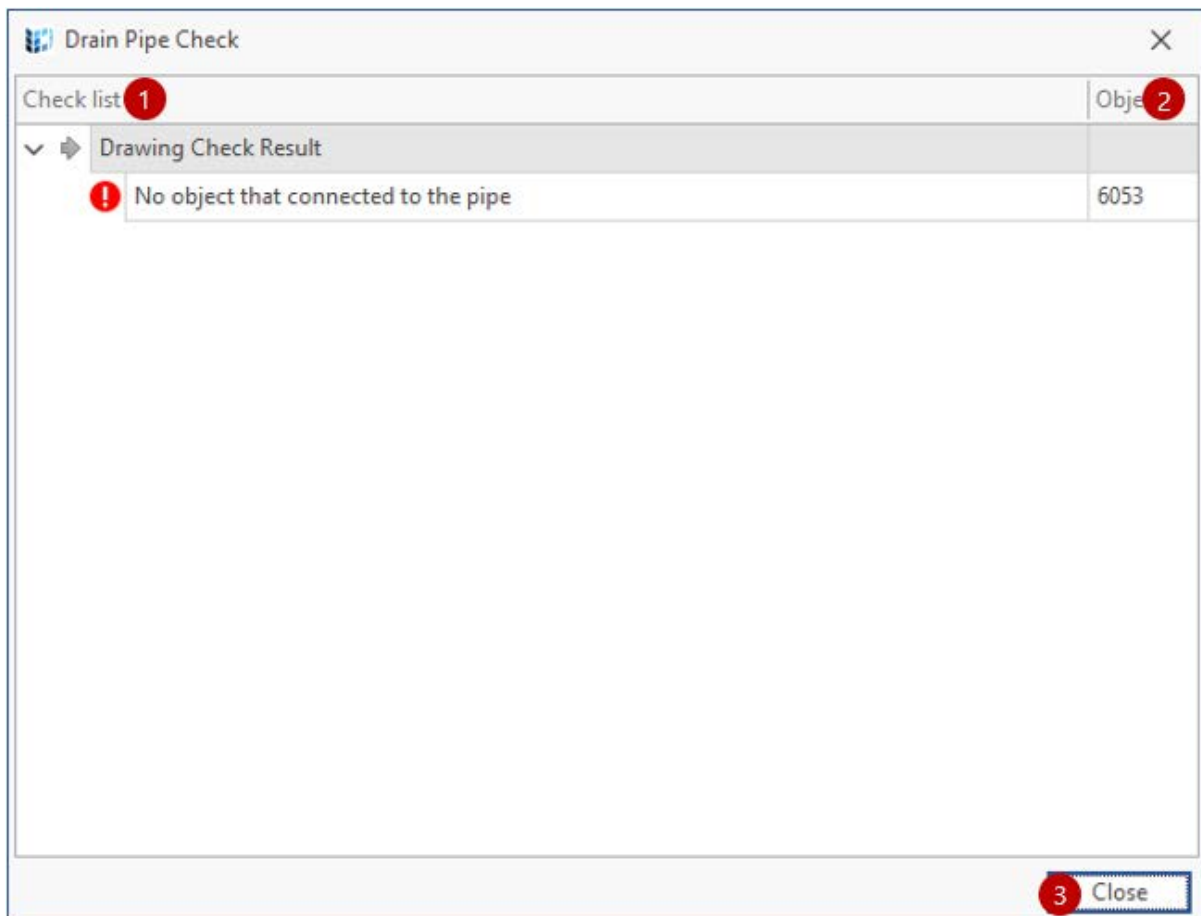
## 1.5. Drain Pipe

### 1.5.1. Check

Command : DVMCHECKDRAIN



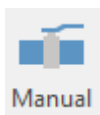
Checks for errors in the construction of the drain pipe of the project being designed.



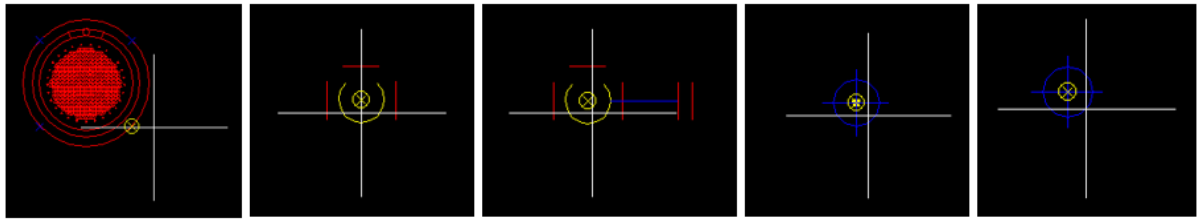
- ① Check List : If there is an error in the drain pipe configuration, an error message is displayed.
- ② Object : The handle of the object related to the drain pipe fault item is displayed. When double-clicking the check item, the object is enlarged in the drawing.
- ③ Close : When the button is clicked, the drain pipe system check function is terminated and the window is closed.

### 1.5.2. Manual

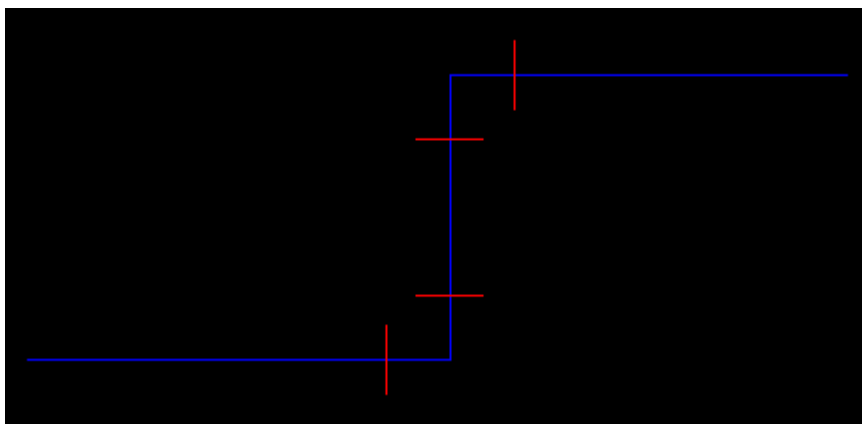
Command : DVMDRAWDRAIN



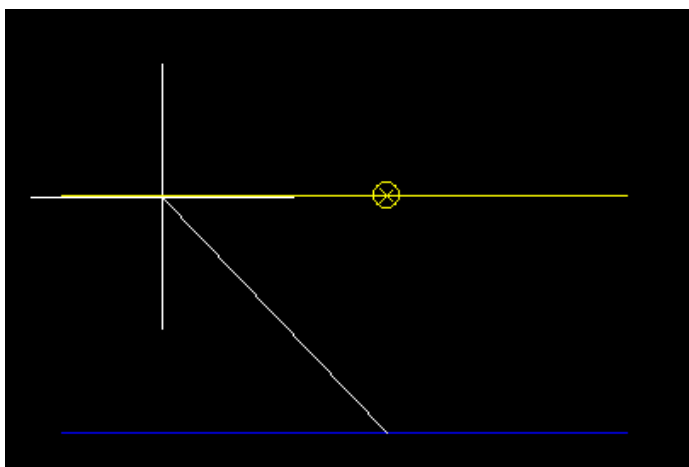
Manually create a drain pipe between equipment (indoor, drain pipe materials), vertical pipe, and drainage.



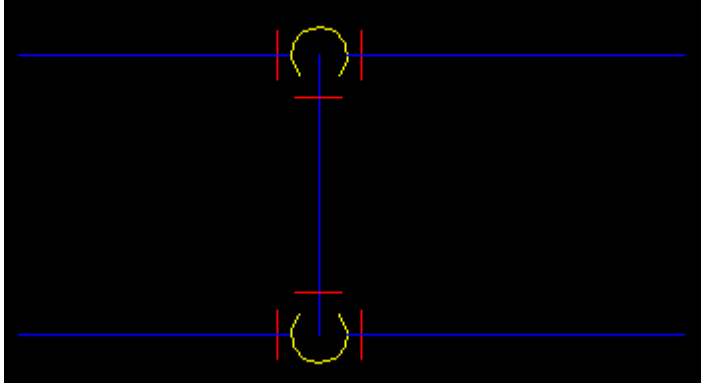
After executing the drain pipe manual drawing function, move the mouse over the indoor unit, drain pipe material, upright pipe, outlet, and drain pipe, and the 'X' mark is activated so that you can easily find the drain pipe connection point. When the 'O' mark is displayed over the 'X' mark, you can click the mouse to set the point.



When manual drawing of the drain pipe is completed, Elbow is automatically applied to the part where the drain pipe bends.



While holding down the Ctrl key while drawing a drain pipe manually, the Virtual Intersection feature is activated, allowing you to easily set pipe points by finding virtual orthogonal intersections, even if the mouse is not positioned correctly.



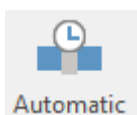
Tee is automatically inserted when connecting the drain pipe to other equipment or another drain pipe.

#### > Command Window

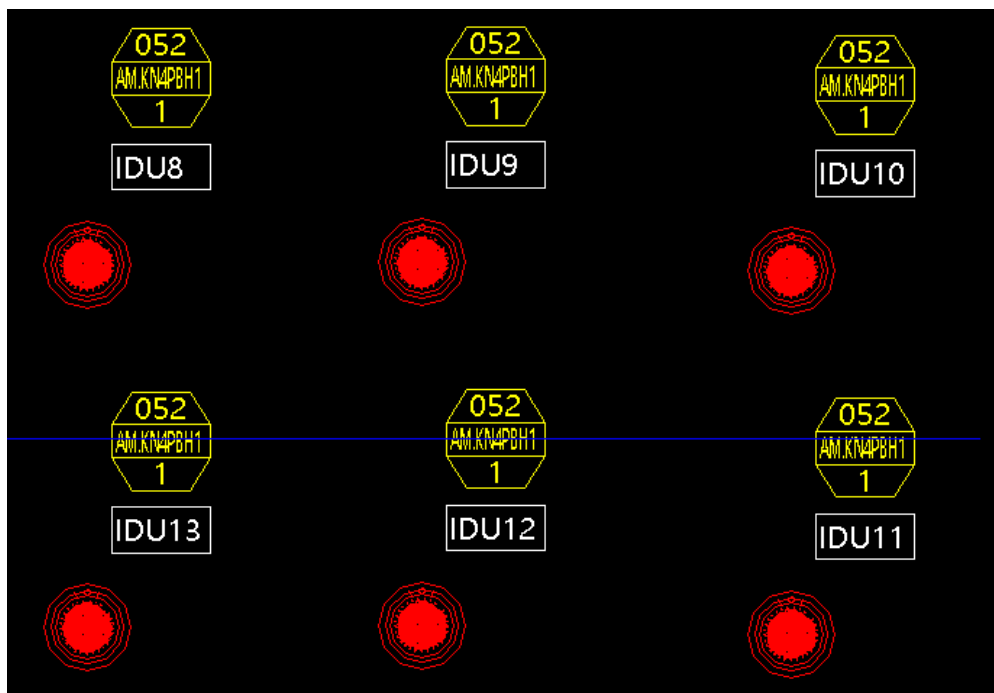
- > Specify start point : Pick a starting point for creating a drain pipe.
- > Specify the next point(CTRL:Virtual intersection) or [Undo(U)] : Pick the next point on the drain pipe, or press the 'U' key to cancel the recently picked point.
- > Specify the next point(CTRL:Virtual intersection) or [Undo(U)/Done(Enter)] : You can specify the next point of the drain pipe, or press the 'U' key to cancel the recently specified point, or press the Enter key to complete the drain pipe manual drawing function. The drain pipe point designation is repeated until the manual drain pipe drawing function is completed.

### 1.5.3. Automatic

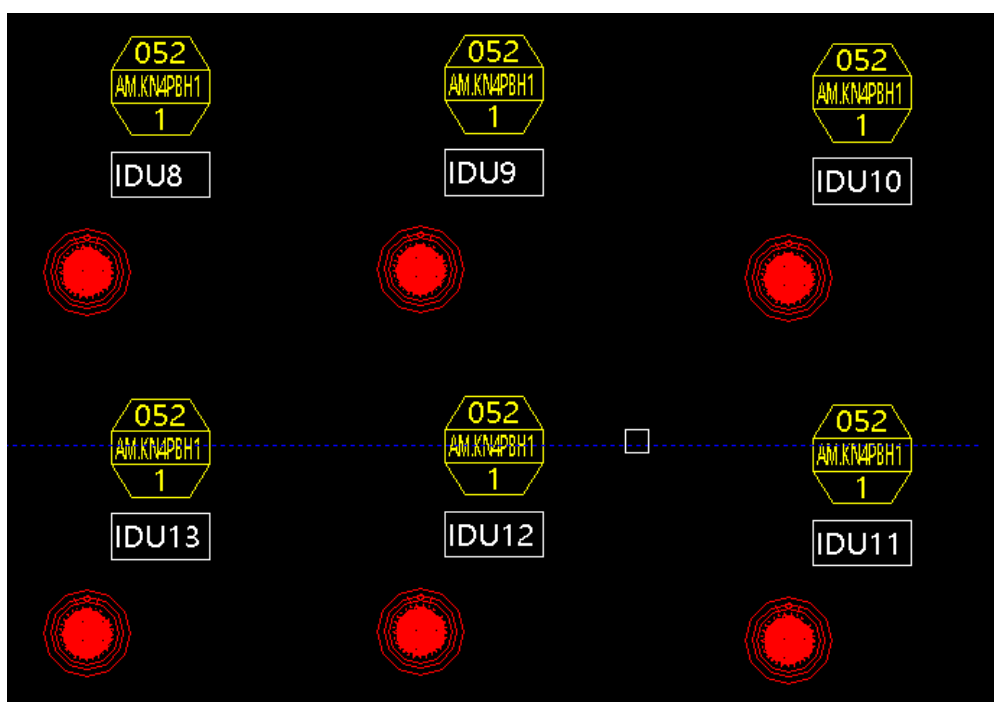
Command : DVMDRAWAUTODRAIN



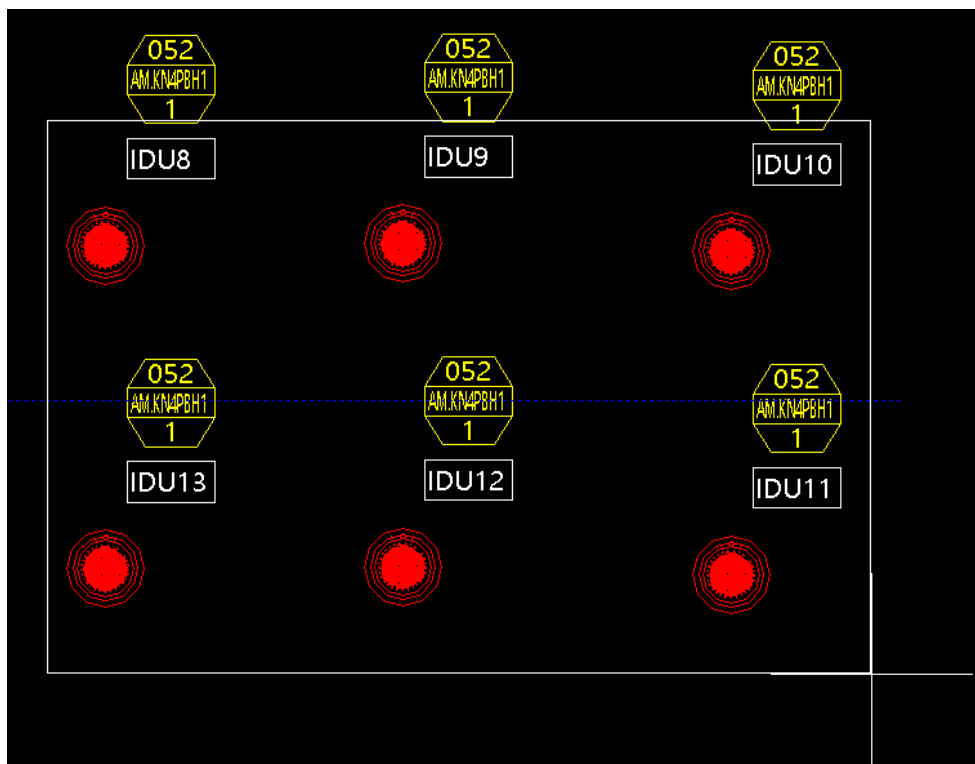
If you need to repeatedly connect indoor units to one drain pipe, you can automatically create a drain pipe.



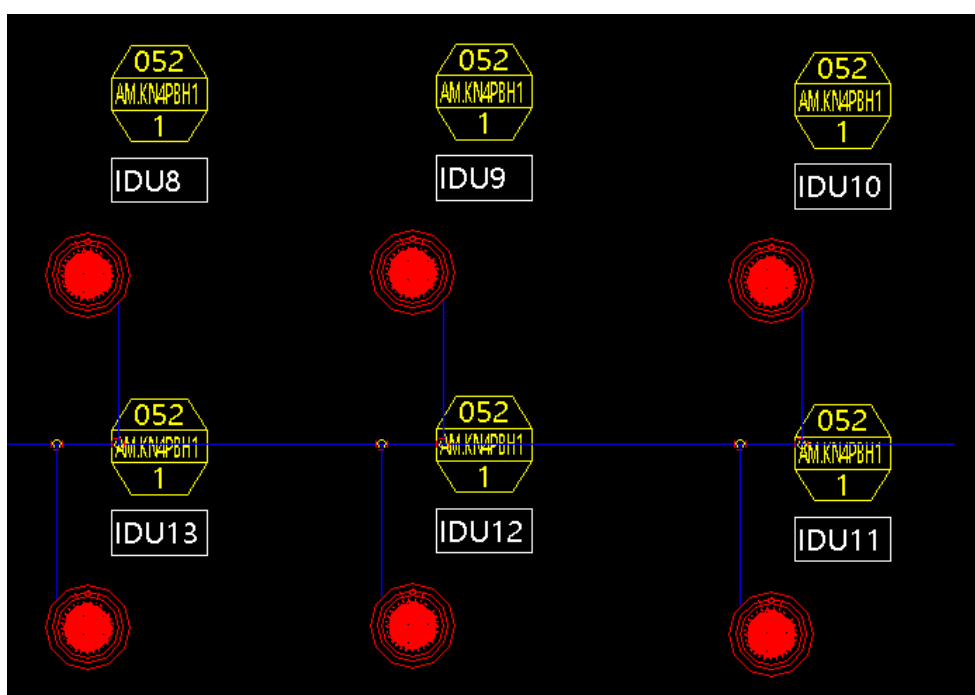
Assuming there is a drainage pipe passing between the six indoor units and the indoor unit



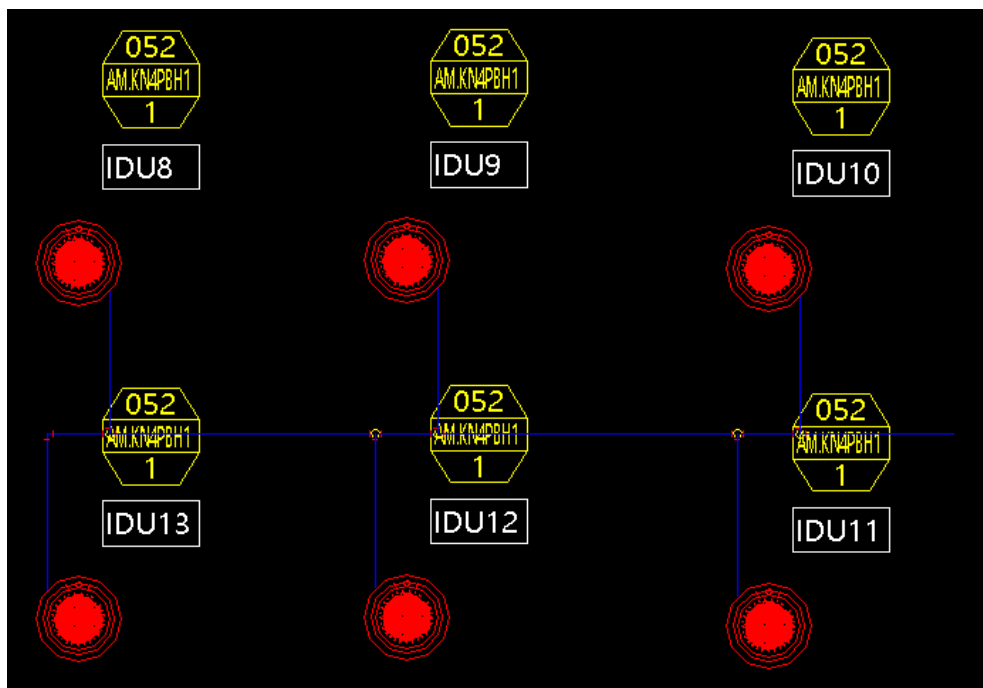
First, select a drain pipe to connect the indoor units.



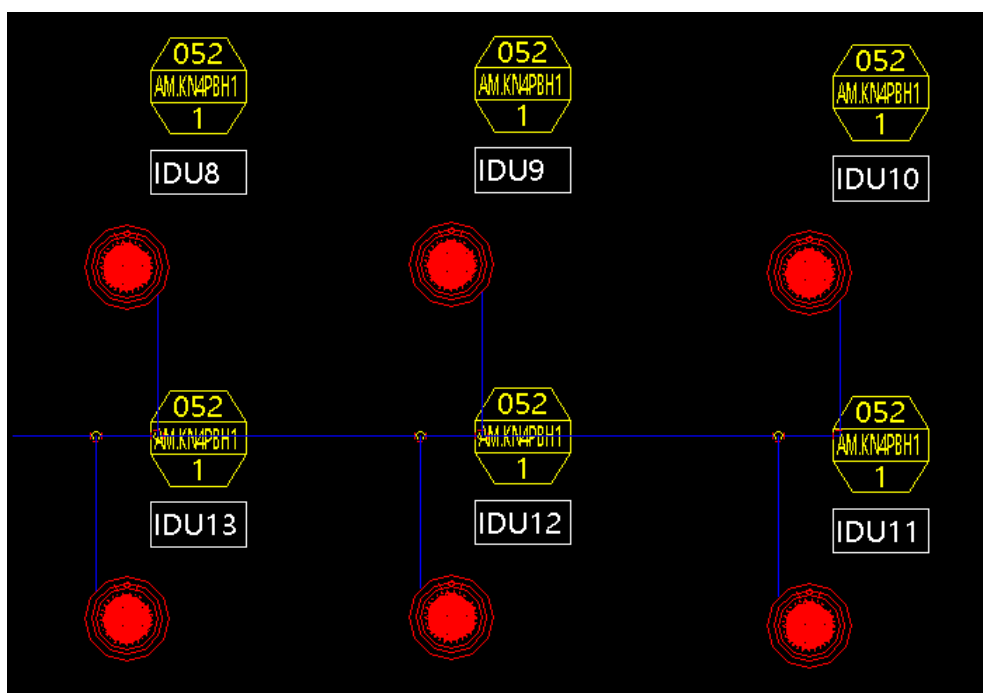
And select indoor units to be connected to the selected drain pipe.



After selecting the indoor unit, the drain pipe and Tee are automatically created between the selected drain pipe and the indoor units.



Start indoor unit and drain pipe can be connected.



End indoor unit and drain pipe can be connected.

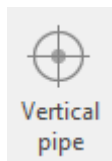
> **Command Window**

> **Select Drain Pipe : Select a drain pipe to connect the indoor unit.**

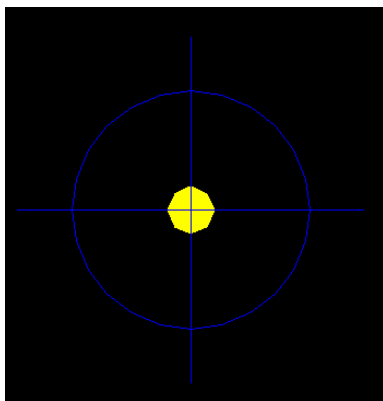
- > **Select Indoor Unit** : Select indoor units to be connected to the selected drain pipe.
- > **Select the position of the drain pipe to be connected to the indoor unit.** [Start(S)/End(E) /None(N)] <N> : Enter the location of the drain pipe to be connected to the indoor unit. Enter 'S' to connect the starting indoor unit. Enter 'E' to connect the end indoor unit. Enter 'N' if you do not want to connect the start and end indoor units.

#### 1.5.4. Vertical Pipe

Command : DVMDRAWDRAINPIT



Creates a vertical drain pipe, a standing pipe



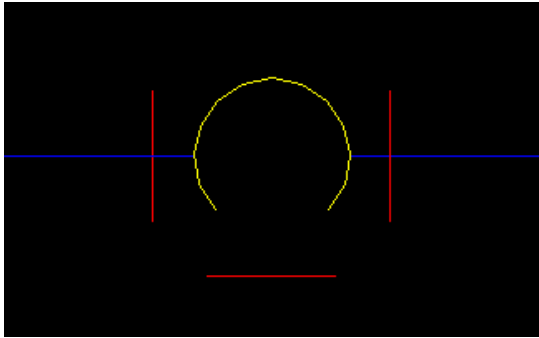
- > **Command Window**
- > **Input number of drain pit or [Modify(M)] [1/2] <1>:** You can enter the number of the vertical pipe or enter 'M' to edit the number of the vertical pipe.
- > **Specify insert point :** Pick the insertion point of the vertical pipe.

#### 1.5.5. TEE

Command : DVMDRAWDRAINTEE



You can create a TEE on a drawing or insert a TEE into a drain pipe.

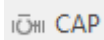


#### > Command Window

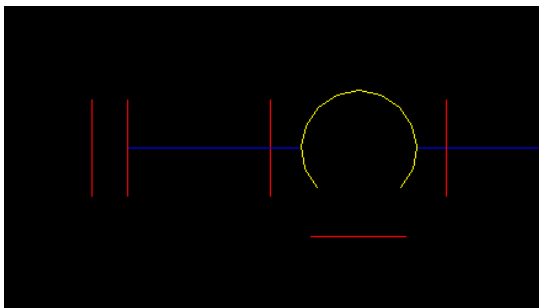
> Specify insert point (CTRL : Change Direction) : Pick an insertion point or press Ctrl to rotate the TEE 90 degrees counterclockwise.

### 1.5.6. CAP

Command : DVMDRAWDRAINCAP



You can create a CAP on the drawing or attach the CAP to the end of the drain pipe.



#### > Command Window

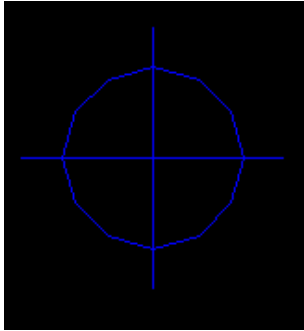
> Specify insert point (CTRL : Change Direction) : Pick an insertion point or press Ctrl to rotate the CAP 90 degrees counterclockwise.

### 1.5.7. Drainage

Command : DVMDRAWDRAINHOLE



You can create drainage in the drawing or connect drainage to the end of the drain pipe.



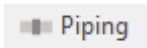
> **Command Window**

> **Specify insert point : Pick the insertion point for the drainage.**

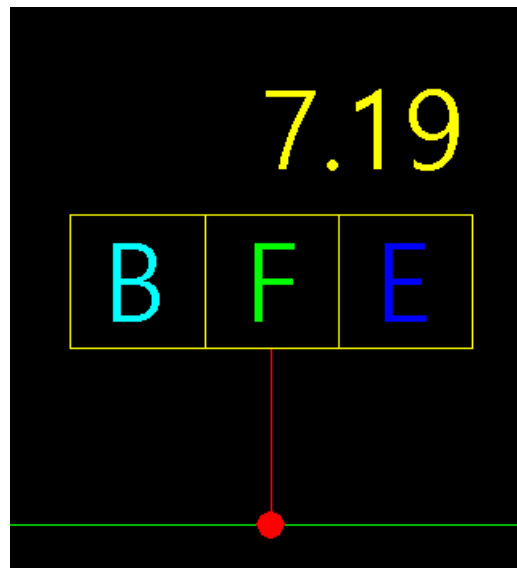
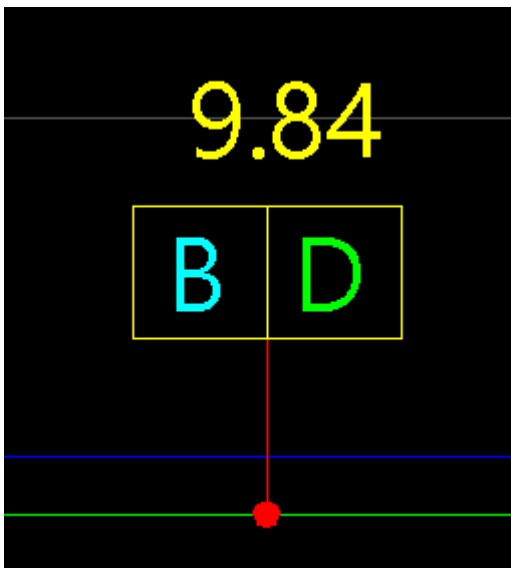
## 1.6. Annotation/Legend

### 1.6.1. Piping

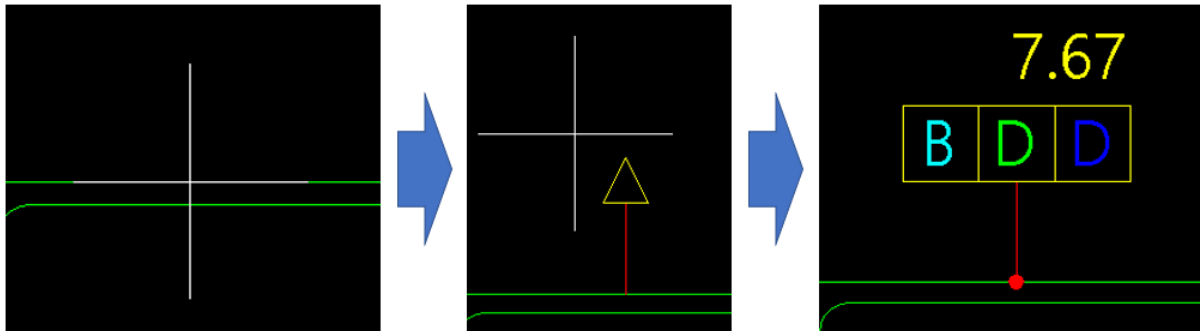
Command : DVMDRAWPIPEMARK



Create a annotation the pipe size (liquid pipe, gas pipe, high gas pipe) and the length of the pipe.



### 1.6.1.1. Manual



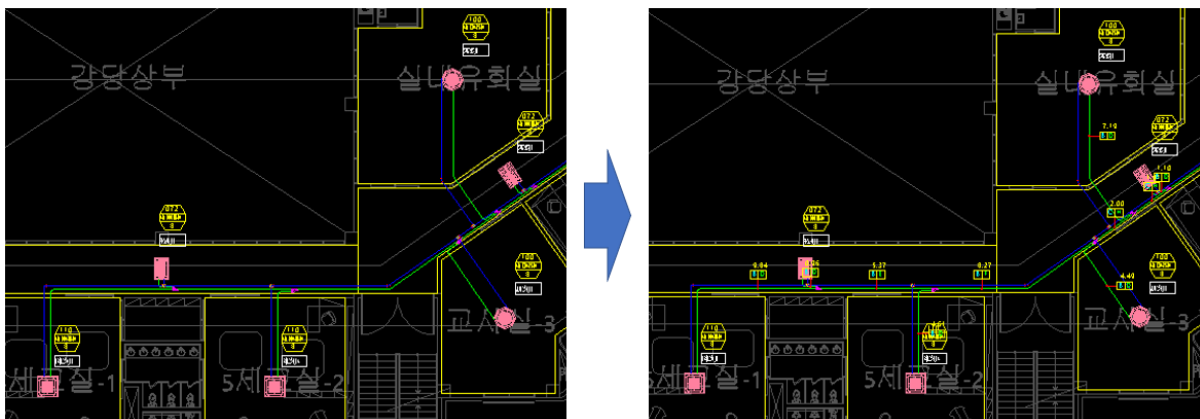
You create a pipe annotation by specifying the location and direction where the pipe annotation will be created.

#### > Command Window

> Specify the Position(Draw manually) Or [Auto drawing(A)/Area drawing(R)] : Specify the location of the annotation.

> Specify direction point : Pick the direction point of the annotation.

### 1.6.1.2. Auto Drawing

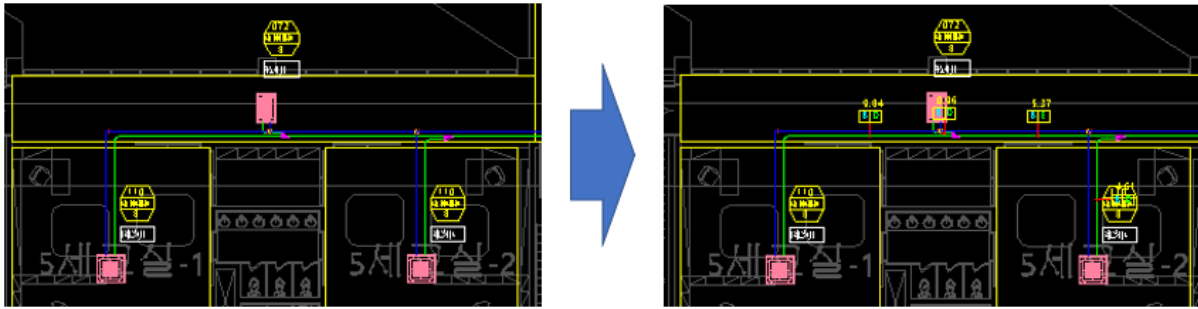


Automatically create pipe annotations for all pipes in the current project.

#### > Command Window

> Specify the Position(Draw manually) Or [Auto drawing(A)/Area drawing(R)] : Input 'A'.

### 1.6.1.3. Specify Area



Specify two point regions to create pipe annotations for all pipes contained in the region.

#### > Command Window

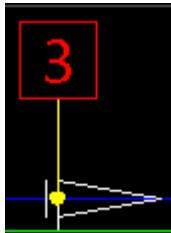
- > Specify the Position(Draw manually) Or [Auto drawing(A)/Area drawing(R)] : Input 'R'.
- > Specify the first corner : Pick the first corner of the area.
- > Specify the other corner point : Pick a corner point opposite the area.

## 1.6.2. Drain Pipe

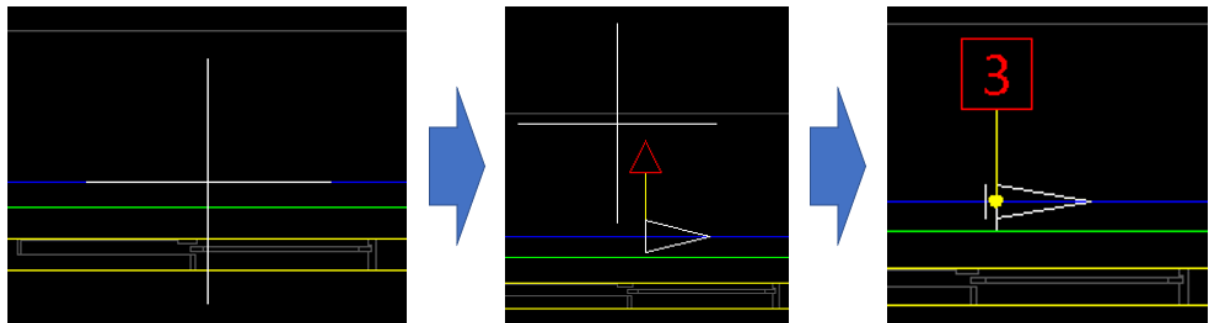
Command : DVMDRAWDRAINMARK



Create annotations to express the pipe size of the drain pipe.



### 1.6.2.1. Manual



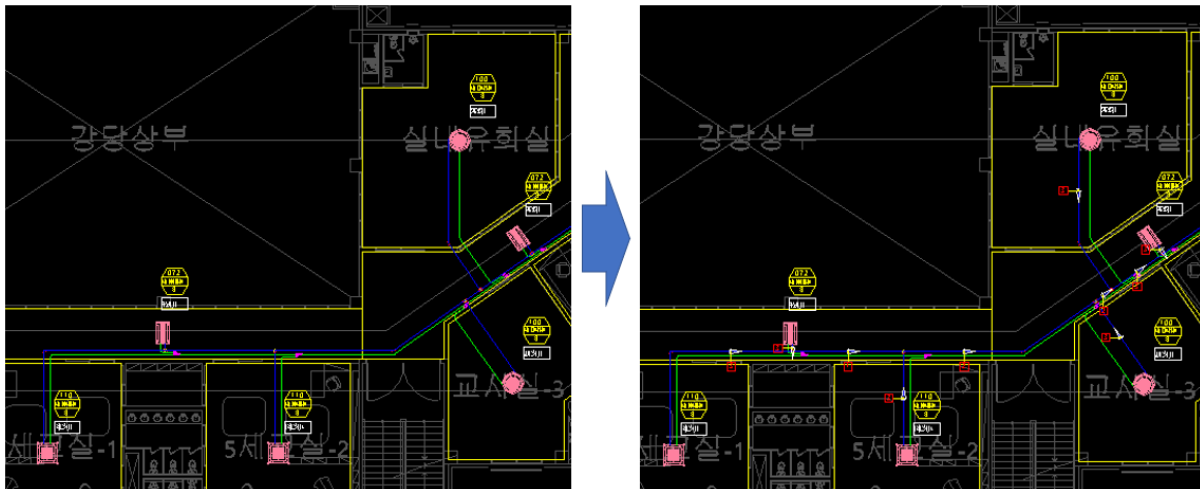
You create a drain pipe annotation by specifying the location and direction in which the pipe annotation will be created.

> **Command Window**

> **Specify the Position(Draw manually) Or [Auto drawing(A)/Area drawing(R)] : Specify the location of the annotation.**

> **Specify direction point : Pick the direction point of the annotation.**

### 1.6.2.2. Auto Drawing

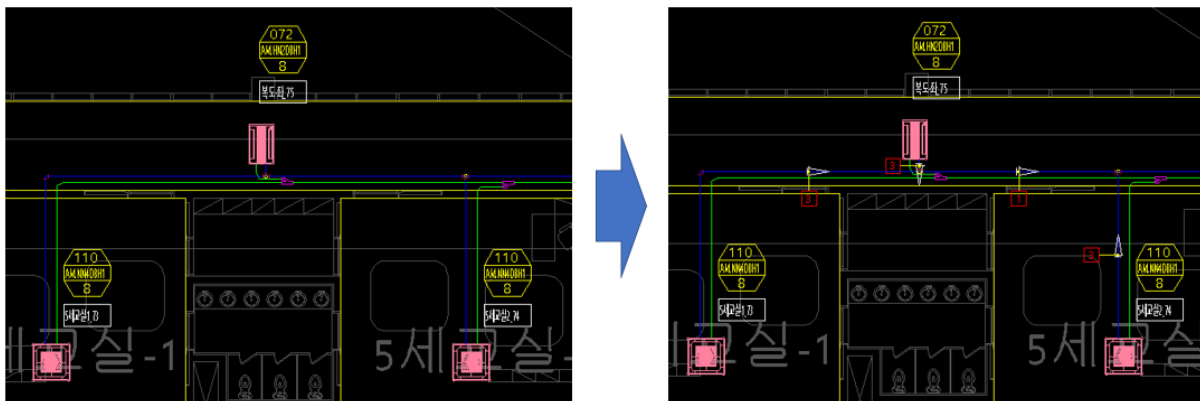


Automatically create drain pipe annotations for all drain pipes in the current project.

#### > Command Window

> Specify the Position(Draw manually) Or [Auto drawing(A)/Area drawing(R)] : Input 'A'.

### 1.6.2.3. Specify Area



Specify two point regions to create drain pipe annotations for all drain pipes contained in the region.

#### > Command Window

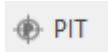
> Specify the Position(Draw manually) Or [Auto drawing(A)/Area drawing(R)] : Input 'R'.

> Specify the first corner : Pick the first corner of the area.

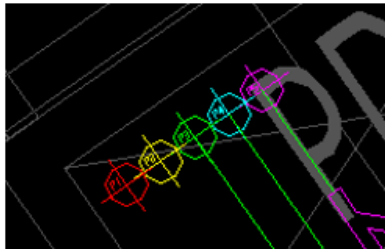
> Specify the other corner point : Pick a corner point opposite the area.

### 1.6.3. PIT

Command : DVMDRAWPITMARK



Creates annotations for a pipe's PIT or a drain pipe's PIT.



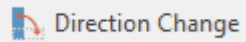
After selecting the PIT of the pipe or the vertical pipe of the drain pipe to be annotated of the PIT, specify the points of the leader line and press Enter to create the diagonal PIT annotation.

#### > Command Window

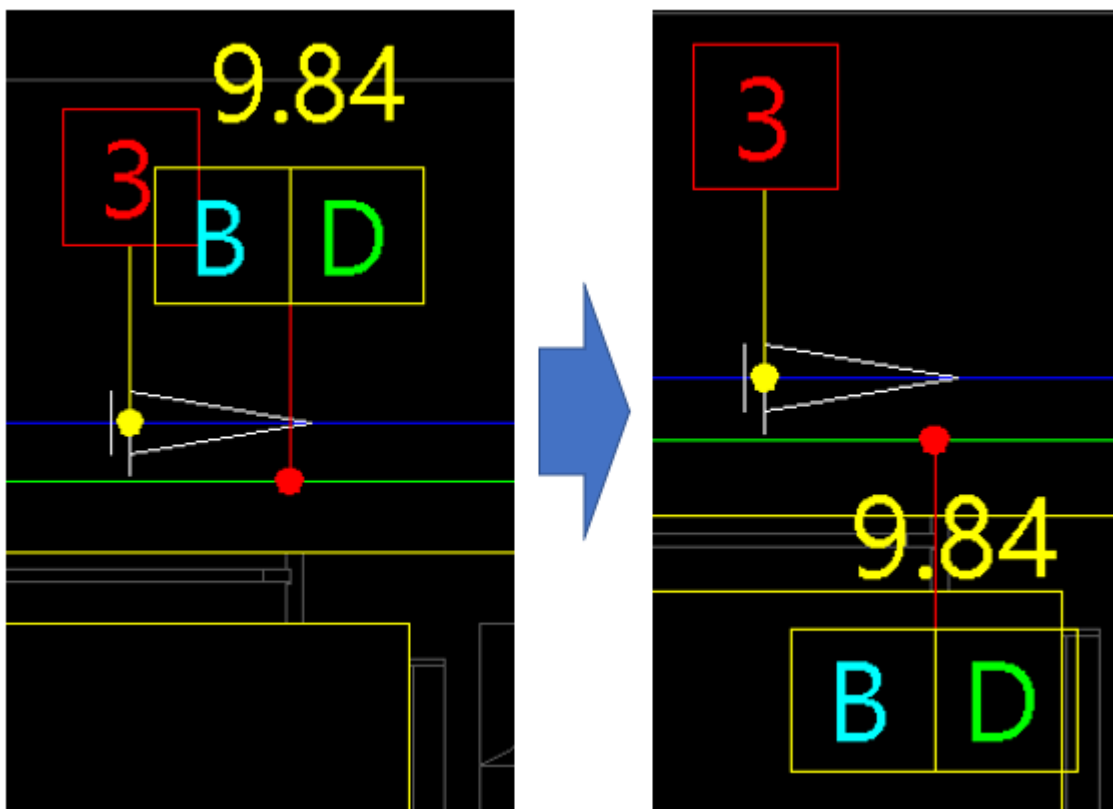
- > Select the refrigerant / drain pipe pit to be annotated : Select pipe PIT or drain pipe PIT.
- > Specify the first point of the lead line : Click ① (Pick the first point of the leader line.)
- > Specify the next point of the lead line : Click ② (Pick the next point on the leader line.)
- > Specify the next point of the lead line : Input Enter key or click the right mouse button to complete the entry.

### 1.6.4. Direction Change

Command : DVMCHANGEMARK



Change direction the pipe annotation and the drain pipe annotation when they overlap each other or appear to overlap with equipment.



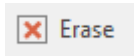
> Command Window

> Select Annotation : Select pipe annotation and drain pipe annotation.

> Select Annotation : It repeats until the right mouse is clicked or the ESC key is pressed.

### 1.6.5. Erase

Command : DVMERASEMARK



Optionally erase pipe annotation, drain pipe annotation, and PIT annotation.

#### 1.6.5.1. All Annotations

##### > Command Window

- > Select Object [All(A)/Pipe mark(P)/Drain mark(D)/Pit mark(T)] <A> : Input 'A'.
- > Specify the first corner : Pick the first corner of the area to erase the annotations.
- > Specify the other corner point : Pick a corner point on the opposite side of the area to erase the annotations.
- > Specify the first corner : It repeats until the right mouse is clicked or the ESC key is pressed.

#### 1.6.5.2. Pipe Annotations

##### > Command Window

- > Select Object [All(A)/Pipe mark(P)/Drain mark(D)/Pit mark(T)] <A> : Input 'P'.
- > Specify the first corner : Pick the first corner of the area to erase the annotations.
- > Specify the other corner point : Pick a corner point on the opposite side of the area to erase the annotations.
- > Specify the first corner : It repeats until the right mouse is clicked or the ESC key is pressed.

#### 1.6.5.3. Drain Pipe Annotations

##### > Command Window

- > Select Object [All(A)/Pipe mark(P)/Drain mark(D)/Pit mark(T)] <A> : Input 'D'.
- > Specify the first corner : Pick the first corner of the area to erase the annotations.
- > Specify the other corner point : Pick a corner point on the opposite side of the area to erase the annotations.
- > Specify the first corner : It repeats until the right mouse is clicked or the ESC key is pressed.

#### 1.6.5.4. PIT Annotations

##### > Command Window

> Select Object [All(A)/Pipe mark(P)/Drain mark(D)/Pit mark(T)] <A> : Input 'T'.

> Specify the first corner : Pick the first corner of the area to erase the annotations.

> Specify the other corner point : Pick a corner point on the opposite side of the area to erase the annotations.

> Specify the first corner : It repeats until the right mouse is clicked or the ESC key is pressed.

#### 1.6.6. Legend

Command : DVMDRAWLEGENDMARK



Create a legend of piping, drain pipes, and piping materials in the specified area or in the entire area.

##### 1.6.6.1. Specify Area



Create a legend table for objects in the specified area.

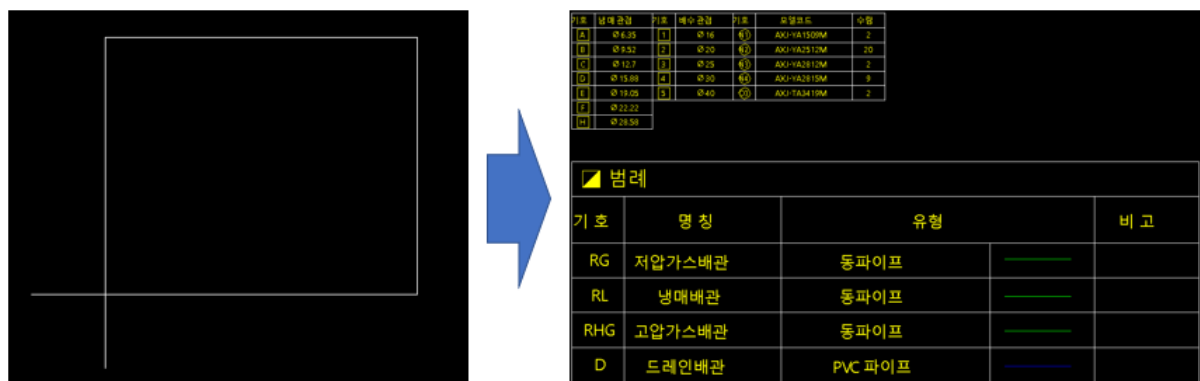
##### > Command Window

> Specify the first corner or [Auto Drawing(A)] : Specifies the first corner point of the area where the objects for the legend.

> Specify the other corner point : Pick a corner point on the opposite side of the area where the objects for the legend.

> Specify insert point : Pick the insertion point to insert the legend.

### 1.6.6.2. Auto Drawing



Create a legend table for objects in the entire area.

#### > Command Window

> Specify the first corner or [Auto Drawing(A)] : Input 'A'.

> Specify insert point : Pick the insertion point to insert the legend.

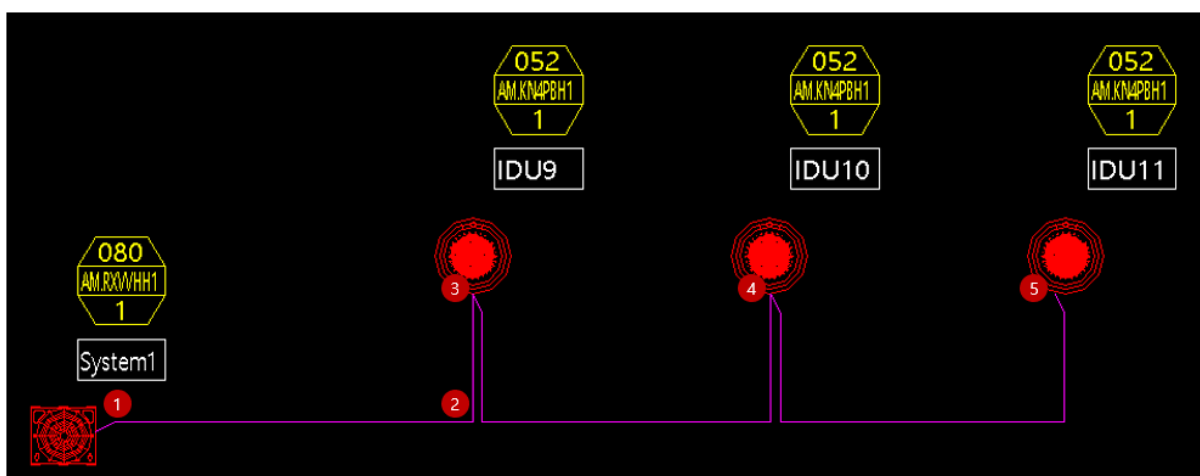
## 1.7. Communication Wiring

### 1.7.1. Communication Wiring

Command : DVMDRAWTRANSLINE

#### Communication Wiring

Create communication wires between equipment.



If you move the mouse over the equipment after performing the function, the diagonal wire for drawing the communication wire is activated. Pressing the Ctrl key while drawing a communication

wire changes the direction.

> **Command Window**

> **Draw Communication Wire (CTRL: Change connection direction)**

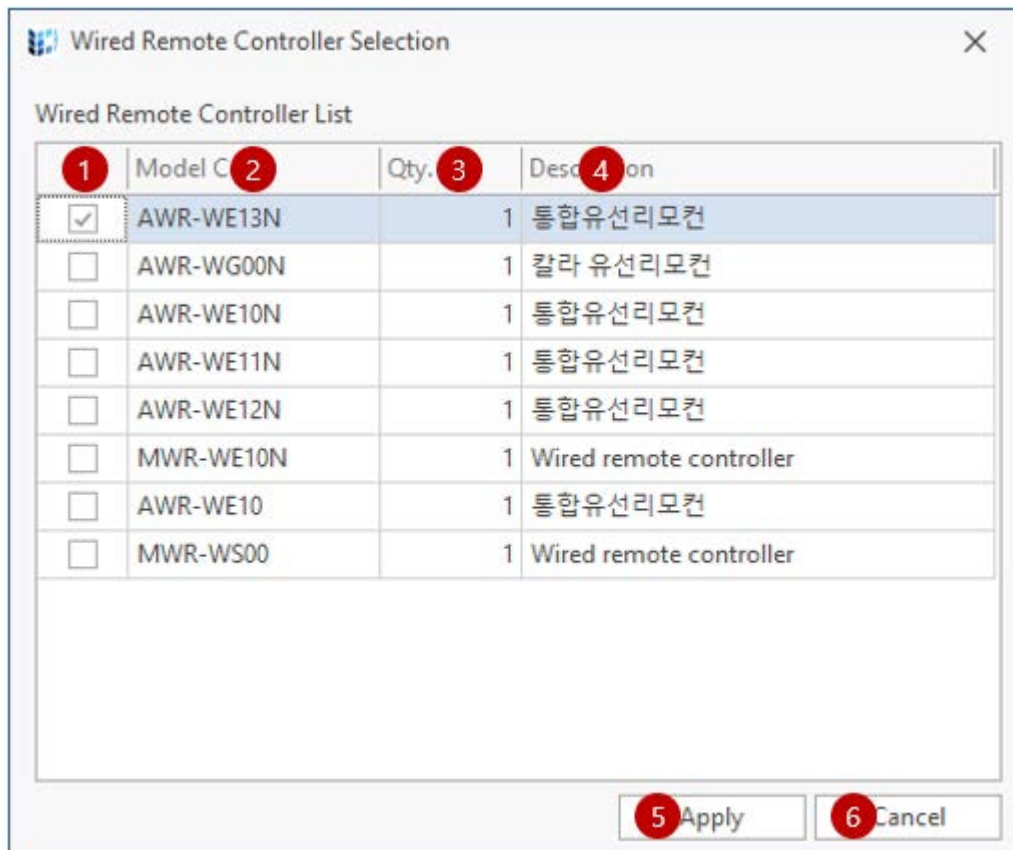
- > **Specify start point : Click ① (Specify the starting point of the communication wire.)**
- > **Specify the next point or [Undo(U)/Done(Enter)] : Click ② (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)**
- > **Specify the next point or [Undo(U)/Done(Enter)] : Click ③ (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)**
- > **Specify the next point or [Undo(U)/Done(Enter)] : Click ④ (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)**
- > **Specify the next point or [Undo(U)/Done(Enter)] : Click ⑤ (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)**
- > **Specify the next point or [Undo(U)/Done(Enter)] : Input Enter key (Finish drawing the communication wire.)**

### 1.7.2. Wired Remote Controller

Command : DVMSELECTRC

#### Wired Remote Controller

Set the wired remote control for the selected indoor units.



The dialog box titled "Wired Remote Controller Selection" contains a table with the following data:

1	Model Code 2	Qty. 3	Description 4
<input checked="" type="checkbox"/>	AWR-WE13N	1	통합유선리모컨
<input type="checkbox"/>	AWR-WG00N	1	칼라 유선리모컨
<input type="checkbox"/>	AWR-WE10N	1	통합유선리모컨
<input type="checkbox"/>	AWR-WE11N	1	통합유선리모컨
<input type="checkbox"/>	AWR-WE12N	1	통합유선리모컨
<input type="checkbox"/>	MWR-WE10N	1	Wired remote controller
<input type="checkbox"/>	AWR-WE10	1	통합유선리모컨
<input type="checkbox"/>	MWR-WS00	1	Wired remote controller

At the bottom right, there are two buttons: "5 Apply" and "6 Cancel".

- ① Select : Add wired remote control to selected indoor units.
- ② Model Code : The model codes of wired remote controllers are displayed.
- ③ Qty. : The number of wired remote controls can be displayed and set.
- ④ Description : The description of the wired remote control is displayed.

#### > Command Window

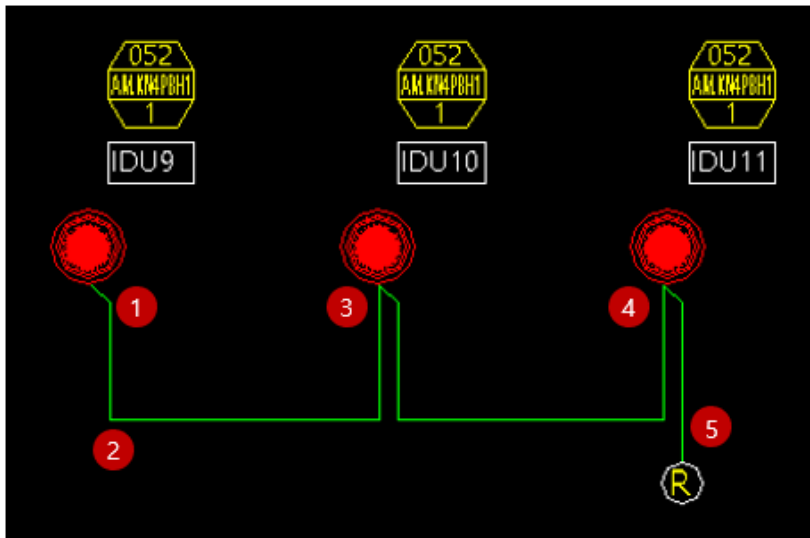
> Select indoor unit to connect wired remote controller : Select the indoor unit to set the wired remote control in the drawing.

### 1.7.3. Wired Remote Controller Draw

Command : DVMDRAWPOWERLINE

#### Wired Remote Controller Draw

Create wired remote controller and communication wires between indoor units.



If you move the mouse to the indoor unit after performing the function, the diagonal wire to draw the communication wire for wired remote controller is activated. If you press the Ctrl key while drawing the communication wire for wired remote controller, the direction changes.

#### > Command Window

#### > Draw wired remote controller communication cable (CTRL: Change connection direction)

> Specify start point : Click ① (Designate the starting point of the wired remote control communication line.)

> Specify the next point or [Undo(U)/Done(Enter)] : Click ② (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)

> Specify the next point or [Undo(U)/Done(Enter)] : Click ③ (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)

> Specify the next point or [Undo(U)/Done(Enter)] : Click ④ (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)

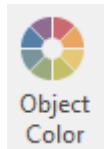
> Specify the next point or [Undo(U)/Done(Enter)] : Click ⑤ (You can enter 'U' to cancel the most recent point assignment, or press Enter to finish drawing the communication wire.)

> Specify the next point or [Undo(U)/Done(Enter)] : Input Enter (Finish drawing wired remote

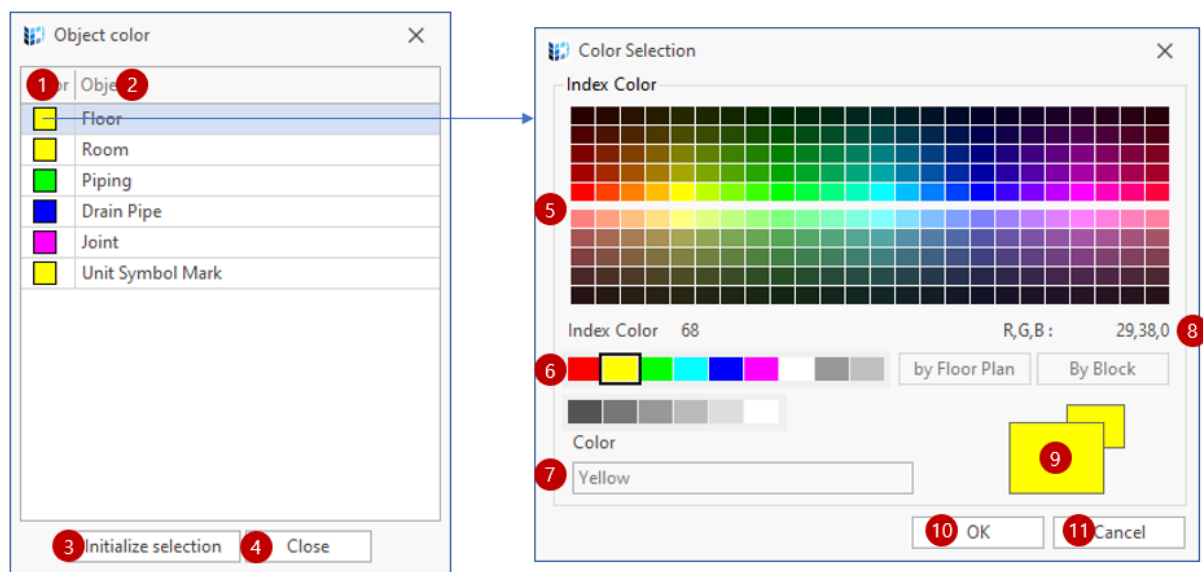
control communication line.)

## 1.8. Set

### 1.8.1. Object Color



Set the color of objects (floor, room, pipe, drain pipe, Y-joint, equipment symbol mark).



- ① Color : The color of the objects is displayed and when clicked, the "ColorSelection" window is activated and the color can be changed.
- ② Object : The names of colors are displayed.
- ③ Initialize selection : When clicked, the color information set by the user is deleted and changed to the initial program value.
- ④ Close : Ends the object color setting function and closes the window.
- ⑤ Index Color : A full list of colors is presented and can be selected.
- ⑥ Common Color Index : Frequently used colors are displayed and can be selected.
- ⑦ Color String : The selected color is expressed as a string.
- ⑧ RGB : The RGB value of the selected color is displayed.
- ⑨ Selected Color : The selected color is made larger.
- ⑩ OK : When the button is clicked, the object is set with the selected color and the window is

closed.

- ⑪ Cancel : When the button is clicked, the color is deselected and the window is closed.