# INSTRUCTION MANUAL

## CITY MULTI Design Tool

## Ver. 5.1

**MITSUBISHI ELECTRIC CORPORATION**

**Air Conditioning & Refrigeration Systems Works**

**(Last edit: 2014/7)**

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**CITY MULTI Design Tool**


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# 1. INTRODUCTION

## 1.1. About the Operating Environment

CITY MULTI Design Tool is available to be used under the following environment.

A) Operating System

Windows 98SE, Windows ME, Windows 2000, Windows XP 32bit,

Windows Vista 32bit, Windows 7 32bit

* The following operating systems are not supported.

Windows XP 64bit, Windows Vista 64bit, Windows 7 64bit

B) Free Hard Disk Space

Main program: 200 MB min. free space (except the space to install AutoCAD LT)

For Proposal data, PDF data: 1GB min. free space

C) Recommended CPU

Intel PentiumⅢ 800MHz or faster, compatible CPU

D) Usable CAD Software

AutoCAD LT97/98/2000/2002/2004/2005/2006/2007/2008/2009

E) Excel version

Excel 2000 or later

Note) Please ask AutoDesk, Inc. directly about questions for operating environment about AutoCAD LT or any other questions for AutoCAD LT

## 2. INSTALL / UNINSTALL

This tool is installed by three installers. The functions installed by each installer are described below. Install the functions you wish to use.

・Main Installer

Installer for the main tool. This installation is essential to use the tool.

・PDF Data Installer

Installer for the PDF file data such as the equipment specification values displayed by the Unit Data PDF button.

This installation is required to view Unit Data PDF files.

・Proposal Data Installer

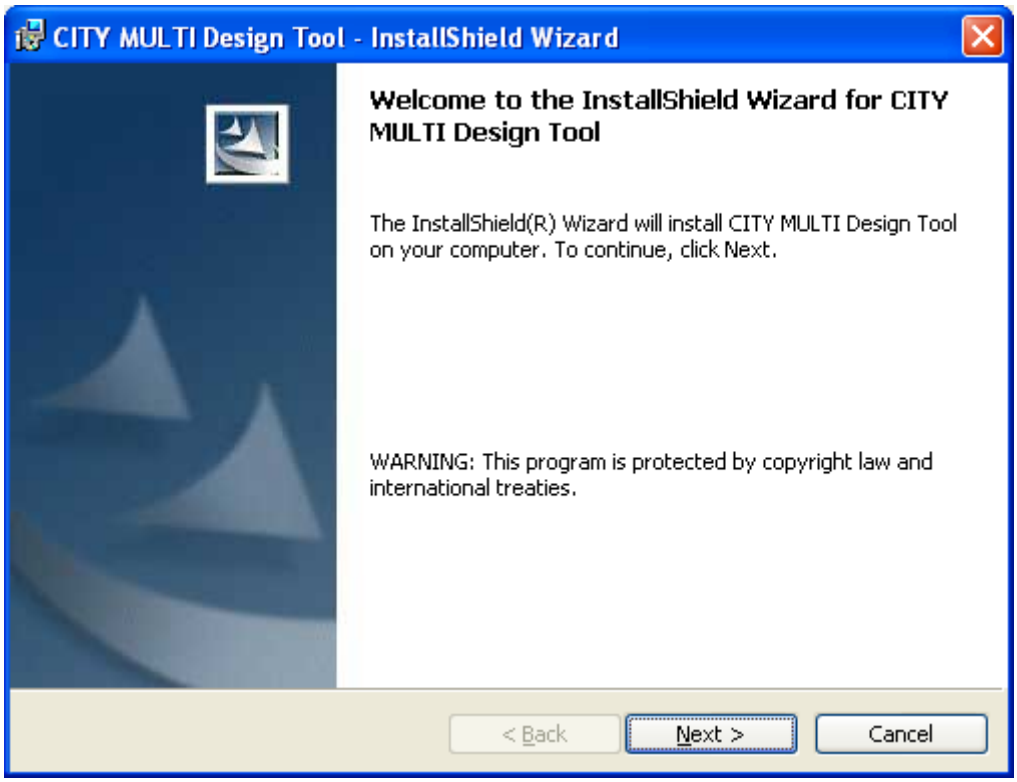
Installer for the equipment data file used to output proposal files.

This installation is required to use the output functions for proposal files.

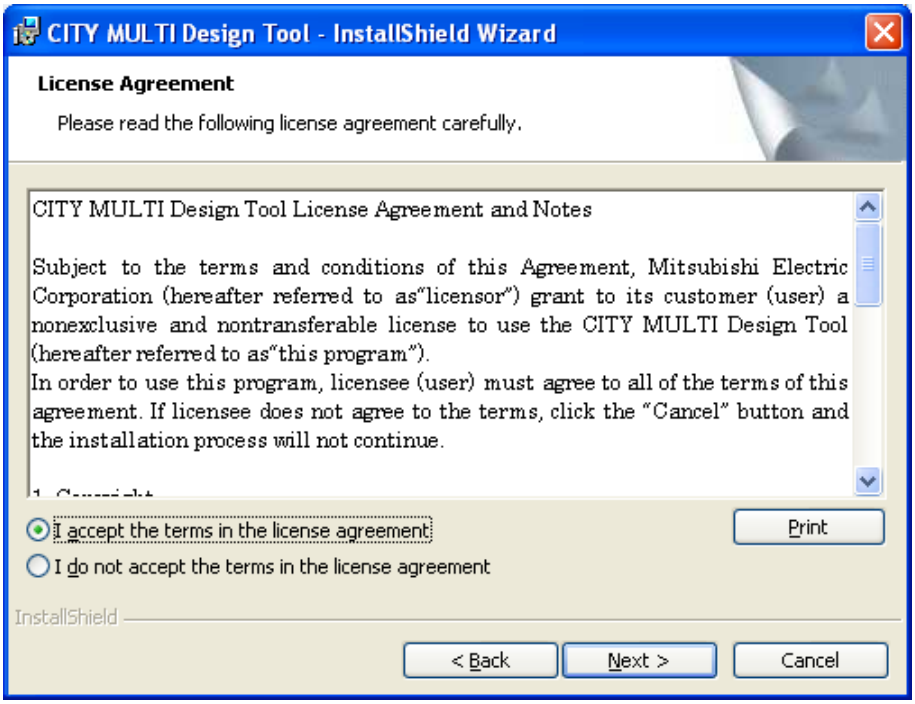
### 2.1. Main Installer

#### 2.1.1 New Installation

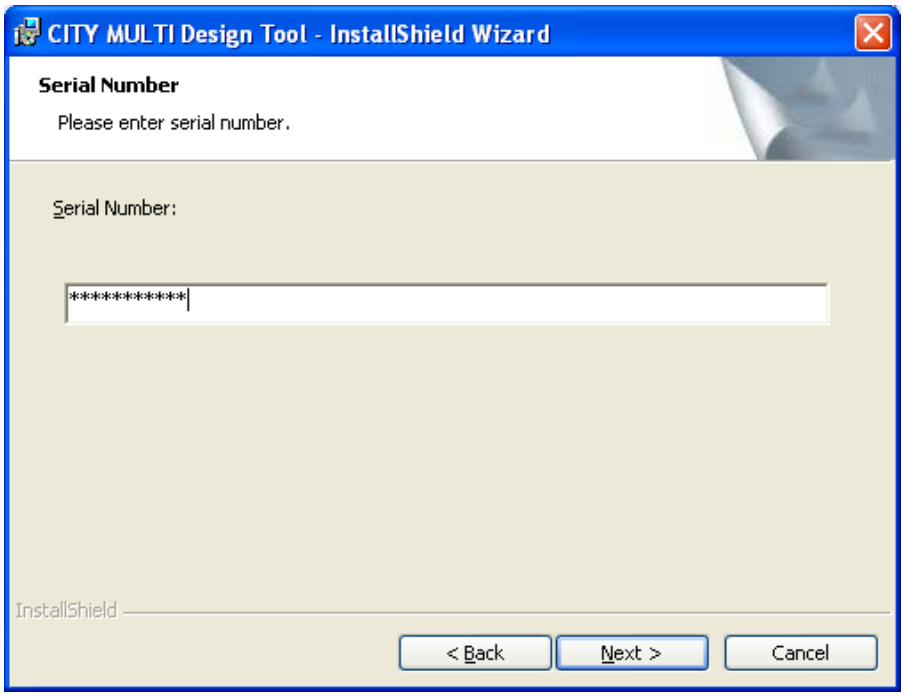
A) Double-click setup.exe to run the installer. When the InstallShield Wizard appears, click “Next”.



B) The license agreement appears. Check the contents, select "I accept the terms in the license agreement" and click “Next”.

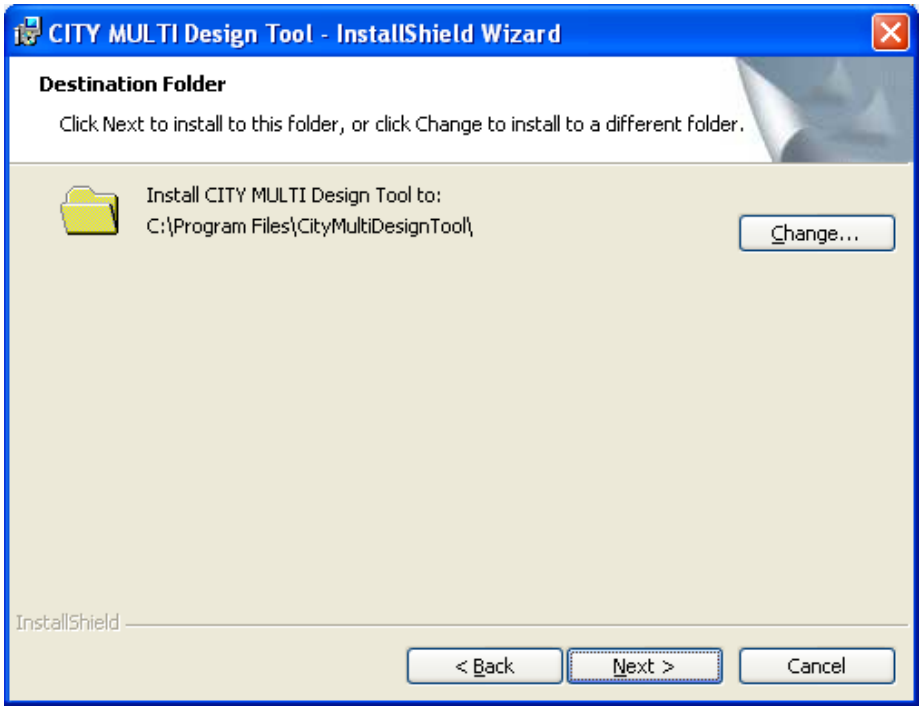



C) When prompted to enter the serial number, input the serial number and click “Next”.

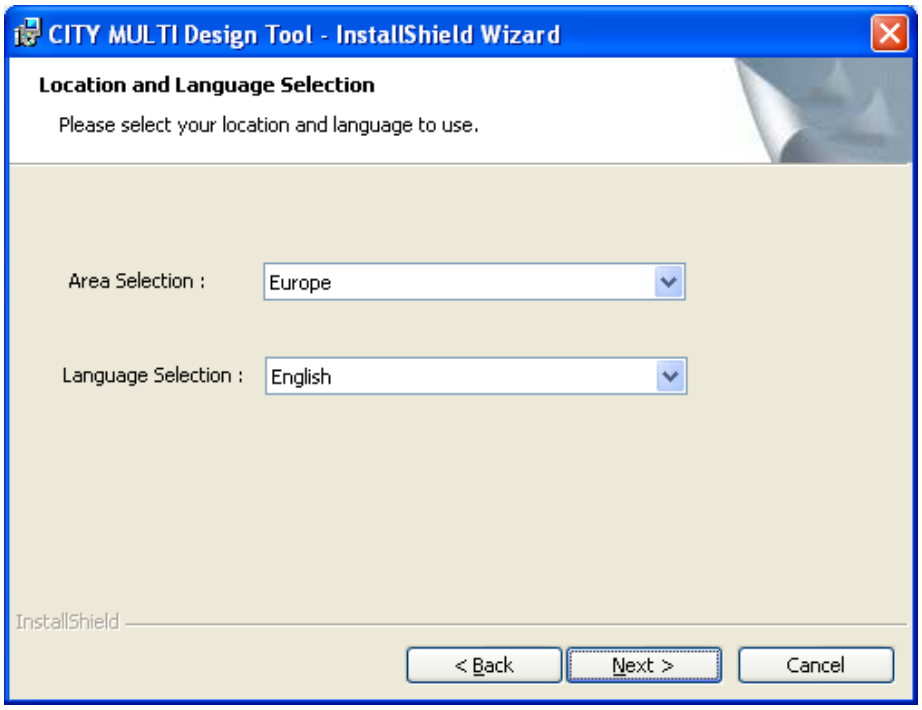



* Contact your nearest sales office to obtain the serial number.

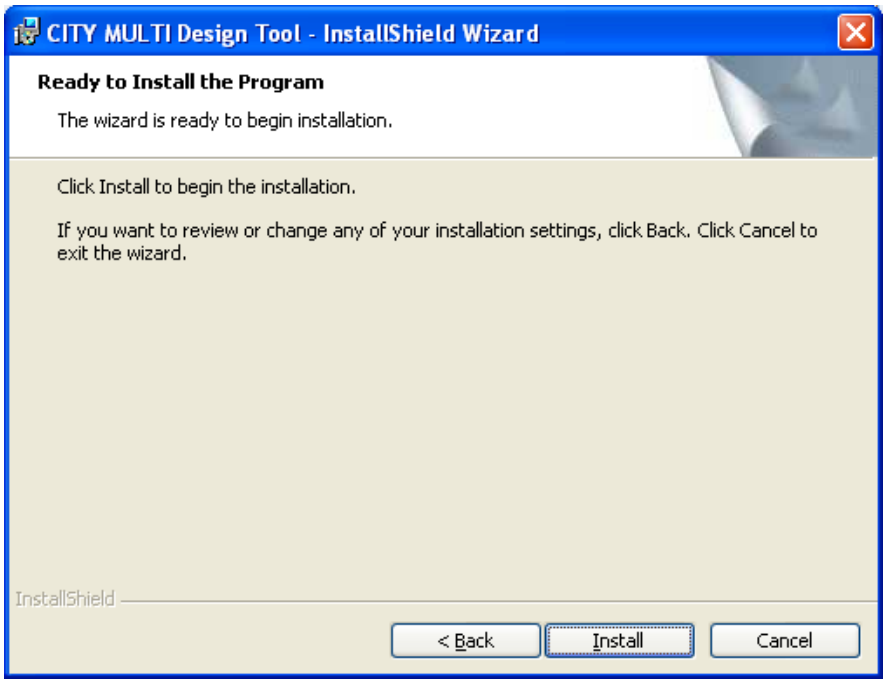
D) Specify the destination folder for installation. "C:¥Program Files¥CityMultiDesignTool¥" is set as default. If this installation destination is satisfactory, click “Next”. To change the installation destination, click “Change”.



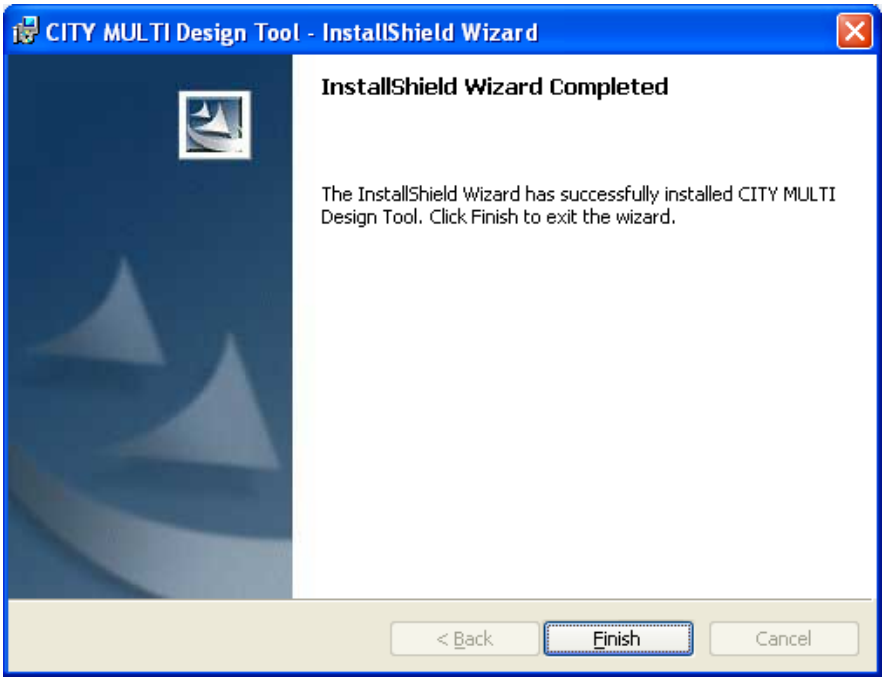

E) A screen appears to select the area and language. Specify your area and required language, and click “Next”.



F) Click “Install” to start the program installation. Wait until the installation is complete.



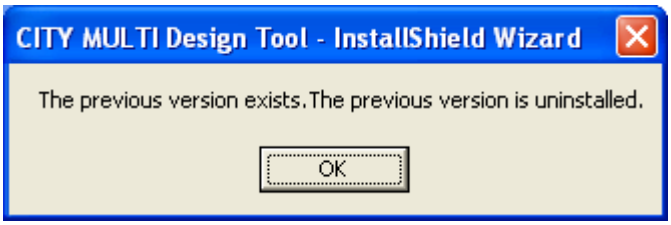

G) When the installation is complete, the screen below appears. Click “Finish” to complete the installation.



### 2.1.2 Upgrade Installation

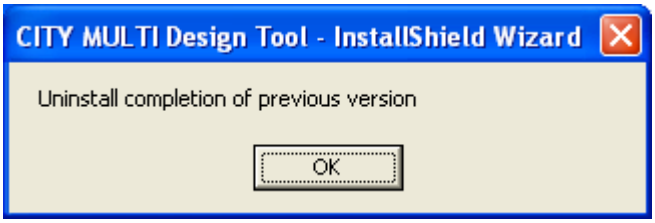
If version 3.91 or earlier is installed, the previous version is automatically uninstalled and the new version is installed. The message below appears when setup.exe is double-clicked. Click OK to uninstall the software.

* This process may take a few minutes. Wait until the removal is complete.




The following message appears when the previous version has been uninstalled. Click the OK button to install the new version.

(See section 2.1.1 for details about the installation method.)



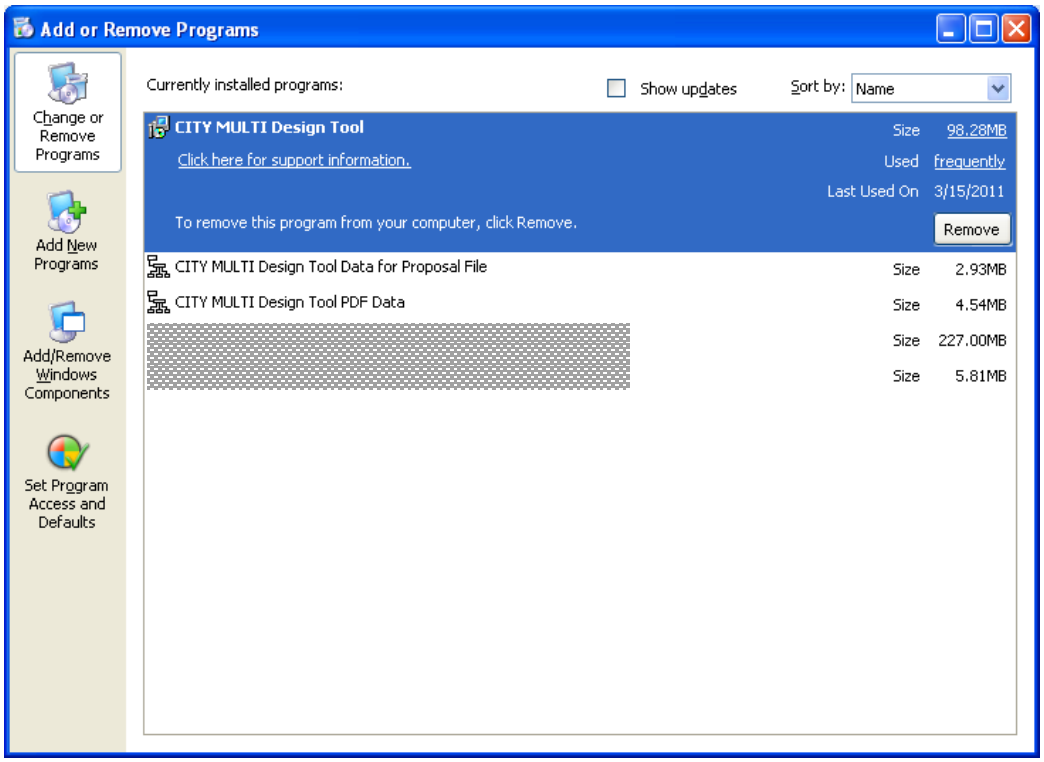

The following message appears when version 4.0 or above is installed.

Click Yes to run the upgrade.

When the installer runs, click the Next button to start the upgrade. A screen appears when the upgrade is complete. Click the Finish button to complete the installation.

### 2.1.3 Uninstallation

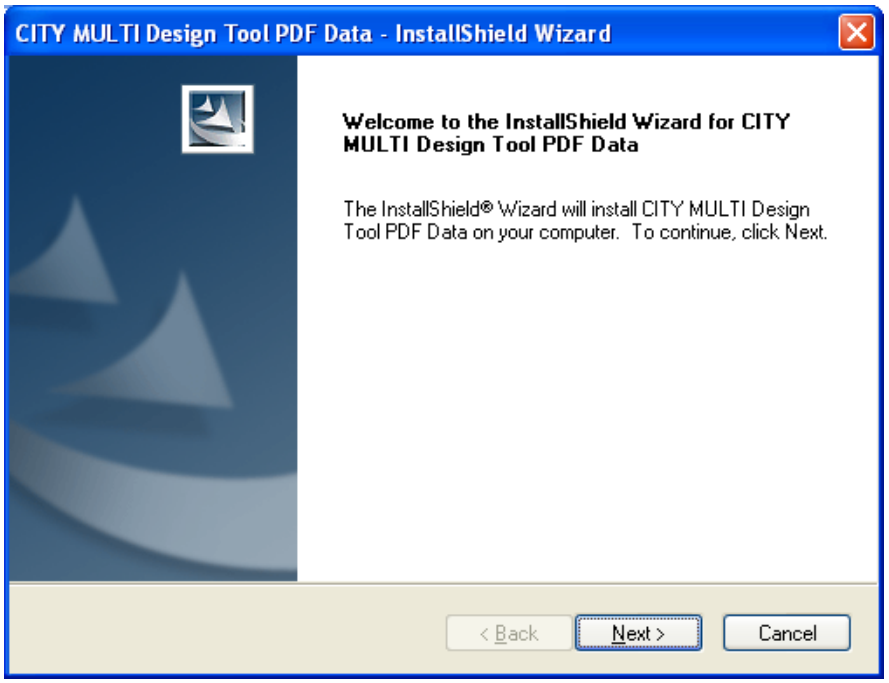
Select "CITY MULTI Design Tool" on the Add or Remove Programs screen, and click Remove.



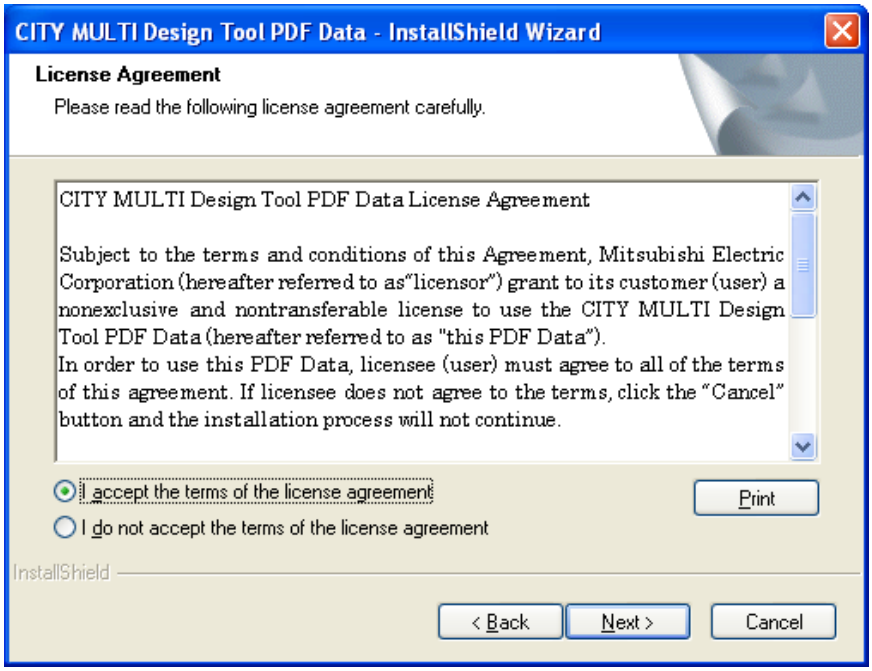
## 2.2. PDF Data Installer

### 2.2.1 New Installation and Upgrade Installation

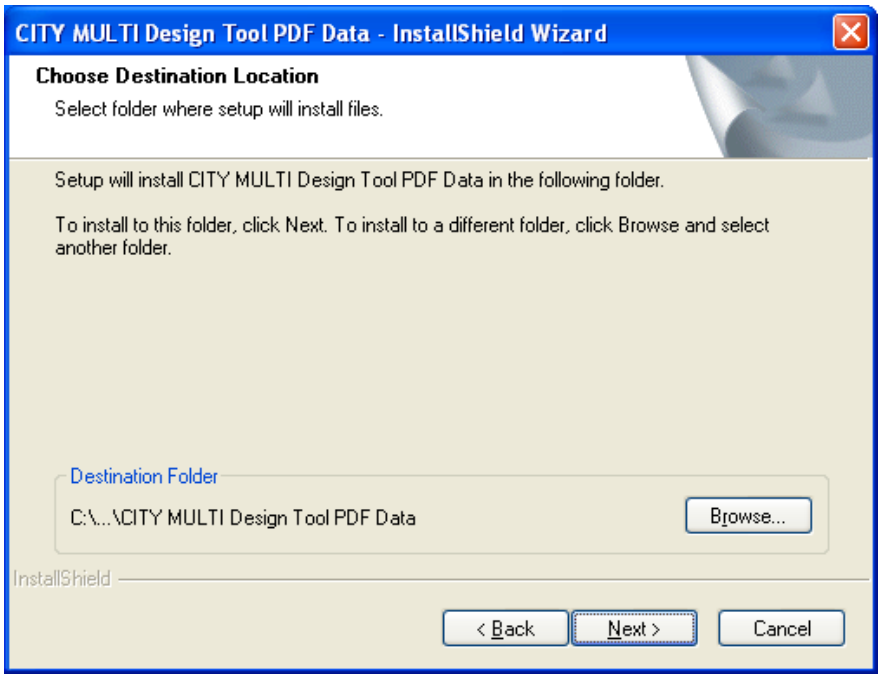
A) Double-click setup.exe to run the installer. When the InstallShield Wizard appears, click Next.



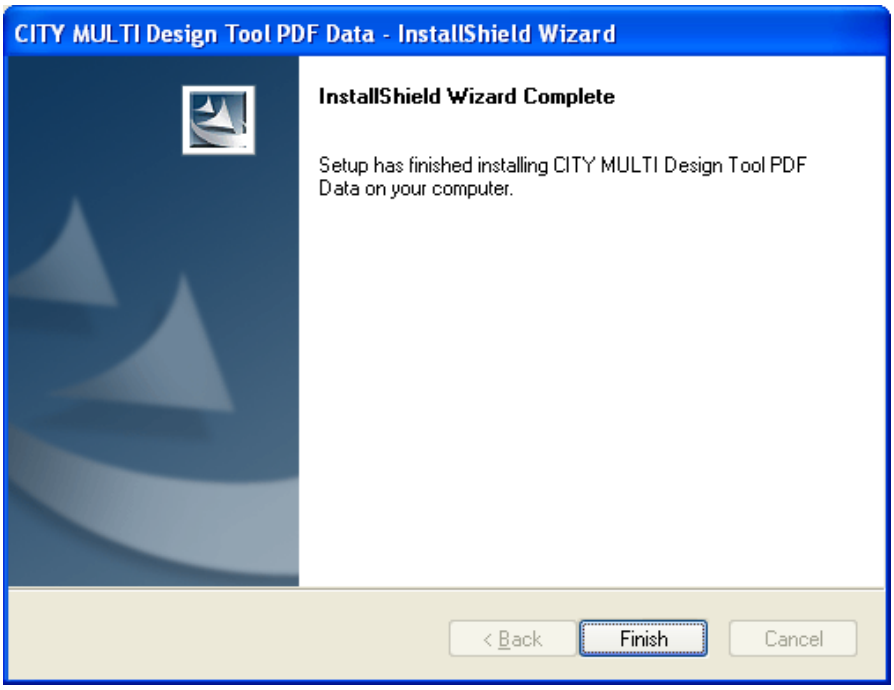

B) The license agreement appears. Check the contents, select "I accept the terms of the license agreement" and click “Next”.



C) Specify the destination folder for installation. "C:¥Program Files¥City Multi Design Tool PDF Data¥" is set as default. To change the installation destination, click “Browse”. Click “Next” to start the program installation. Wait until installation is complete. This screen is not displayed for a software upgrade.

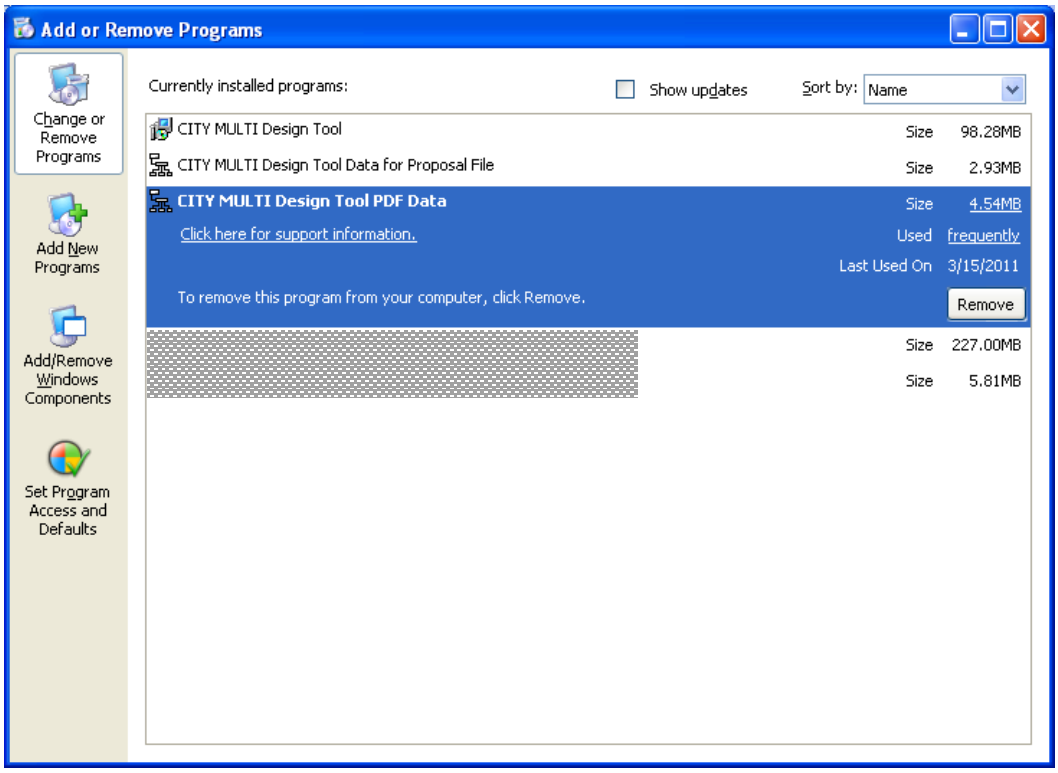



D) When the installation is complete, the screen below appears. Click “Finish” to complete the installation.



### 2.2.2 Uninstallation

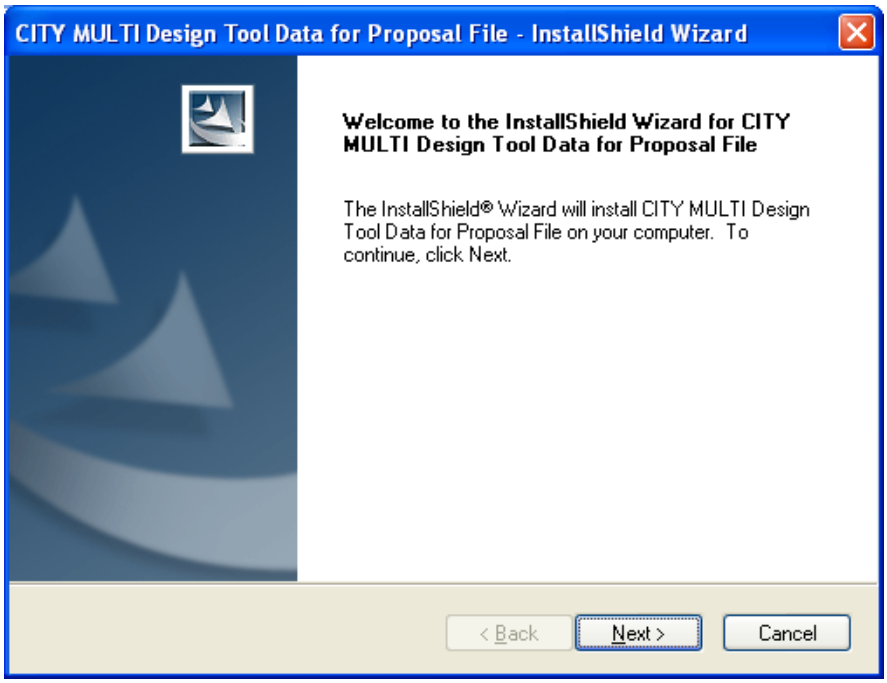
Select "CITY MULTI Design Tool PDF Data" on the Add or Remove Programs screen, and click “Remove”.



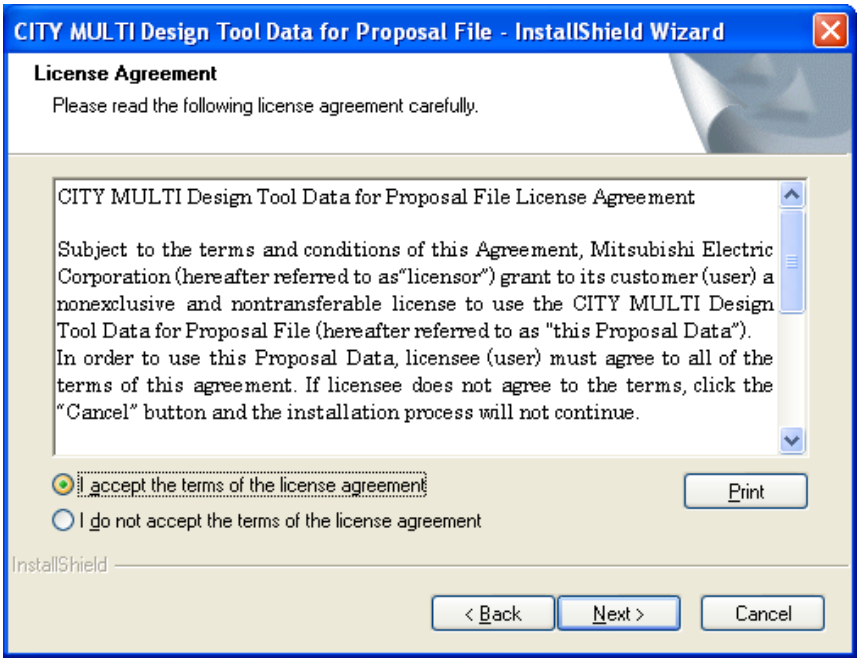
## 2.3. Proposal Data Installer

### 2.3.1 New Installation and Upgrade Installation

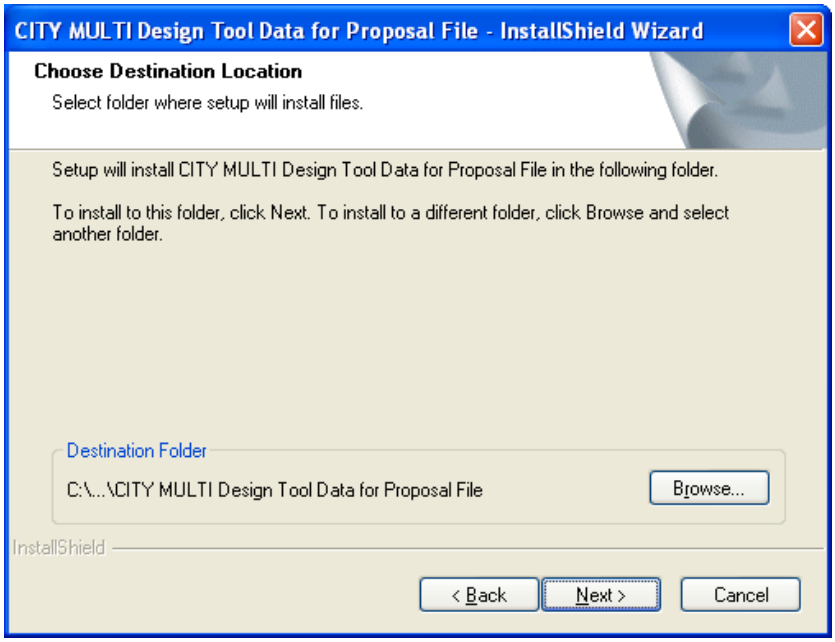
A) Double-click setup.exe to run the installer. When the InstallShield Wizard appears, click “Next”.



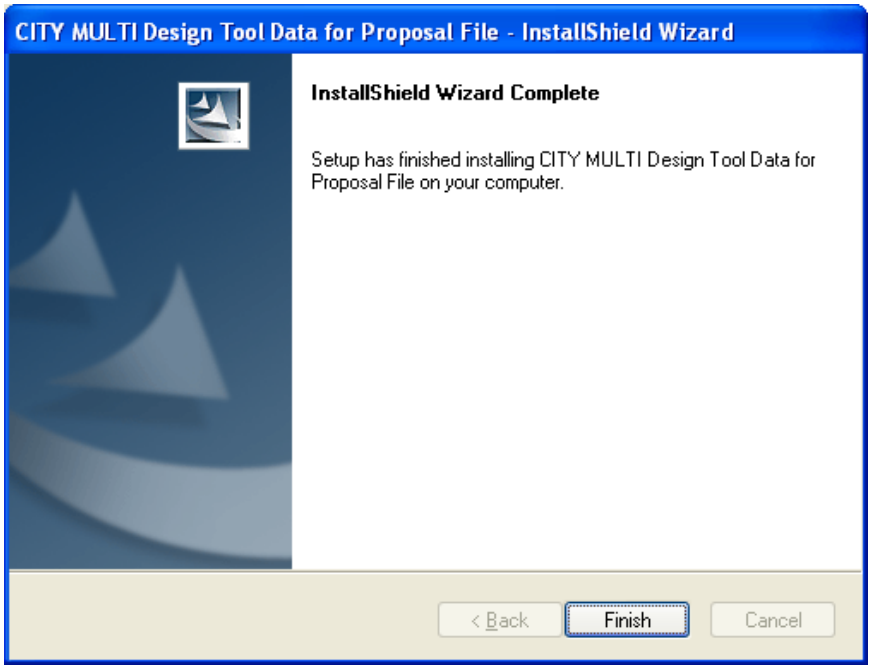

B) The license agreement appears. Check the contents, select "I accept the terms of the license agreement" and click “Next”.



C) Specify the destination folder for installation. "C:¥Program Files¥CITY MULTI Design Tool Data for Proposal File¥" is set as default. To change the installation destination, click “Browse”.
Click “Next” to start the program installation. Wait until installation is complete.
This screen is not displayed for a software upgrade.

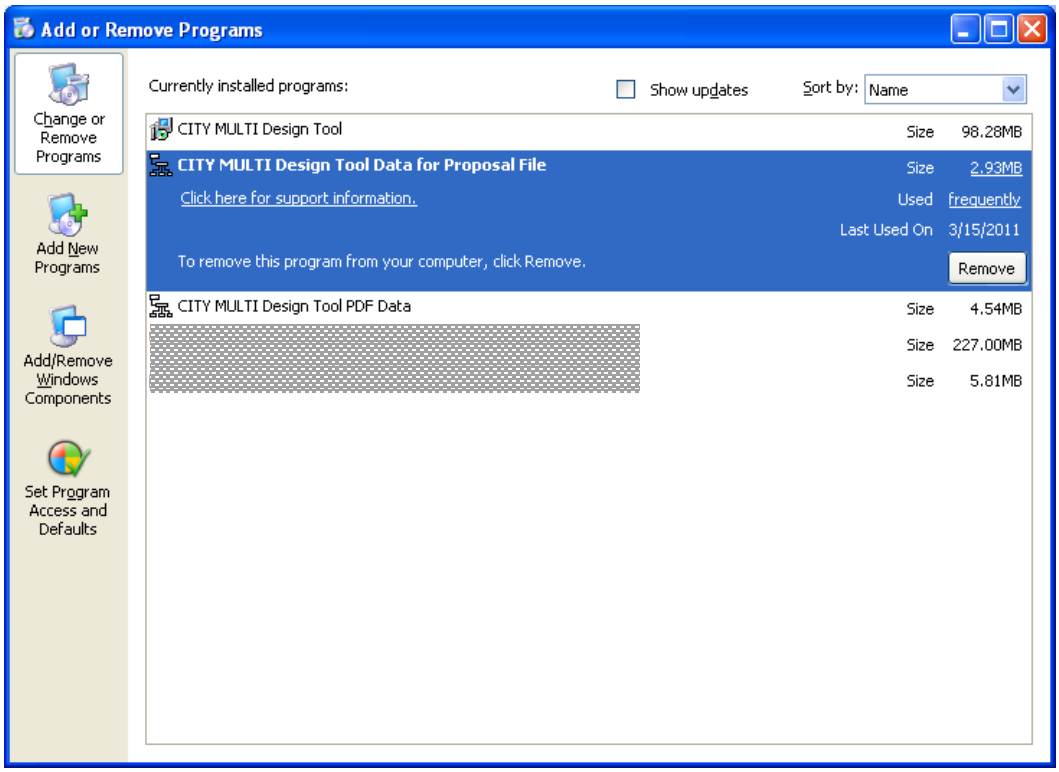



D) When the installation is complete, the screen below appears. Click “Finish” to complete the installation.



### 2.3.2 Uninstallation

Select "CITY MULTI Design Tool Data for Proposal File" on the Add or Remove Programs screen, and click “Remove”.



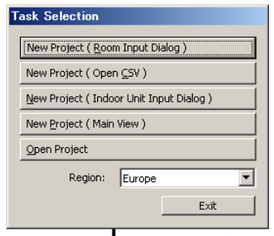
## 2.4. How to start

From Start menu, select [Program]-[CITY MULTI Design Tool]-[CITY MULTI Design Tool] and execute it.

Also, it can be started from the shortcut icon on the desktop.

## 3. TRANSITION OF WINDOWS

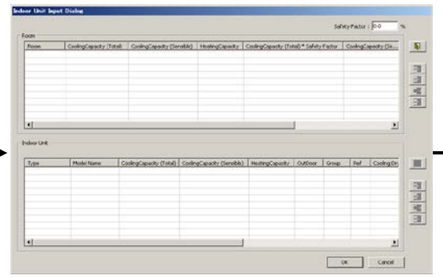
Task Selection




New Project
(Room Input Dialog)

Project Property Window

Room Input Dialog

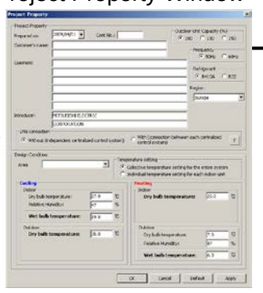


New Project
(Open CSV)

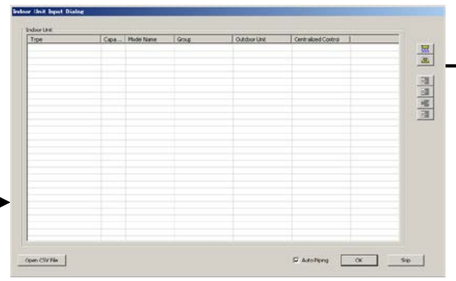
File Selection

New Project
(Indoor Unit
Input Dialog)

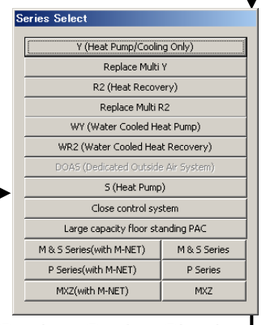
Project Property Window



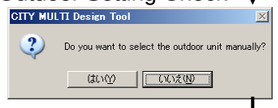
Indoor Unit Input Dialog



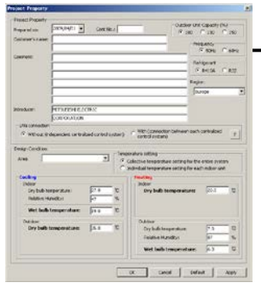
Series Select Window




Outdoor Setting Check

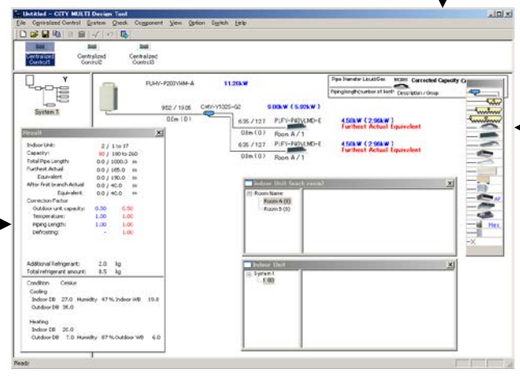



Project Property Window

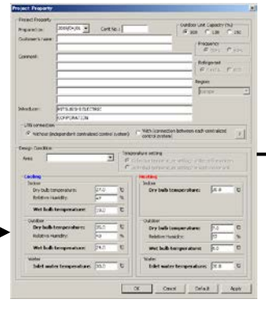


New Project
(Main View)

Piping Design Window



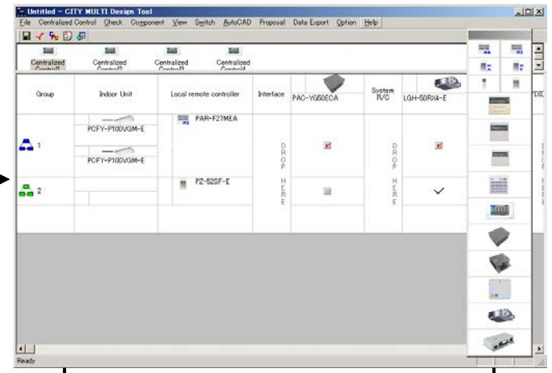
Project Property Window



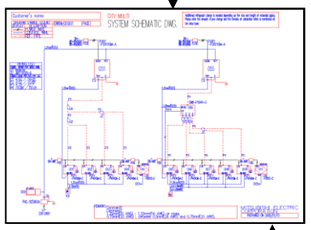
File Selection

Open Project

Control Design Window

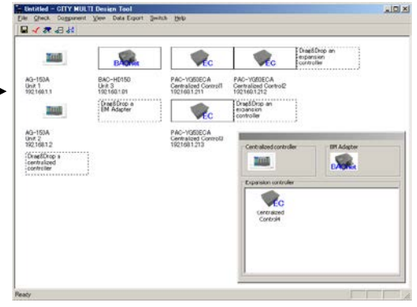


AutoCAD Drawing Window

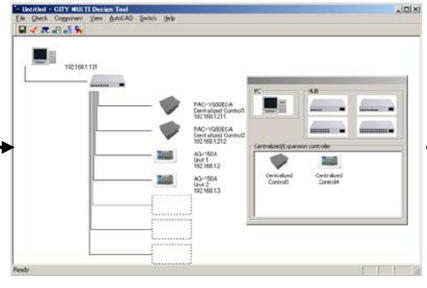


* When LAN connection is present

Expansion Controller Setting Window



LAN Connection Window



## 4. Basic Operation Flow

### A) Indoor Unit System Structure Input.

Input the list of Indoor units which is used for the project you create.

Select “New Project (Indoor Unit Input Dialog)”on Task Selection Window, and input the Frequency / Refrigeration type / Region for the project on Project Property Window.

After Indoor Unit Input Dialog appeared, register the Refrigerant System, Groups and Indoor Unit to be placed in this project.

### B) Piping Design.

Design the refrigerant piping system.

Move to Piping Design Window after Indoor Unit Input Dialog. On this Window, connect the refrigerant piping with placing the blanch pipe such as Joint or BC controller, and place the indoor unit which is input on the Step A) sequentially.

Confirm the capacity of the placed indoor units, also, check restrictions of the piping length, the capacity, etc.

Also, the created drawing of piping design can be output as Bitmap or JPEG format file.

### C) Setting Remote Controller, Lossnay.

Place Remote Controller and Lossnay.

Move to Control Design Window from [Switch] menu on Piping Design Window. On this Window, specify the group to operate by each remote controller with placing the local remote controller or the system controller to each group,

Also, Lossnay can be placed here as well if the system uses Lossnay.

### D) Skeleton Drawing Output

The skeleton drawing of the created project can be output after the setting of Remote controller and Lossnay has completed.

Execute AutoCAD Output from AutoCAD menu on Control Design Window and AutoCAD program will start and create the skeleton drawing.

### E) Setting a high-level AG-150A and AE-200E(A) to the expansion controllers

***When LAN connection is present**

When "with LAN connection" is selected on the Project Property Window and when expansion controllers are assigned on the Control Design Window, designate the AG-150A and AE-200E(A) as a high-level AG-150A and AE-200E(A) to the expansion controller.

Create a high-level AG-150A and AE-200E(A) on this screen, and relate the expansion controllers that are assigned on the Control Design Window to the AG-150A and AE-200E(A).

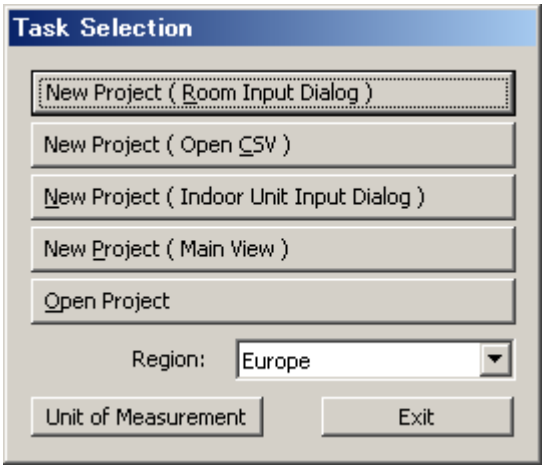
### F) Designing LAN connection * when LAN connection is present

When "with LAN connection" is selected on the Project Property Window, connect the expansion controllers, AG-150A, and AE-200E(A) etc. that are assigned with HUB.

The result can be output on the skeleton drawing.

## 5. TASK SELECTION WINDOW

Once the system starts, Task Selection Window appears.




· New Project (Room Input Dialog)

Input the necessary capacity and indoor unit configuration for each room, and press "OK" button. You will move to the Piping Design Window.

In the Piping Design Window, the indoor units selected in the Room Input Dialog can be placed by dragging them to the design drawing from the Indoor Unit window.

· New Project (Open CSV)

Open the load calculation file in CSV format. The screen will be moved to the Room Input Dialog.

· New Project (Indoor Unit Input Dialog)

In case of selecting this task, it moves to Piping Design Window after inputting the indoor unit structure first on Indoor Unit Selection Window. On Piping Design Window, Indoor unit can be placed from the list which is input on Indoor Unit Input Dialog.

Please note this function is not available in the system of MUZ/SUZ, PU/PUH/PUHZ, MXZ, Close control, Large capacity floor standing PAC, and DOAS series.

· New Project (Main View)

It moves to Piping Design Window directly. In this case of selecting this task, select Indoor unit on Piping Design Window.

· Open Project

Open the saved file. To open the saved file, open it after changing “Region” to the selected region when the file created.

· Exit

Quit the Design Tool program.

Click [Yes] on the popup confirmation window to exit the program.

· Unit of Measurement

Open the Unit of Measurement window to set the Unit of Measurement. (Refer to 9.24)

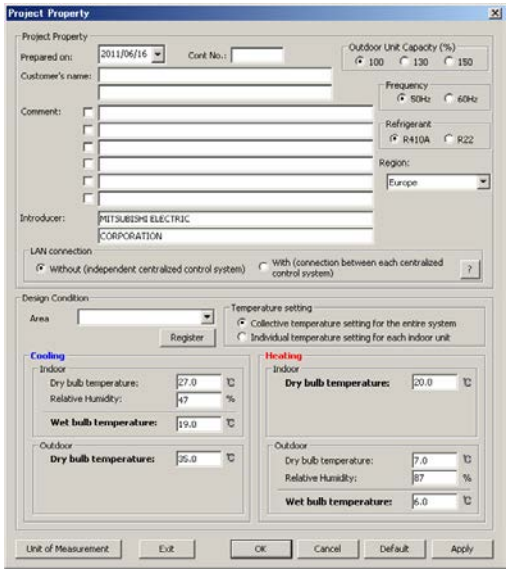
## 6. PROJECT PROPERTY WINDOW

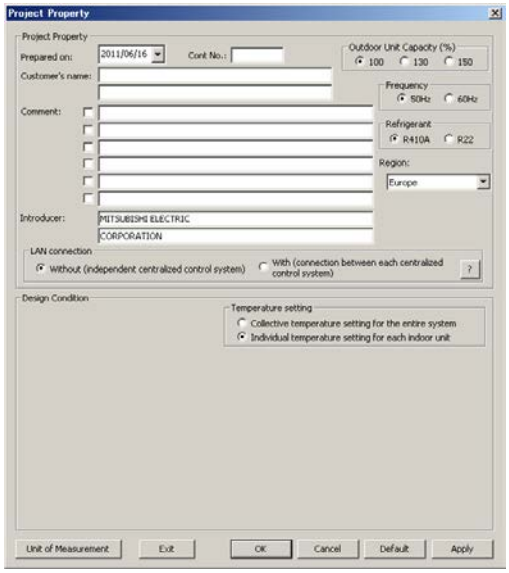
After the task is selected, Project Property Window appears.

Click “OK” after the Project Property setting has finished. To reflect the entry details without closing this window, click “Apply”.

Note) From the menu [File] – [Change Project Property] on the Piping Design Window, the entry detail can be changed even after the Project Property window has closed.

**Caution ! You can’t change the Frequency, Refrigerant Type and Region after the setting has finished.**




### 6.1. Prepared on / Control No. / Customer’s Name / Comments / Frequency / Refrigerant Type / Introducer / LAN Connection

#### 6.1.1 Prepared on Input

The creation date is selected by default. To change the date, click the dropdown menu and select it from the calendar.

This data is reflected on AutoCAD output drawing.

#### 6.1.2. Cont No Input

Input any number you like. It’s OK not to input if it’s unnecessary.

You can enter up to 10bytes.

This data is reflected on AutoCAD output drawing.

#### 6.1.3 Customer's Name Input

Input a customer’s name here.

This data is reflected on AutoCAD output drawing.

#### 6.1.4 Comment Input

This data is reflected under the introducer on the front page of the proposal document.

When a checkbox is checked, the comment next to the checkbox will be output in REMARKS column on AutoCAD output drawing.

#### 6.1.5 Frequency Input MUST

It's possible to use outdoor unit / indoor unit / Lossnay for the selected frequency here.

Be careful to select correctly, you can't change it after the setting has finished.

#### 6.1.6 Refrigerant Type Input MUST

It's possible to use outdoor unit / indoor unit for the selected refrigerant type here.

Be careful to select correctly, you can't change it after the setting has finished.

#### 6.1.7 Region Input MUST

You select the working region. It's possible to use the models sold in the selected region here.

The selected region on the installation process is selected by default.

#### 6.1.8 Outdoor Unit Capacity

Set the selection standard of the outdoor unit auto-selection.

Select the percentage from 100%, 130%, or 150%. (130% is automatically selected for Y series even if you select 150%.) 100% is selected as default setting.

Also, this setting can be made on the Capacity Setting Window (refer to the section 8.23).

#### 6.1.9 Introducer Input

Input an introducer here.

This data is reflected on AutoCAD output drawing and proposal file output.

#### 6.1.10 LAN Connection Input MUST

Set the LAN connection.

When an AG-150A or an AE-200E(A) is connected to the expansion controllers and controls more than 51 indoor units, select "with LAN connection." The descriptions about "with LAN connection" and "without LAN connection" appear by clicking "?" button.

### 6.2. Design Condition Input MUST

Select whether "Collective temperature setting for the entire system" or "Individual temperature setting for each indoor unit" to input the Design Condition.

The selection cannot be made when New Project (Room Input Dialog) is selected. The selection is only valid when New Project (Indoor Unit Input Dialog) or New Project (Main View) is selected.

#### 6.2.1 Select the Temperature Setting Method

The temperature setting made at "Collective temperature setting for the entire system" will be reflected to all units in the entire project. All temperature conditions must be filled

in when this method is selected.

"Individual temperature setting for each indoor unit" allows a temperature setting for each indoor/outdoor unit.

The setting method is factory set to "Collective temperature setting for the entire system".

### 6.2.2. Design Condition Input

Input the temperature of dry bulb/wet bulb and the relative humidity at the outside/inside. For the refrigerant system using Heat source unit, input Inlet water temperature as well.

The data shown in **bold type** is used for the capacity correction calculation.

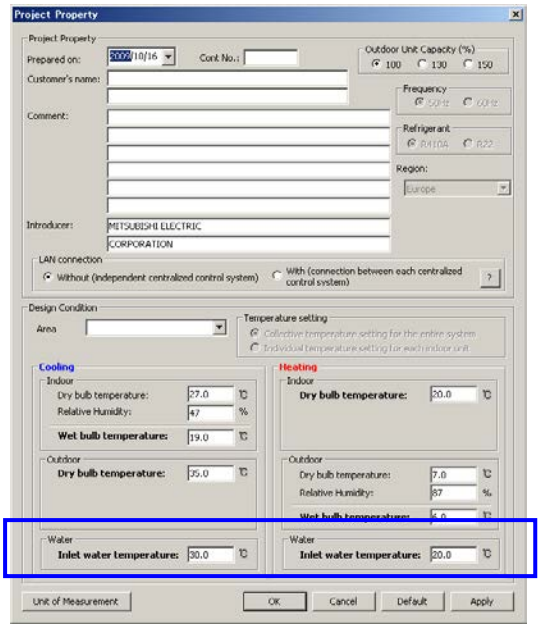
And, it's calculated automatically and set for the below patterns.

A) If dry bulb temperature changes, relative humidity is calculated from the temperature of dry bulb & wet bulb.

B) If relative humidity changes, wet bulb temperature is calculated from dry bulb temperature & relative humidity.

C) If wet bulb temperature changes, relative humidity is calculated from the temperature of dry bulb & wet bulb.

Clicking the Unit of Measurement button opens the Unit of Measurement window to set the unit.




* The entry field for Inlet water temperature appears only for the project system using heat source unit.

### 6.2.3 Register and Use the Frequently Used Pattern

Frequently used ambient condition patterns can be registered to the Area and then selected from the Area pull down menu.

Enter the temperature conditions to be registered into the temperature text fields, enter the required name in the Area text box, and click the Register button to register the conditions in the Area pull down menu.

The registered patterns are saved in the area.csv file. This file can be directly edited to register a pattern.

A) Where “area.csv” is

The area.csv file is contained in the Application Data folder.
(The default location is "[Application Data]¥Perfect Design¥".)

B) How to input “area.csv” file

“area.csv” file is made in CSV format. Each data is input separated by a comma (,). Each of the comma-separated data is shown as below, and each data up to Data 10 must be input.

The data of Data 11 is a flag to represent Celsius or Fahrenheit for the input temperature. Input “C” if input the temperature by Celsius, and input “F” if input by Fahrenheit for each data. In case it’s blank, it’s considered Celsius.

| Data 1 | Data 2 | Data 3 | Data 4 | Data 5 | Data 6 | Data 7 | Data 8 | Data 9 | Data 10 | Data 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| Pattern name | Cooling Indoor DB | Cooling Indoor WB | Cooling Outdoor DB | Cooling Outdoor WB | Heating Indoor DB | Heating Outdoor DB | Heating Outdoor WB | Cooling Water Temp | Heating Water Temp | Celsius or Fahrenheit |

Input each data within the following range.

| Data | Range of value [deg C] | Range of value [deg F] |
|---|---|---|
| Cooling Indoor DB | 15.0~35.0 | 59.0~95.0 |
| Cooling Indoor WB | 15.0~24.0 | 59.0~75.0 |
| Cooling Outdoor DB | -5.0~46.0 | 23.0~115.0 |
| Cooling Outdoor WB | 15.5~35.0 | 59.0~95.0 |
| Heating Indoor DB | 15.0~27.0 | 59.0~80.0 |
| Heating Outdoor DB | -20.0~43.0 | -4.0~109.0 |
| Heating Outdoor WB | -20.0~15.5 | -4.0~59.0 |

### 6.2.4 Set back to the Initial Condition

Click “Default”, then the air condition sets back to the initial condition.

### 6.2.5 Exiting the Program

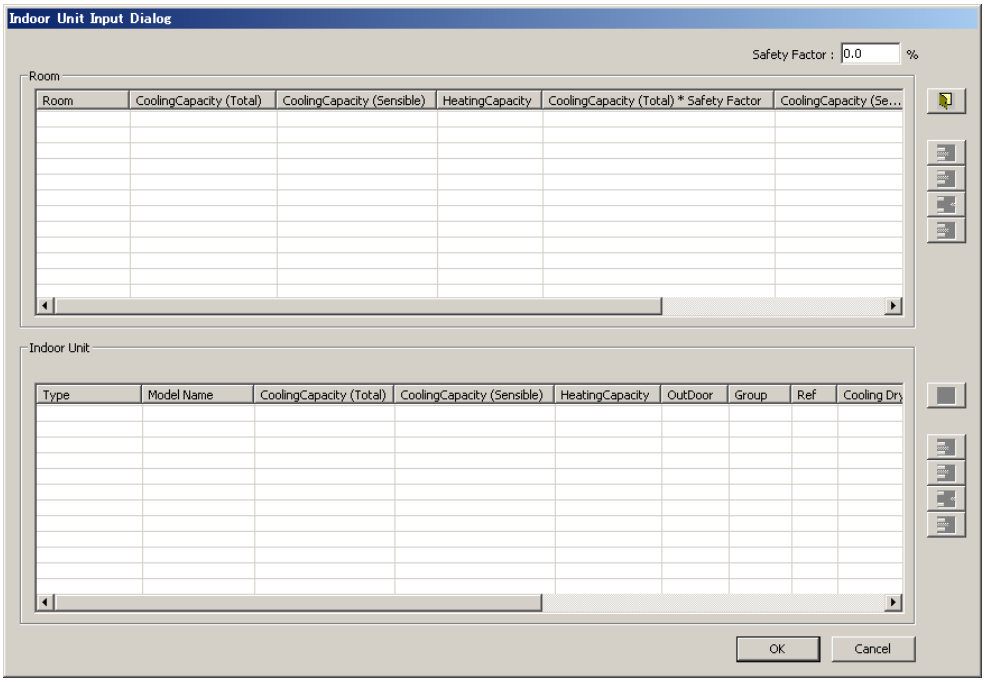
Click [Exit].

Click [Yes] on the popup confirmation window to exit the program.

## 7. Room Input Dialog

Room Input Dialog appears after Project Property when "New Project (Room Input Dialog)" is selected on the Task Selection.

Input a list of indoor units to be placed for each room to proceed to the Piping Design Window. The input indoor units with a refrigerant system (Outdoor Unit) name will be shown in "Indoor Unit" box, and those without the refrigerant system (Outdoor Unit) name will be shown in "Indoor Unit (each room)" box.



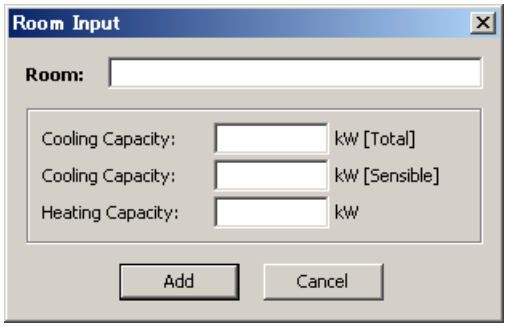

### 7.1. Input Safety Factor

Required capacity is calculated in the following formula and will appear in the room list.

"Demand capacity + Demand capacity x Safety factor/100"

### 7.2. Room Input

A) Click on the ( ) button for room input. A dialog box will appear.




B) Input the information on the room to be set.

B-1. Input the room name. **MUST**

B-2. Input the demand capacities.

Input the demand Total/Sensible Cooling and Heating capacities for the room.

C) Click on the "Add" button to add the room with input information.

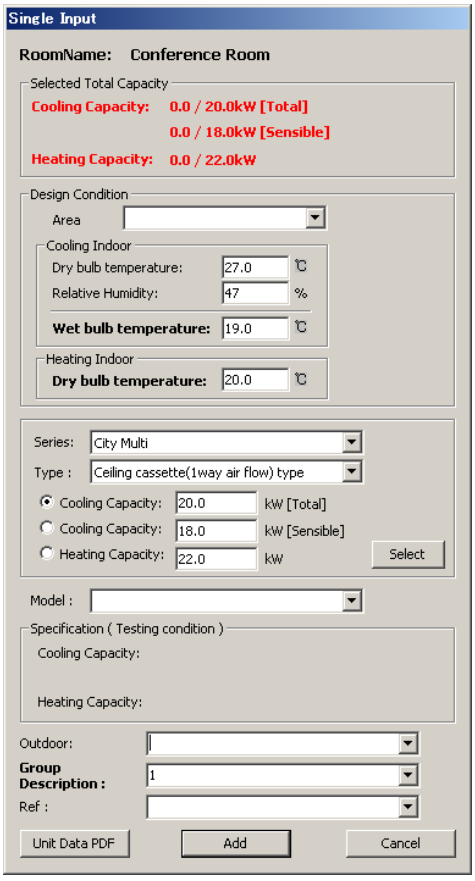
Click on the "Cancel" button to finish the room setting.

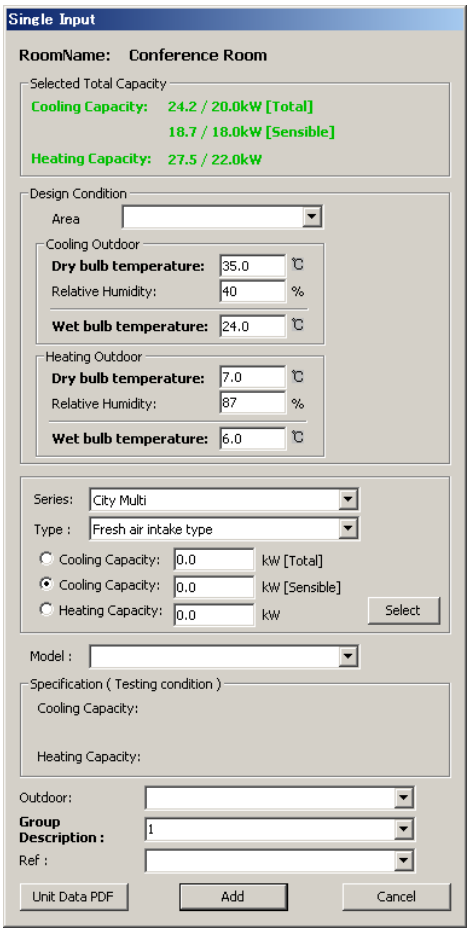
## 7.3. Indoor Unit Input

A) Select the room from the room list to place indoor units.

B) Click the button (SSS) for Single Input, then the dialog below appears.

The Room Name is displayed on the top of the dialog box, and the capacities (including safety factor) are displayed in the denominator, and the actual selected capacities are displayed in the numerator. When the selected capacities don't satisfy the demand capacity, they are displayed in red. When they do, they are green.




C) Input the information on the indoor units to be registered.

C-1. Set the temperature condition. **MUST**

Input the dry/wet bulb temperature and relative humidity, just as the Design Condition on the Project Property. Input the outdoor temperature condition for "Fresh Air Intake Type" indoor units, and indoor temperature condition for models other than "Fresh air intake type". The items to be input automatically switches according to the selected indoor unit type.

C-2. Select the "Series" of the indoor units to be registered. **MUST**

Click on the pull down button to display the list of available indoor unit series.

C-3. Select the "Type" of the indoor unit to be registered. **MUST**

Click on the pull down button to display the list of types available for the selected series.

C-4. Select the "Model" of the indoor unit to be registered. **MUST**

Select "Cooling Capacity (Total)", "Cooling Capacity (Sensible)", or "Heating Capacity", input the demand capacity and click on the "Select" button. "Model * Unit number", indicating the suitable model and the required number of unit for the selected type, will be displayed in the "Model" section. The unit number will not be displayed if the required unit number is only one.

Click on the pull down button to display the list of models available for the selected type.

Cooling/heating capacity for one selected indoor unit will be shown in the "Specification" frame.

C-5. Input the refrigerant system (Outdoor unit) name to be registered.

**Caution! The refrigerant system (Outdoor unit) name must be input when Slim1:1 or RAC is selected for the indoor unit series.**

C-6. Input the group name (Group Description) of the indoor unit to be registered. **MUST**

Click on the pull down button to display the list of pre-registered group names.

C-7. Input "Ref." of the indoor unit to be registered.

D) Click on "Add" button to register the indoor unit with input information.

Information on the demand capacities and those of the selected indoor unit will be shown in the frame of “Selected Total Capacity” after registering an indoor unit. Other indoor units can be registered in the same way as above.

Click on "Cancel" button to finish the input.

## 7.4. Modify, Insert, Delete, and Sort

The operation for modification, insertion, deletion, and sorting are common in the room data and indoor unit data.

### 7.4.1 Modify the Input Data

Double click the row where the data to be modified is input. A dialog box will appear. Modify the data in the box as necessary, and click on "Apply "button.

### 7.4.2 Insert Additional Data to the Registered Data

Select the row below where a new row needs to be inserted, and click on ( ) (insertion button).

A dialog box will appear. Input the data, and click on "Add "button.

The same action can be performed by selecting [Insert] from the right click.

### 7.4.3 Delete the Registered Data

Select the row that needs to be deleted, and click on ( ) (deletion button). A confirmation message box will appear. Click on "OK" to delete the data.

Multiple rows can be collectively selected on the indoor unit data, by selecting the rows while pressing the Shift or Ctrl key. The above operation does not apply to the room data.

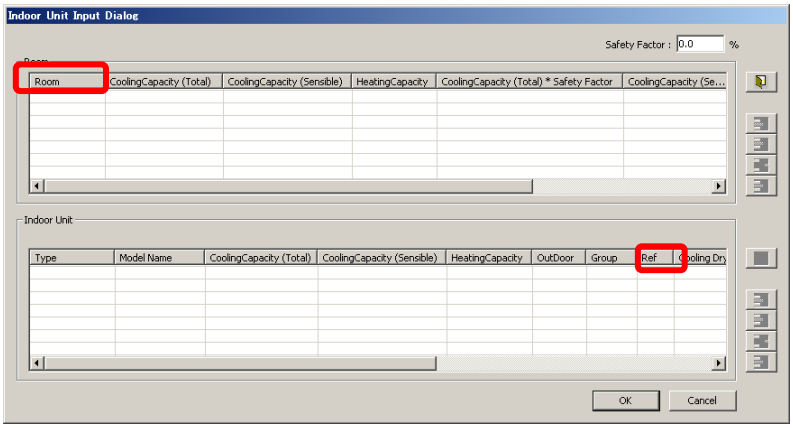
The same action can be performed by selecting [Delete] from the right click.

### 7.4.4 Sort the Data

Select the row that needs to be moved, and click on ( ) button (move upward)/( ) button (move downward). The selected row will move up/down one row.

The same action can be performed by selecting [Up]/[Down] from the right click.

Also, clicking on the title "Room" in the table enables the room data sorting, and clicking on "Ref" enables the indoor data sorting in ascending/descending order.



### 7.5. Move to the Piping Design Window

Pressing the "OK" button will take the screen back to the Piping Design Window.

The room name will be displayed in the "Indoor Unit (each room)" box.

The registered indoor units appear in the "Indoor Unit" box when the refrigerant system (Outdoor Unit) name is not input. When the refrigerant system (Outdoor Unit) name is input, the indoor units appear in the "Indoor Unit (each room)" box. Use the indoor units in these boxes by dragging each to the design drawing.

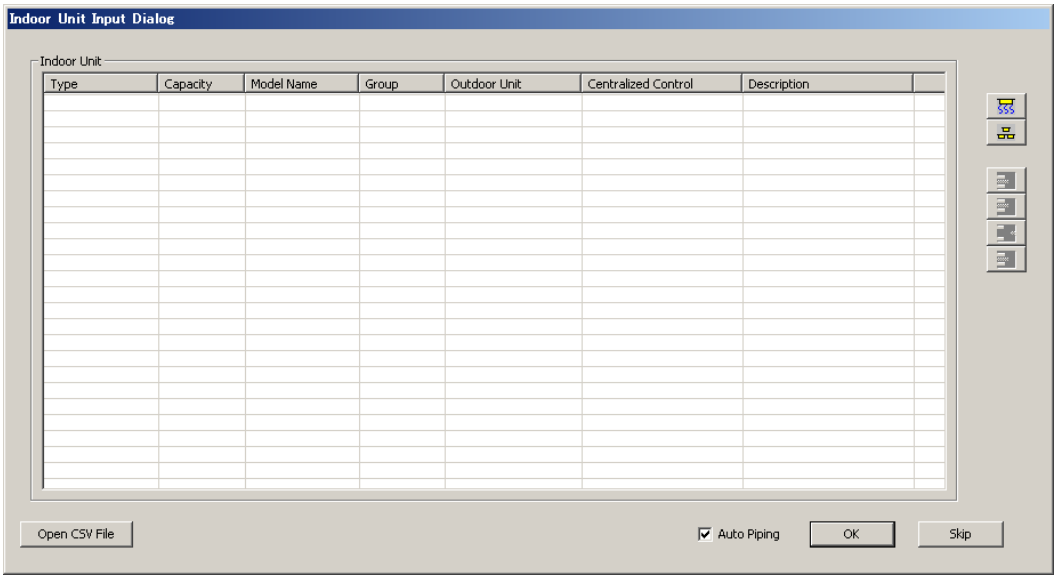
## 8. INDOOR UNIT SELECTION WINDOW (INDOOR UNIT INPUT DIALOG)

When you select “New Project (Indoor Unit Input Dialog)” on Task Selection Window, this window appears after Project Property Window.

This window is for making a list of Indoor unit to place on Piping Design Window in advance. The Indoor unit that is input here is put in [Indoor Unit Box] on Piping Design Window. Also, it’s possible to place them on Piping Design Window automatically.

And if you don’t input Indoor unit on this window, click “Skip”, then it moves to Piping Design Window.

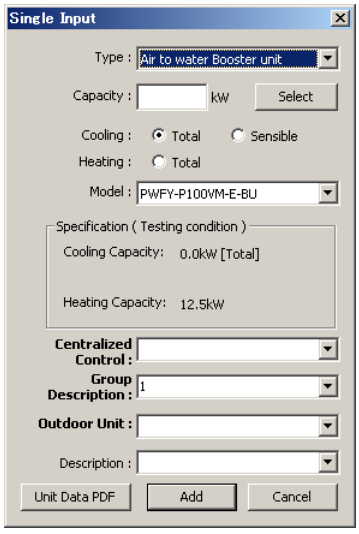
Please note that this function/window is not available for the following series: M&S, P, MXZ, Close control, Large capacity floor standing PAC, and DOAS.




### 8.1. Input Indoor unit

#### 8.1.1 Input Indoor Unit Individually

A) Click the button for Single Input ( ) , then the dialog below appears.



B) Enter the information on the series to be registered.

B-1. Selecting the Series **MUST**

Click the arrow next to the pulldown menu, and select the desired series.

C) Input the details of Indoor unit which you want to register.

C-1. Select the Type of Indoor Unit. **MUST**

Click the dropdown menu and select the type of Indoor unit to register.

C-2. Select the Model of Indoor Unit. **MUST**

All models of the selected type are shown in dropdown menu. Select the model. In case you select one of Total / Sensible heat cooling or Total heating and input the demanded capacity to “Capacity” field, only the satisfied model will appear. Also, the selected model capacity is shown in “Specification” field.

C-3. Input the Group Name. **MUST**

You can enter up to 40bytes. With selecting the dropdown menu, the registered group names are shown. You can select it from the dropdown menu.

C-4. Input the Centralized Control System Name. **MUST**

You can enter up to 20bytes. Give a name to the centralized control system that the refrigerant systems are connected to.

C-5. Input the Refrigerant System (Outdoor Unit) Name. **MUST**

You can enter up to 40bytes. Give a name to the refrigerant system that the indoor unit is connected to.

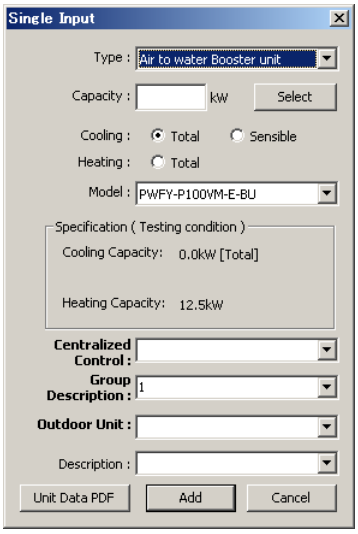
C-6. Input Description.

You can enter up to 40bytes. Description is the room name when AutoCAD drawing output. It’s OK not to input if it’s unnecessary.

D) Click the “Add” button and the Indoor unit input on the dialog is added. If the “Add” button is pressed again, another same Indoor unit can be added. Click the “Cancel” button, then the dialog closes.

### 8.1.2 Input Multiple Units at Once

A) Click the button for Multi Input (), then the dialog below appears.




B) Enter the Information on the Series to be Registered.

B-1. Selecting the Series **MUST**

Click the arrow next to the pulldown menu, and select the desired Series.

C) Input the details of Indoor unit which you want to register.

C-1. Select the Type of Indoor Unit. **MUST**

Click the dropdown menu, and select the type of Indoor unit you want to register.

C-2. Input the Quantity of Indoor Unit to register. **MUST**

C-3. Select the Model of Indoor Unit. **MUST**

All models of the selected type are shown in dropdown menu. Select the model. In case you select one of Total/Sensible heat cooling or Total heating, input the demanded capacity of total indoor units to “Total Capacity” field. Press “Select” button and only the satisfied model will appear. Also, the selected model capacity is shown in “Specification” field.

C-4. Input the Group Name. **MUST**

You can enter up to 40bytes. The registered group name is shown in the dropdown menu. It’s possible to select it from the dropdown menu.

C-5. Input the Centralized Control System Name. **MUST**

You can enter up to 20bytes. Give a name to the centralized control system that the refrigerant systems are connected to.

C-6. Input the refrigerant system (Outdoor unit) name. **MUST**

You can enter up to 40bytes. Give a name to the refrigerant system that the indoor unit is connected to.

C-7. Input Description.

You can enter up to 40bytes. Description is the room name of AutoCAD drawing output. It's OK not to input if it's unnecessary.

D) Click the "Add" button and the Indoor units input on the dialog are added. If the "Add" button is pressed again, another same Indoor unit can be added. Click the "Cancel" button, then the dialog closes.

## 8.2. Input Indoor Unit from Unit List File

Indoor units can be registered from unit list file.

### 8.2.1 Unit List Format

Unit list is the file made by CSV format. Each line is separated by separator symbol, and input the data in below order. The separator symbol should be comma or semicolon depending on the Windows setting.

| No | Data Name | Explanation |
|---|---|---|
| 1 | Model Name | Model name to register **MUST** |
| 2 | Quantity | Quantity to register **MUST** |
| 3 | Group Name | Group name of this Indoor unit<br>If you don't input, it is registered with blank. |
| 4 | Outdoor Unit | Refrigerant system (Outdoor unit) name that the indoor unit is connected to.<br>If you don't input, it is registered with blank. |
| 5 | Description | Description for this Indoor unit<br>If you don't input, it is registered with blank. |
| 6 | Centralized Control System | Centralized control system name of the refrigerant system connected to this indoor unit |

It's possible to register not to input Group Name, Outdoor Unit, Description, Centralized Control System. But Group name and Outdoor unit name must be registered later.

The data of outdoor unit, piping element and Controller can't be loaded.

### 8.2.2 Loading Unit List

A) Click "Open CSV File", then the dialog to select a file appears.
Select the CSV file to load.

B) The file will be loaded to Indoor Unit Input Dialog. All indoor units that can't be used at the selected region or the selected frequency are indicated in red. Please modify it separately.

**Caution ! When CSV format file is loaded, the input data, which is already on the**

**window, is deleted.**

## 8.3. Modification, Insert, Delete, Sort

### 8.3.1 Modify the Input Data

In case of modifying the registered data, double click the data line to modify.

Then the dialog to modify appears. Modify the data and click “Apply”.

### 8.3.2 Insert and Register

In case of inserting some data additionally in the list, select the data position to insert, and click the insert button (). Then the dialog to insert “Single Input” appears. Input the indoor unit data and click “Add”.

You can do the same procedure by right-click ‘Insert’.

### 8.3.3 Delete the Registered Data

In case of deleting some data, select the data to delete and click the delete button (). Then the confirmation message appears. Click “OK” if you’re sure to delete.

Select delete button while pressing Shift or Ctrl key, you can delete multiple lines.

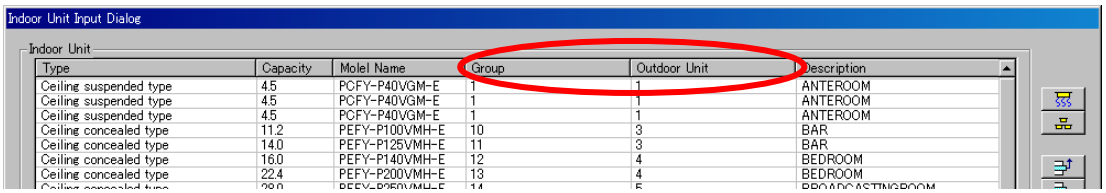
You can do the same procedure by right-click ‘Delete’.

### 8.3.4 Sort the Data

In case of sorting the data in the list, select the data line to move and click the button () once, then the data line moves one line up. Also, click the button () once, then the data line moves one line down.

You can do the same procedure by right-click ‘Up’,’Down’.

And, you can also sort the data with clicking the title “Group” or “Outdoor Unit” in the list.



## 8.4. Move to Piping Design Window

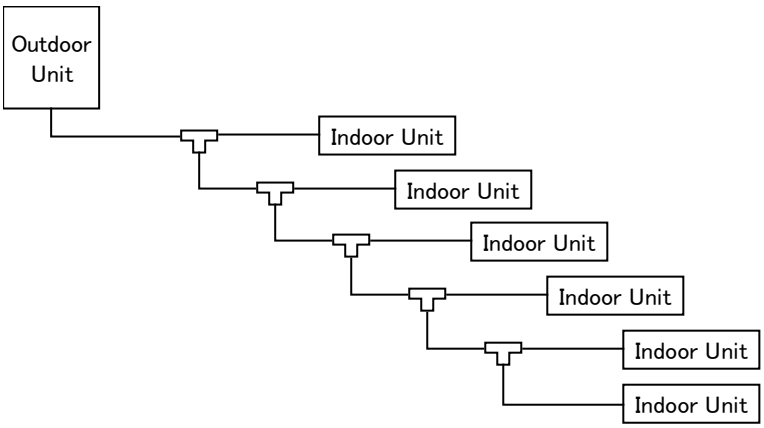
### 8.4.1 Layout the Registered Indoor Unit Automatically

In case of placing the registered indoor unit automatically, check the box of ”Auto Piping” and click “OK”.

Indoor unit is placed as below for each series.

Y Series, S Series, WY Series :

It’s connected by line branching system (Pattern set in line with using Joint).




R2 Series, WR2 Series :

One indoor unit is connected for one branch pipe of BC controller. If the number of indoor unit is more than the number of branch pipe on a single BC controller, use Main and Sub BC controller to connect them instead of Single BC controller.

Note) If there are not enough branch pipes to connect all indoor units even if using Main and Sub BC controller, the rest of the indoor units are put to Indoor Unit Box.

### 8.4.2 Layout the Registered Indoor Unit Manually

In case of placing the indoor units manually, click “OK” without checking the box of “Auto Piping”.

The registered indoor units are placed in Indoor Unit Box of Piping Design window. You can place them from there to Piping Design Window.

# 9. PIPING DESIGN SCREEN

## 9.1. Create the Centralized Control System

At first, create a centralized control system, and create a refrigerant system connected to the centralized control system. Centralized control system appears in the top frame on the screen.

### 9.1.1 Add a New Centralized Control System

When adding a new centralized control system, create it from the menu below.

[Centralized Control] - [New Centralized Control System]

[Menu from the right click] in the top frame- [New Centralized Control System]

### 9.1.2 Copy an Existing Centralized Control System

A new centralized control system can be created by copying an existing centralized control system. Select a centralized control system to be copied and create it from the menu below.

[Centralized Control] - [Copy Centralized Control System]

[Menu from the right click] in the top frame- [Copy System]

### 9.1.3 Delete a Centralized Control System

Select a centralized control system to be deleted and delete it from the menu below.

[Centralized Control] - [Remove Centralized Control System]

[Menu from the right click] in the top frame - [Remove Centralized Control System]

### 9.1.4 Switch a Centralized Control System

To switch a centralized control system, click the centralized control system to be used in the top frame.

## 9.2. Specify the Series

When "New Project (Main View)" is selected on Task Selection Window, one centralized control system is created first, which has one refrigerant system. When "New Project （Indoor Unit Input Dialog）" is selected, indoor units are connected to the centralized control system and its refrigerant system that have been created on Indoor Unit Input Dialog. When "New Project (Room Input Dialog)" or "New Project Open CSV）" is selected, one centralized control system is created first. Also, the refrigerant systems are created with the refrigerant system (outdoor unit) names that have been input on Room Input Dialog. When the refrigerant system (outdoor unit) name has not been input, one refrigerant system is created. After moved to Piping Design Window and a refrigerant system is selected, Series Select dialog box for refrigerant system appears. Series for refrigerant system is set to the series selected here. When the screen is moved to the Piping Design Window from Indoor Unit Input Dialog or after you have input refrigerant system (outdoor unit) name on the Room Input Dialog, the series selected in the Series Select dialog box will be reflected to the first refrigerant system of the first centralized control system set on the Piping Design Window. For other refrigerant systems, the series can be specified when the refrigerant system is first selected.

When the system is designed from indoor unit, the following series cannot be chosen: MUZ/SUZ, PU/PUH/PUHZ, MXZ, Close control, Large capacity floor standing PAC, and DOAS.

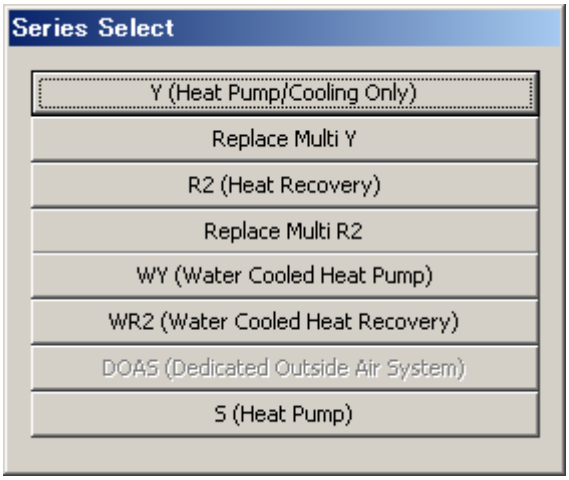
When the screen is moved from Room Input Dialog to the Piping Design Window, selectable outdoor unit series is determined depending on the series of indoor units in the refrigerant system (CityMulti, Slim1:1, and RAC).

When a new centralized control system is created, one refrigerant system is created, and the Series Select dialog is shown.

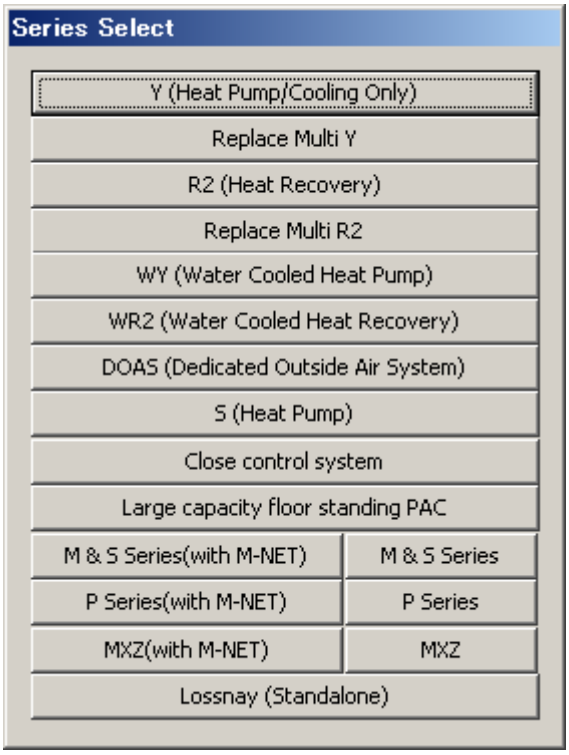
When a centralized control system for stand-alone Lossnay is created, "New Project (Main View)" is selected, or new centralized control system is created, the screen is moved to Control Design Window without creating the refrigerant system by selecting “Lossnay (Standalone).”

**Selecting : New Project(Indoor Unit Input Dialog)**

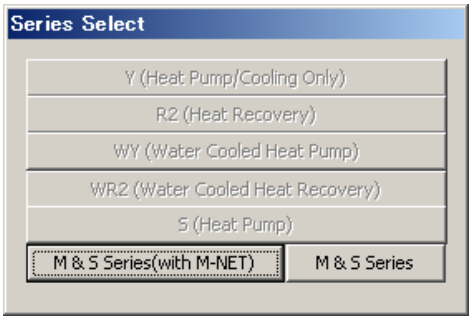
**New Project (Room Input Dialog)**

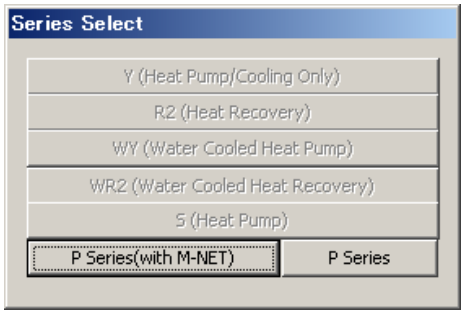



**Selecting : New Project(Main View)**

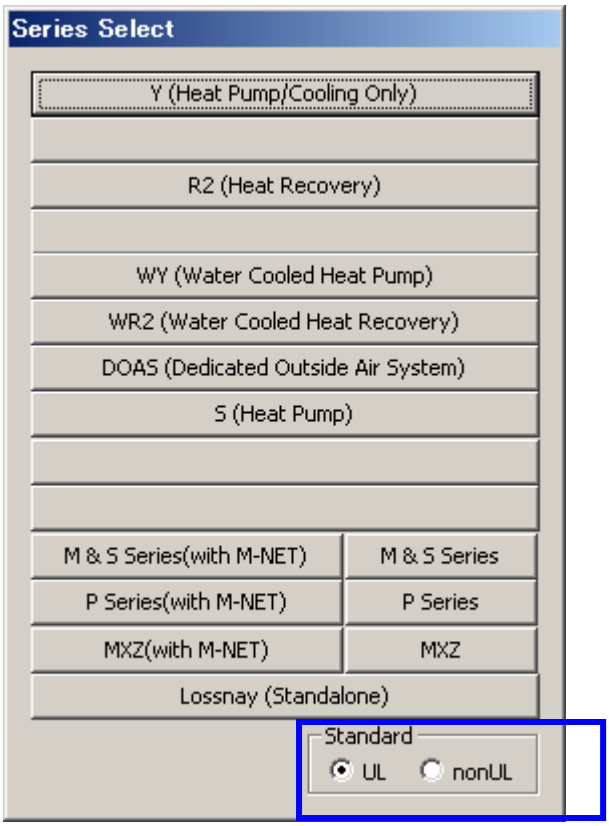



**Selecting : New Project(Room Input Dialog)**



For USA (UL & non-UL), Canada, and Brazil, You need to select which UL model or non-UL model is used.




**Caution ! You can't change the Series selection for the refrigerant system from UL/nonUL, MUZ/SUZ, PU/PUH/PUHZ or MXZ after the setting has finished.**

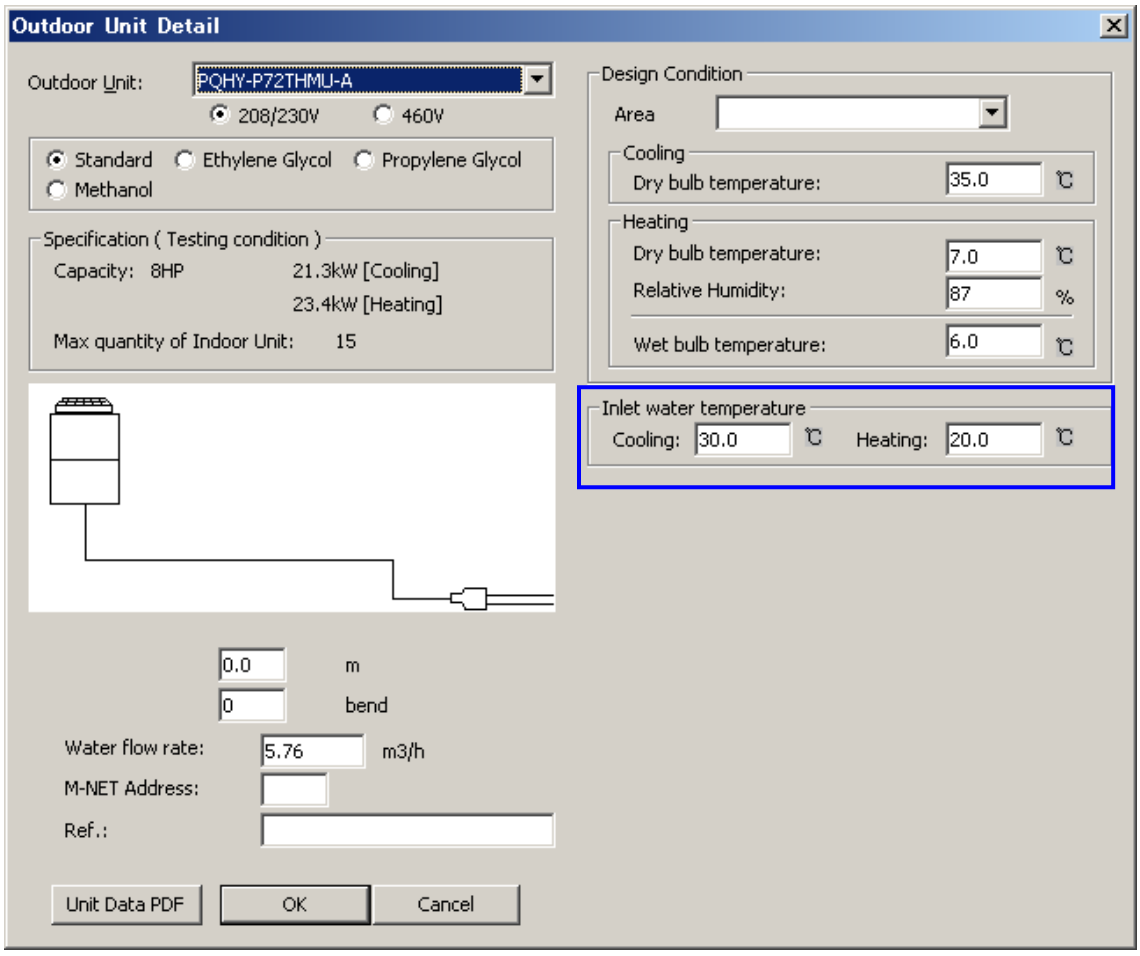
## 9.3. Input Y Series

### 9.3.1 Select Outdoor Unit

If the outdoor unit is set to Manual in the user settings, you see the message to confirm whether you select the outdoor unit manually or not. If you select “Yes”, the window for setting outdoor unit “Outdoor Unit Detail” appears. When "Individual temperature setting for each indoor unit" is selected on Project Property, "Design Condition" appears. If you select “No”, it’s not selected any outdoor unit here.

In the case you select “No”, the outdoor unit is selected automatically after all indoor units are placed.

* "Inlet water temperature" appears when a refrigerant system of water-cooling model is created.




(1) Outdoor Unit **MUST**

Select the outdoor unit model from dropdown menu. If the power supply is selected (from among 208/230, 460, or 575 V), the models are narrowed down according to the selected power supply. The rated capacity of the model and the qty of indoor unit to be able to connect are shown in “Specification (Testing Condition)” section.

(2) Pipe Length

Input the piping length between outdoor unit and next component.

(3) Number of Bent

Input the bent piping qty between outdoor unit and next component.

(4) M-NET Address

Input the address if you want to choose M-NET address of outdoor unit manually.

(5) Ref

Input the reference number for outdoor unit if necessary.

(6) Temperature Setting **MUST**

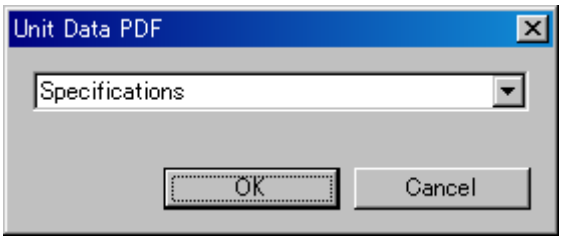
Input the dry and wet bulb temperatures and relative humidity as well as the "Design Condition" on Project Property.

(7) Inlet Water Temperature **MUST**

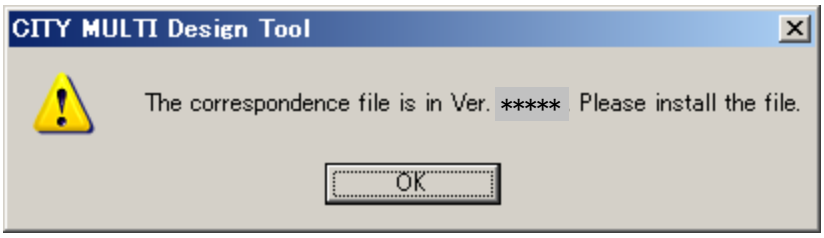
Input the inlet water temperature when creating a refrigerant system of water-cooling model.

(8) “Unit Data PDF” Button

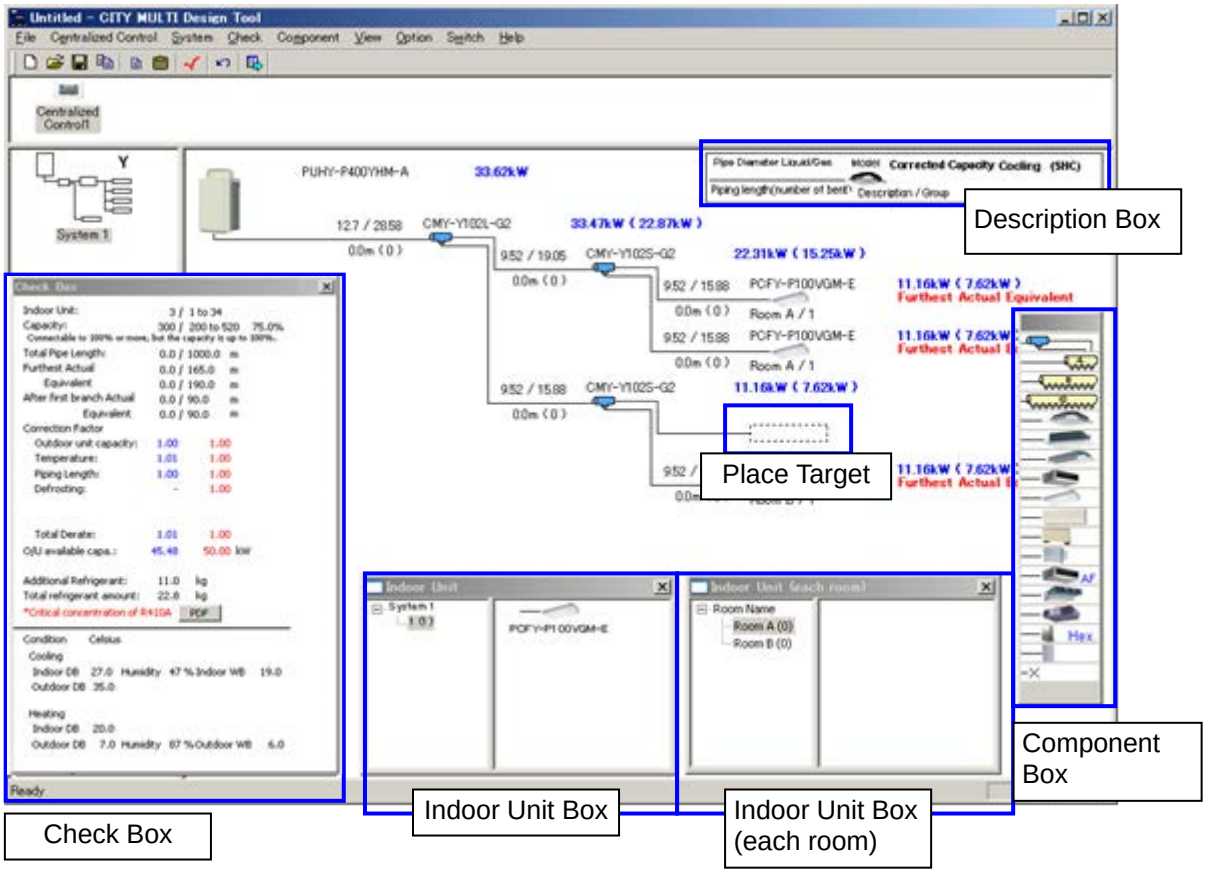
Click “Unit Data PDF” button and the PDF file such as Specification sheet, External Dimensions and Electrical Wiring Diagram of selected model is opened. The below dialog appears after clicked “Unit Data PDF” button, then select the document to see and click “OK”.




If the following message appears, the PDF data has not been installed for the selected model. Install the version of PDF data file indicated in the message.



### 9.3.2 Entry Screen




(1) Top Pane

The list of centralized control systems in the current project is shown.

Select the system to work and the contents are shown in the system (left pane) and system drawing (right pane).

(2) System (Left pane)

The refrigerant system of the selected centralized control system is shown.

Select the system to work and it is shown in the system drawing (right pane).

(3) System Drawing (Right pane)

The refrigerant piping structure of the selecting system is shown. It's created by drag and drop the components such as indoor unit or branch pipe here.

(4) Component Box

Drag and drop the components such as indoor unit, branch pipe from here.

(5) Check Box

You can check the data such as the current setting qty of Indoor unit and the total piping length. The value after slash [/] is a limit value, so input the value within the limit value.

(6) Indoor Unit Box

Indoor units that are input on Indoor Unit Input Dialog are placed here. The list of

Indoor units that are input on Room Input Dialog and have refrigerant system (outdoor unit) name are placed here as well. Group is shown in the left frame. When the group is selected, the unplaced indoor units belonging to the group are shown in the right frame.

Also, the indoor units deleted on System Drawing (right pane) are moved to here. The deleted indoor units can be placed by drag & drop operation from here.

(7) Indoor Unit Box for Each Room

Indoor units that are input on Room Input Dialog without a refrigerant system (outdoor unit) name are placed here. The list of room is shown in the left frame. When a room is selected, the unplaced indoor units belonging to the room are shown in the right frame. In MEUS (UL and non-UL) area, only UL standard indoor units are shown in the indoor unit box in the right pane. The indoor units can be placed by drag & drop operation from here.

(8) Description Box

It's a guide to understand what the value or the word shown on System Drawing (right frame) is.

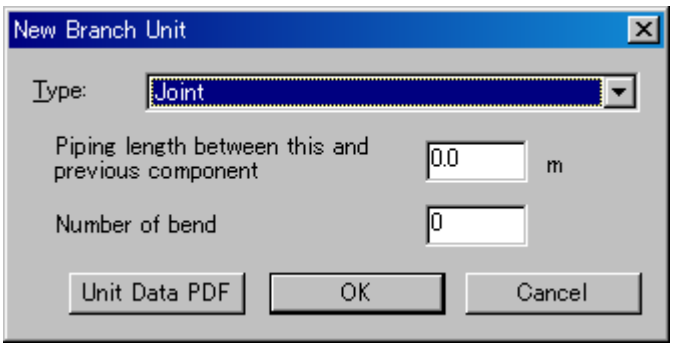
(9) Place Target

Target place of drag and drop for component such as indoor unit or joint is shown by dashed square frame. Drop the component such as indoor unit here to place it.

### 9.3.3 Layout Branch Pipe

To place joint or header, drag and drop joint or header to the place from Component Box.

Input each data to the following dialog and click “OK”.




(1) Type **MUST**

Select the type of branch pipe. The type of the selected branch pipe in Component Box is selected by default.

(2) Pipe Length

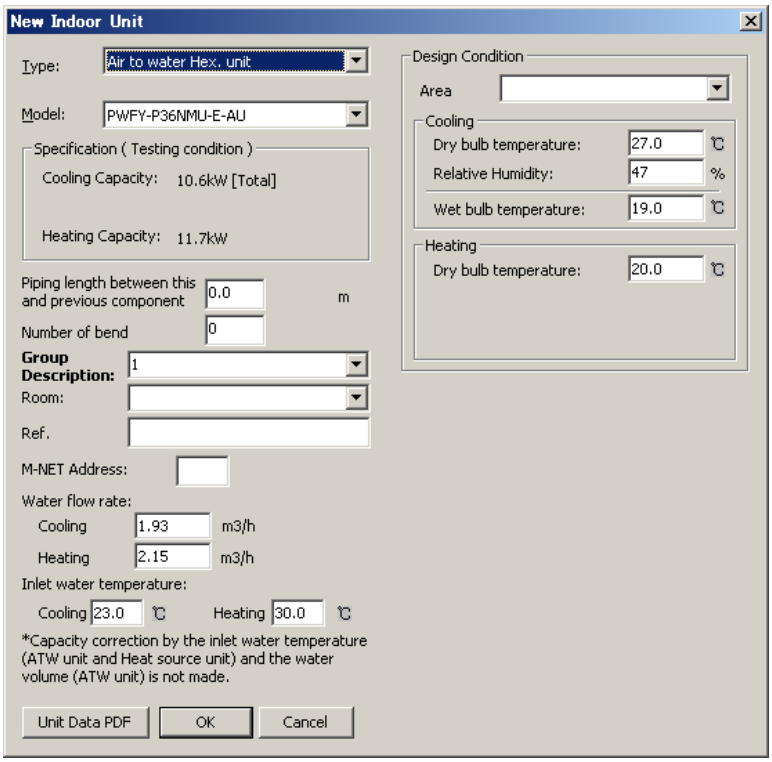
Input the piping length between the branch pipe and the previous component.

(3) Number of Bent

Input the bent piping qty between the branch pipe and the previous component.

### 9.3.4 Layout Indoor Unit

To place indoor unit, drag & drop the icon of the indoor unit to the place from Component Box. Input each data to the following dialog and click “OK”.



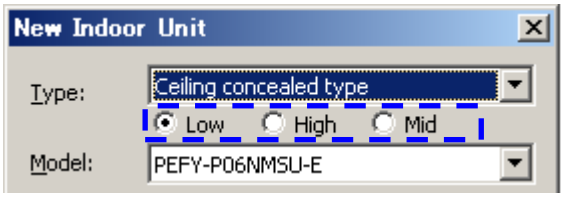

(1) Type **MUST**

Select the type of indoor unit. The type of the selected indoor unit in Component Box is selected as a default.

(2) Model **MUST**

Select the model of indoor unit. The indoor unit list of the selected type is shown in dropdown menu.

If type radio buttons are displayed, the models can be narrowed down by selecting the radio button.




And the rated capacity of the selected model is shown in “Specification (Testing condition)” section.

(3) Piping Length between This and Previous Component

Input the piping length between the indoor unit and the previous component.

(4) Number of Bent

Input the bent piping quantity between the indoor unit and the previous component.

(5) Group Description **MUST**

Input the group name of indoor unit. The existing group number +1 is shown as a default, so please input number in case of changes.

(6) Room

Input the description of indoor unit. It's shown as a room name on AutoCAD output.

(7) M-NET Address

If you want to set the M-NET address of Indoor unit manually, input the M-NET address. In case of automatic setting, do not input the address.

(8) Ref

Input the reference number for indoor unit to be assigned if necessary.

(9) Water Flow Rate

Input water flow rate of indoor unit to be assigned when selecting indoor units for Air to water HEX unit or Booster unit.

(10) Inlet Water Temperature

Input inlet water temperature of indoor unit to be assigned when selecting indoor units for Air to water HEX unit or Booster unit.

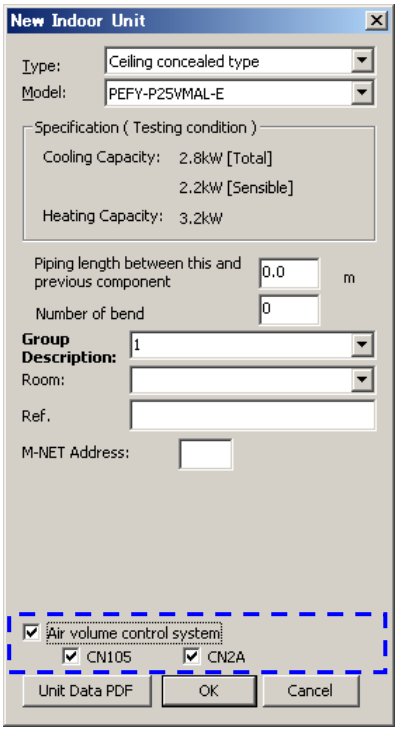
(11) Design Condition

When "Individual temperature setting for each indoor unit" is selected on Project Property, "Design Condition" appears. When Fresh Air Intake type of indoor unit is selected, input the outdoor temperature condition. When other than Fresh Air Intake type of indoor unit is selected, input the indoor temperature condition. The items to be input automatically switches according to the selected indoor unit type. Input the Design Condition of indoor unit to be placed.

#### 9.3.4.1 Setting Air Volume Control System

When Air volume control system is settable, "Air volume control system" appears. When setting Air volume control system, check the checkbox next to "Air volume control system." Then, check at least one of the checkboxes next to the functions to be used.

- CN105: ON/OFF, Cooling/Heating switchover
- CN2A: Air volume control




### 9.3.5 Layout Cap

Place the Cap ( –⨯ ) to the blank box.

### 9.3.6 Insert before the Placed Component

To insert branch pipe before indoor unit etc, select the component and insert branch pipe before the selected component from the menu below.

· [Component] - [Insert Component]

· [Menu from the right click] – [Insert Component]

Also, you can insert branch pipe by drag and drop with holding down the Ctrl key.

### 9.3.7 Copy the Component and Layout

To copy the component and place it, select the component and drag and drop it to the place to copy.

In this case, the all details such as the piping length, the number of bent, the group description and the description are copied.

And if only branch pipe is copied, all components connected under the branch pipe are copied.

### 9.3.8 Delete the Placed Component

To delete the component, select the component and delete from the menu below.

· [Component] - [Remove Component]

· [Menu from the right click] - [Remove Component]

If branch pipe is deleted, all components connected under the branch pipe are deleted. But in case the component under the branch pipe is only one, only the selected branch pipe is deleted.

The deleted indoor units are transferred to Indoor Unit Box. It's possible to place them again to the system from Indoor Unit Box. To delete them from Indoor Unit Box, select the indoor units and delete them from the menu below.

· [Menu from the right click] - [Remove Component]

To reverse the operation to delete, it's possible to reverse from the menu below.

· [Component] - [Undo]

Caution! You can reverse the last action only.

### 9.3.9 Change Model of the Placed Component

To change the model of the component, select the component and display the dialog for changing from the menu below.

· [Component] - [Change Component]

· [Menu from the right click] - [Change Component]

Change the model on the dialog.

Also, you can change it with selecting the new component from Component box and drag and drop it to the component to change.

### 9.3.10 Change the Details of the Placed Component

To change the component details such as the piping length, the number of bent, the group descriptions and the description, select the component and display the dialog for changing from the menu below, and change.

· [Component] - [Detail]

· [Menu from the right click] - [Detail]

Also, you can change it with double click the component to change.

### 9.3.11 Move the Placed Component

To move the component to the other place, select the component and drag and drop it to the destination with holding down the Shift key.

In case of moving branch pipe, all components connected under the branch pipe are moved together.

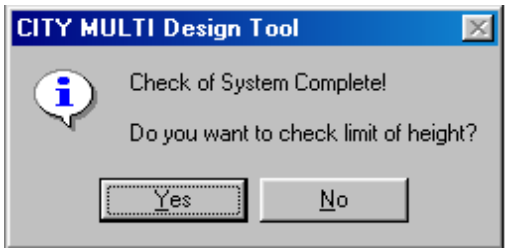
### 9.3.12 Check the System Structure

It can be checked if the system structure has any problem or not from the menu below.

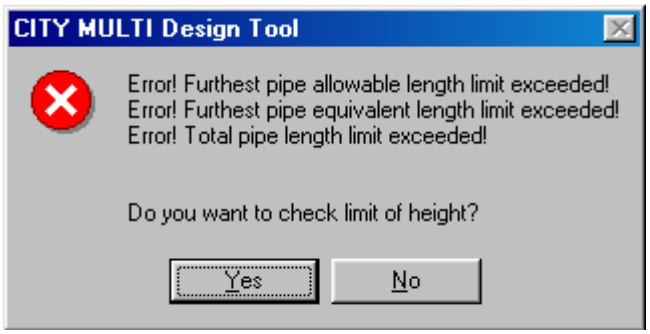
· [Check] - [Check System]

· Button on Tool bar

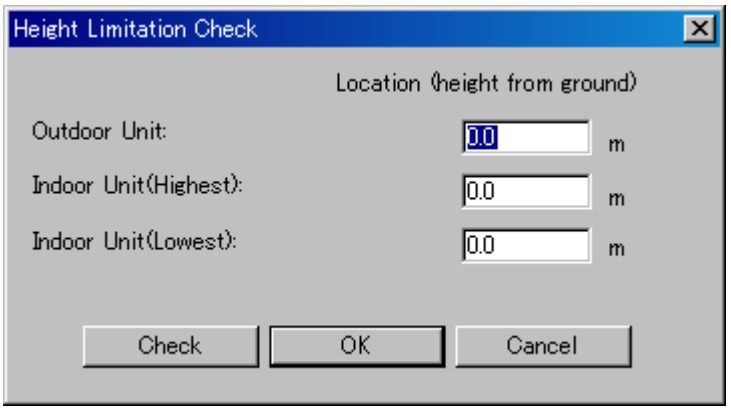
If there's no problem on the system structure, the following message appears.




If there's some problem on the system structure, the error message for the problem appears. Refer to the error message and modify it.




Also, you can check the height limitation. To check it, select [YES (Y)]. The dialog to input the component's height appears and input the each height, and then click [Check].




(1) Outdoor Unit

Input the height of the outdoor unit from ground.

(2) Indoor Unit (Highest)

Input the height of the indoor unit placed on the highest position from ground.

(3) Indoor Unit (Lowest)

Input the height of the indoor unit placed on the lowest position from ground.

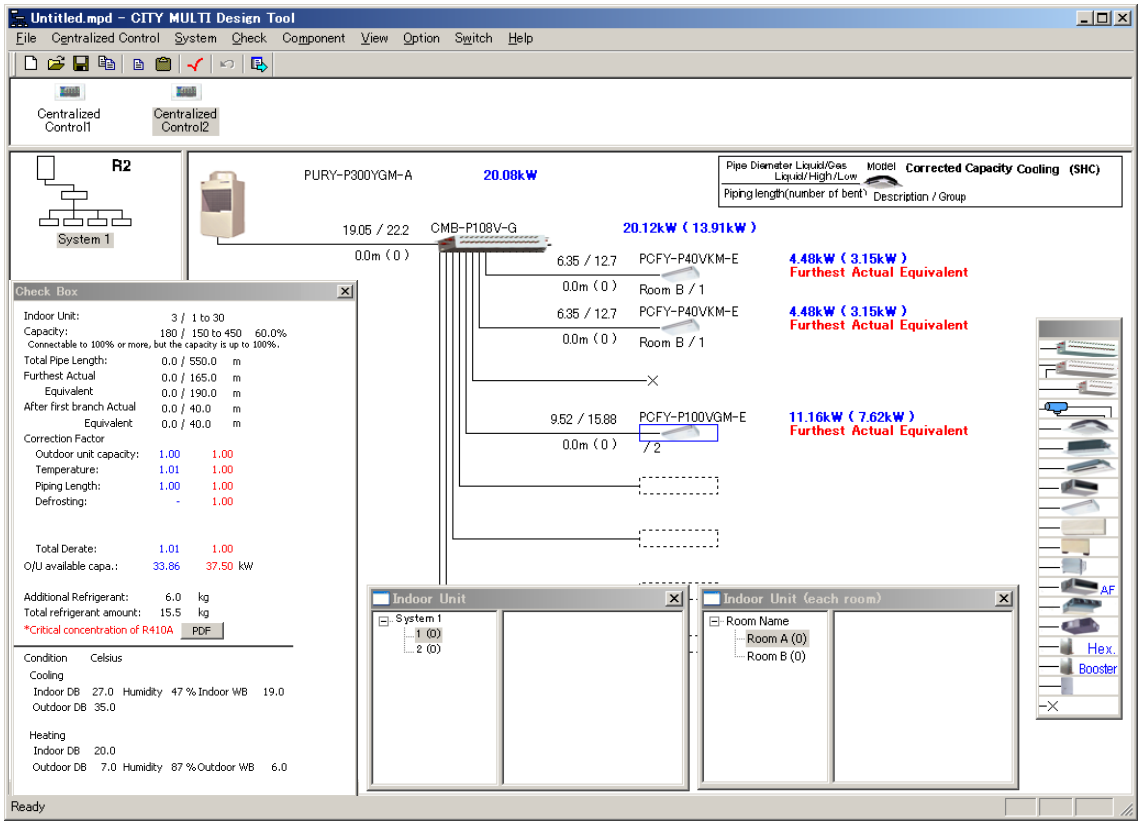
### 9.3.13 Outdoor Unit Reselection Automatically

In case of not selecting the model of outdoor unit manually when Refrigerant System created, the model of outdoor unit is selected automatically based on the indoor unit capacity after all indoor units are placed. To select again the model of outdoor unit automatically, execute the menu below.

· [System] - [Outdoor Unit Auto Select]

But, it can’t do the reselection automatically if the blank space for the setting location is still left in Refrigerant System.

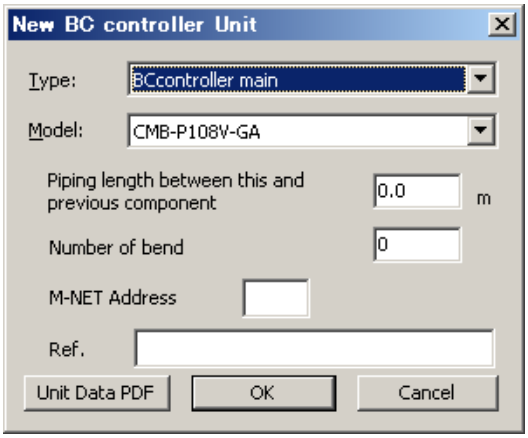
## 9.4. Input R2 Series



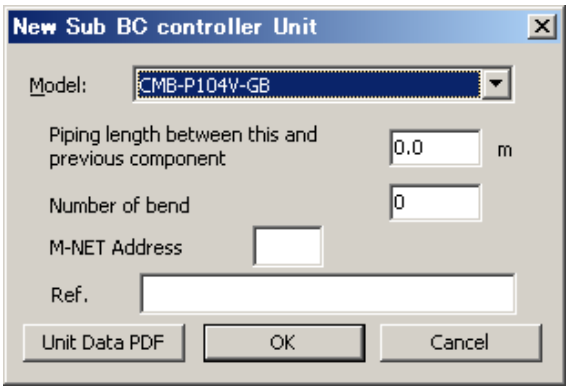

The basic operation is the same as it for Y series. Please refer to the operation for Y series.

### 9.4.1 Layout BC Controller/Water System Connection Box (WCB)

To place BC controller or WCB, select the BC controller from Component Box and drag and drop it. When Main or Single BC controller or WCB is selected, the following dialog appears. Input each data on this dialog and click “OK”.




In case you select Sub BC controller, the following dialog appears. Input each data on this dialog and click “OK”.




(1) Type **MUST**

Select the type of BC controller (Main, Single, or WCB).

Note) There's no selection of Type for Sub BC controller.

(2) Model **MUST**

Select the model of BC controller.

(3) Piping Length between This and Previous Component

Input the piping length between the BC controller and the previous component.

(4) Number of bent

Input the number of bent between the BC controller and the previous component.

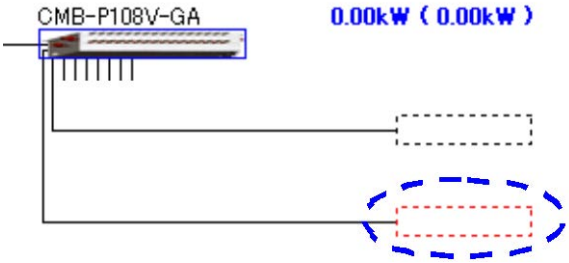
(5) M-NET Address

If you want to set the M-NET address of BC controller manually, input the M-NET Address. In case of automatic setting, do not input the address.

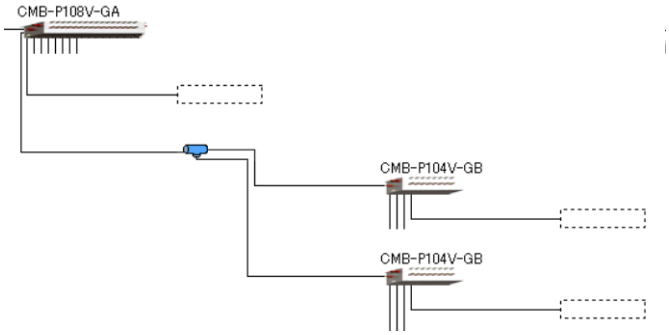
(6) Ref

Input the reference number for BC controller to be assigned if necessary.

Furthermore, Sub BC controller can be connected to the following place only that is framed by the red dashed line under BC controller.




And, in case of using two Sub BC controllers, place joint to the place framed by the red dashed line under BC controller first, and connect Sub BC controllers to the Joint.



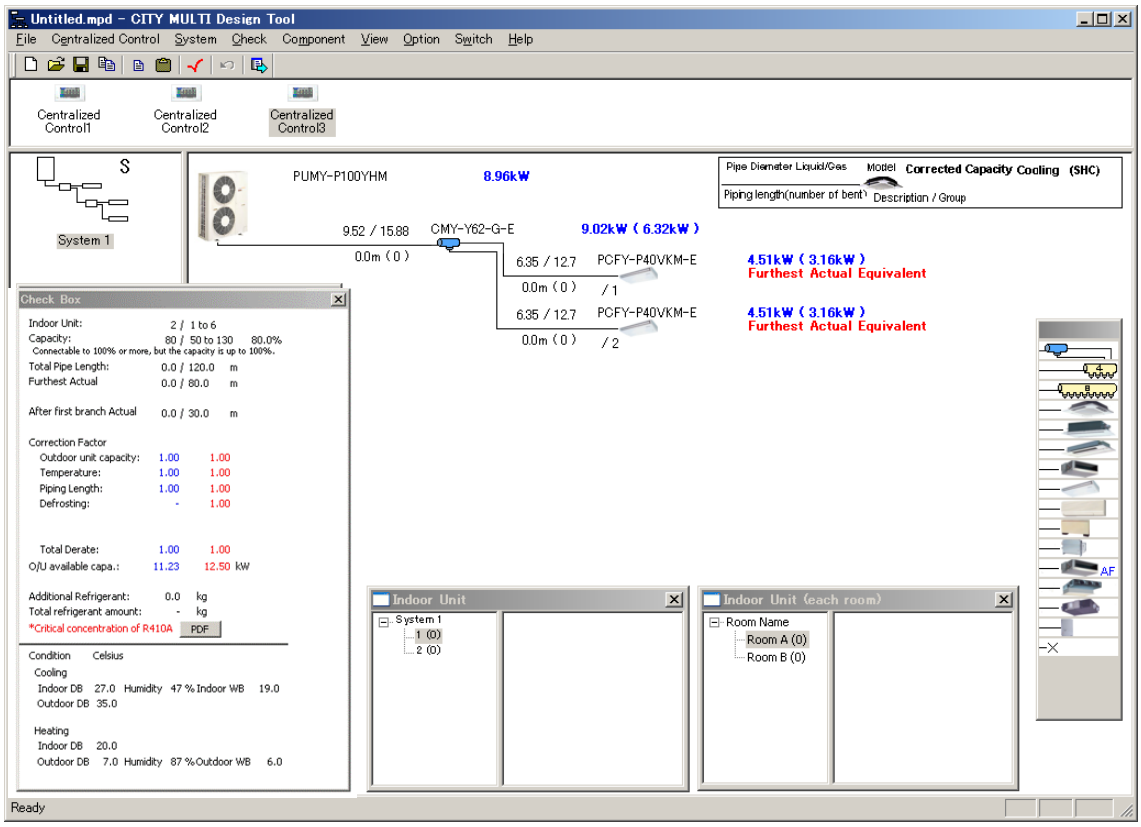

### 9.4.2 Delete Junctions

For R410A models, when the total capacity of connected indoor units for one branch pipe is 81-140, one port connection is possible with the capacity loss of 3%. In this case, the junction that is automatically assigned can be deleted by selecting the BC controller from the following menu.

[Component] - [Release]

[Menu from the right click]– [Release]

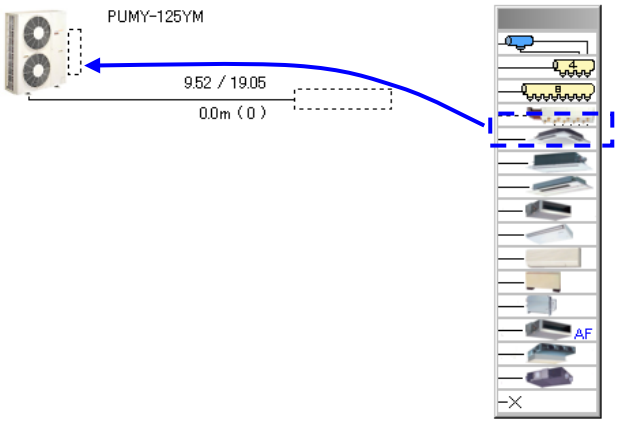
## 9.5 Input S Series



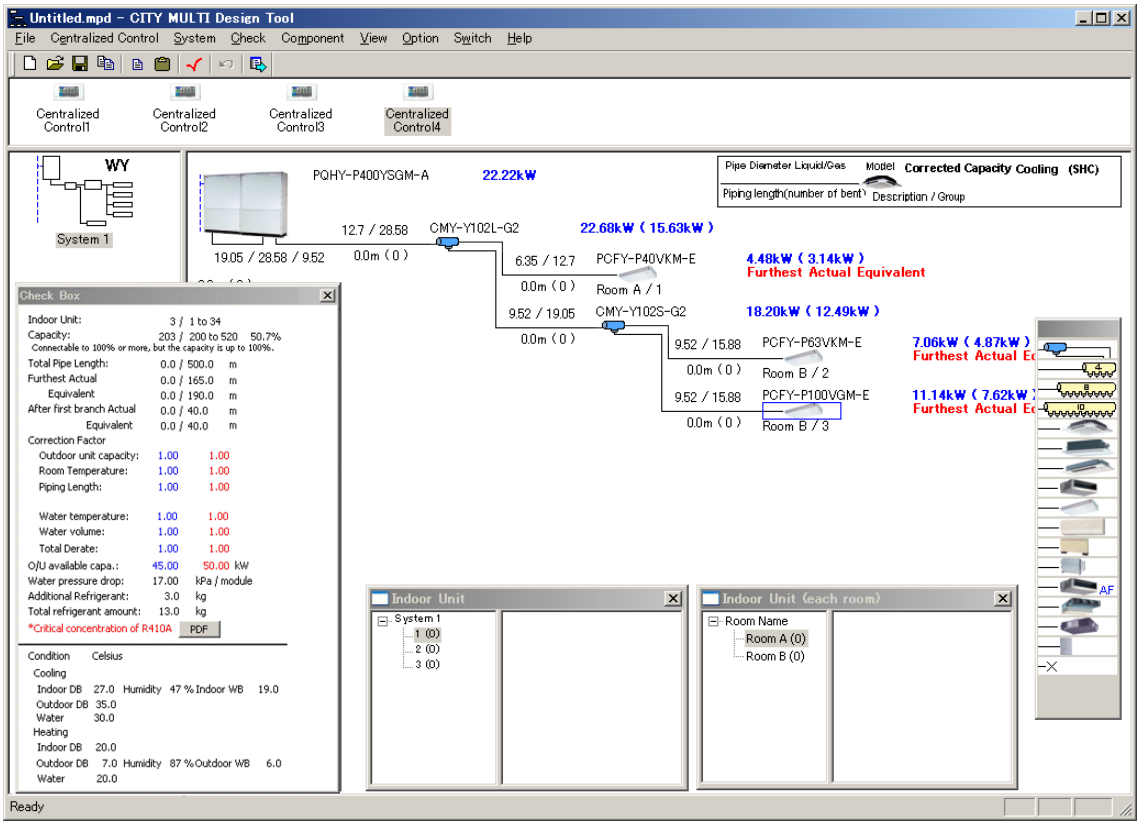

The basic operation is the same as it for Y series. Please refer to the operation for Y series.

### 9.5.1 Layout Multi-Distribution System

In case of using Multi-distribution system, select Multi-distribution element from Component box and drag and drop it to the right side of the outdoor unit.



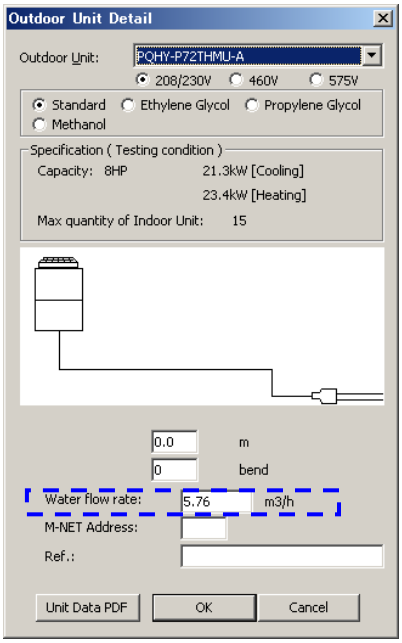

## 9.6. Input WY Series




The basic operation is the same as Y series. Please also refer to the operation for Y series.

### 9.6.1 Setting for Water Flow Rate

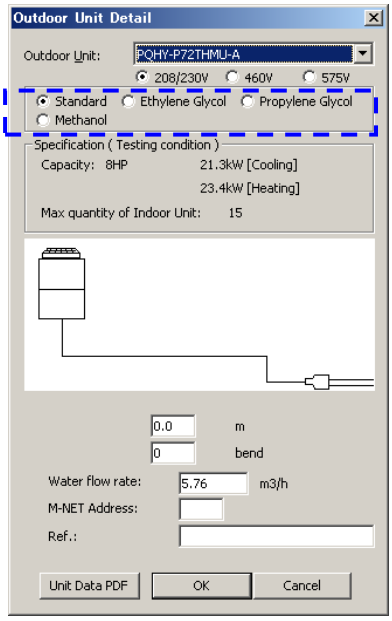
For the series of heat source unit, the water flow rate must be set. Input the water flow rate at the screen of Outdoor Unit Detail.



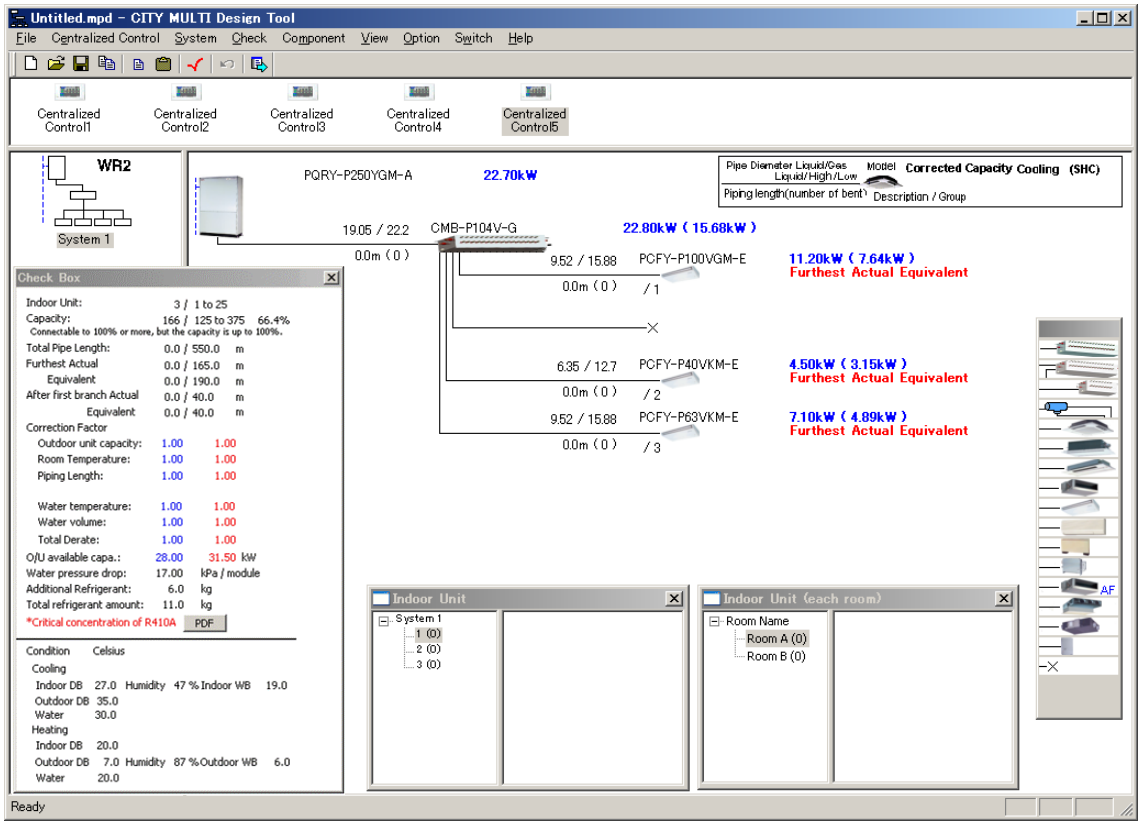

When selected the outdoor unit model, the rated value of the selected model is automatically set.

### 9.6.2 Setting Antifreeze (Brine)

When an antifreeze (brine) is settable, the setting field appears on the Outdoor Unit Detail window. Select an antifreeze (brine) to be used.



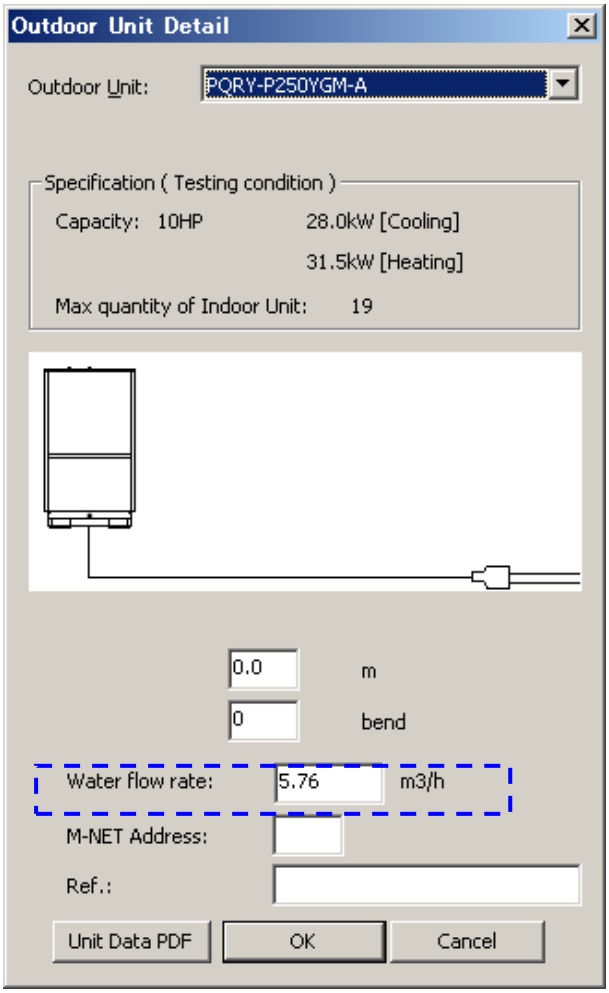
## 9.7. Input WR2 Series




The basic operation is the same as R2 series. Please also refer to the operation for R2 series.

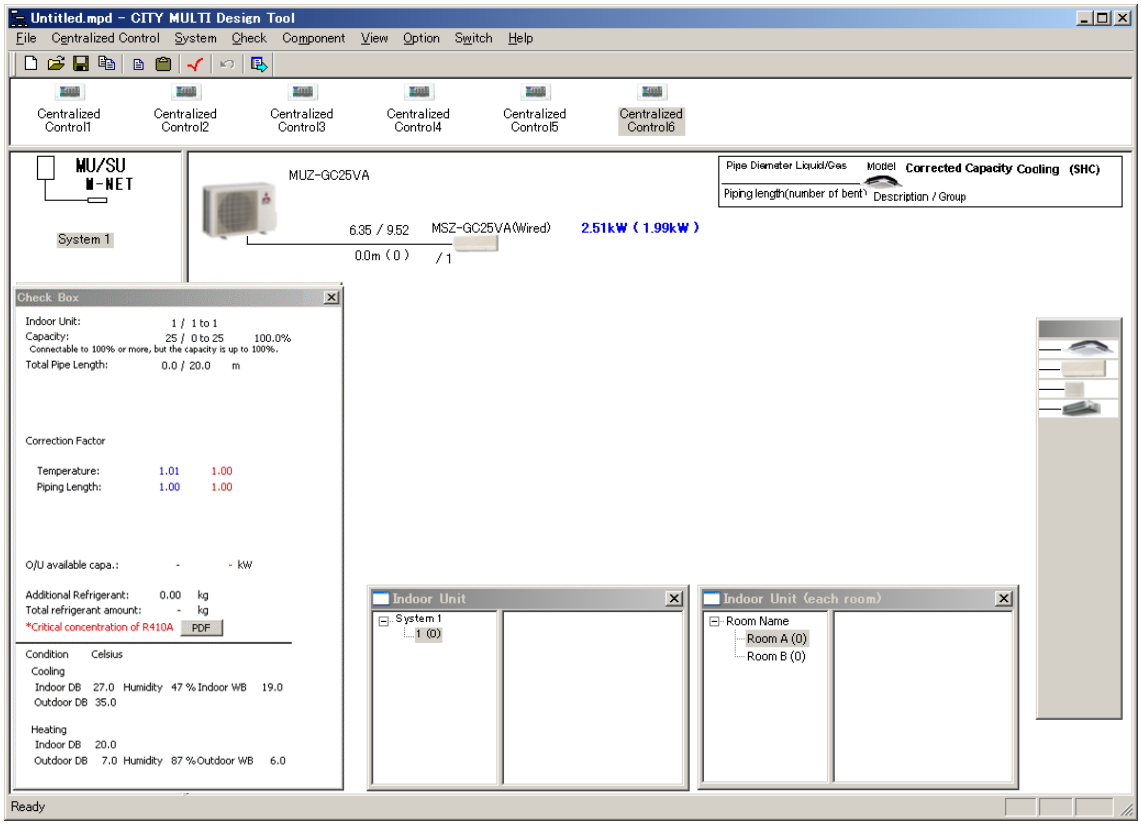
### 9.7.1 Setting for Water Flow Rate

For the series of heat source unit, the water flow rate must be set. Input the water flow rate at the screen of Outdoor Unit Detail.




When selected the outdoor unit model, the rated value of the selected model is automatically set.

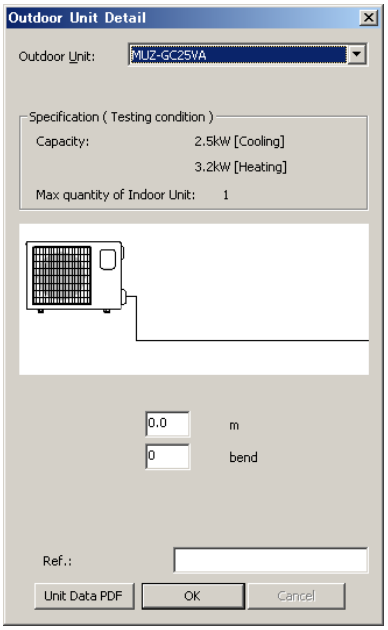
## 9.8. How to Make MUZ/SUZ System




Basic operation is same as in case of Y series. Please refer to the manual of Y series.

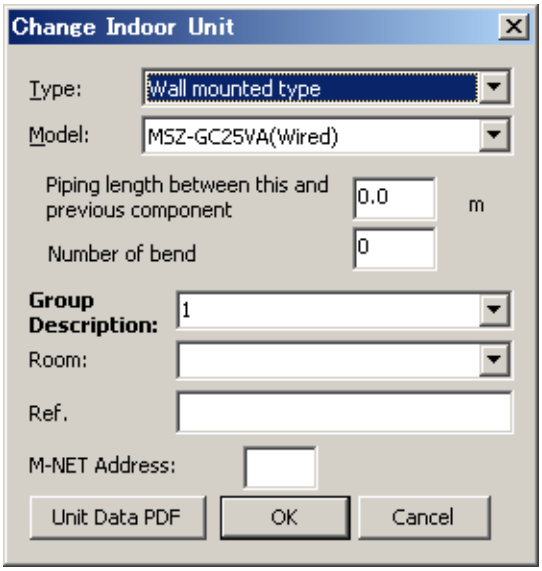
### 9.8.1 Selection of Outdoor Units

When the MUZ/SUZ are chosen, the dialog for outdoor unit is shown on the screen. It is necessary for MUZ/SUZ series to select the model name.

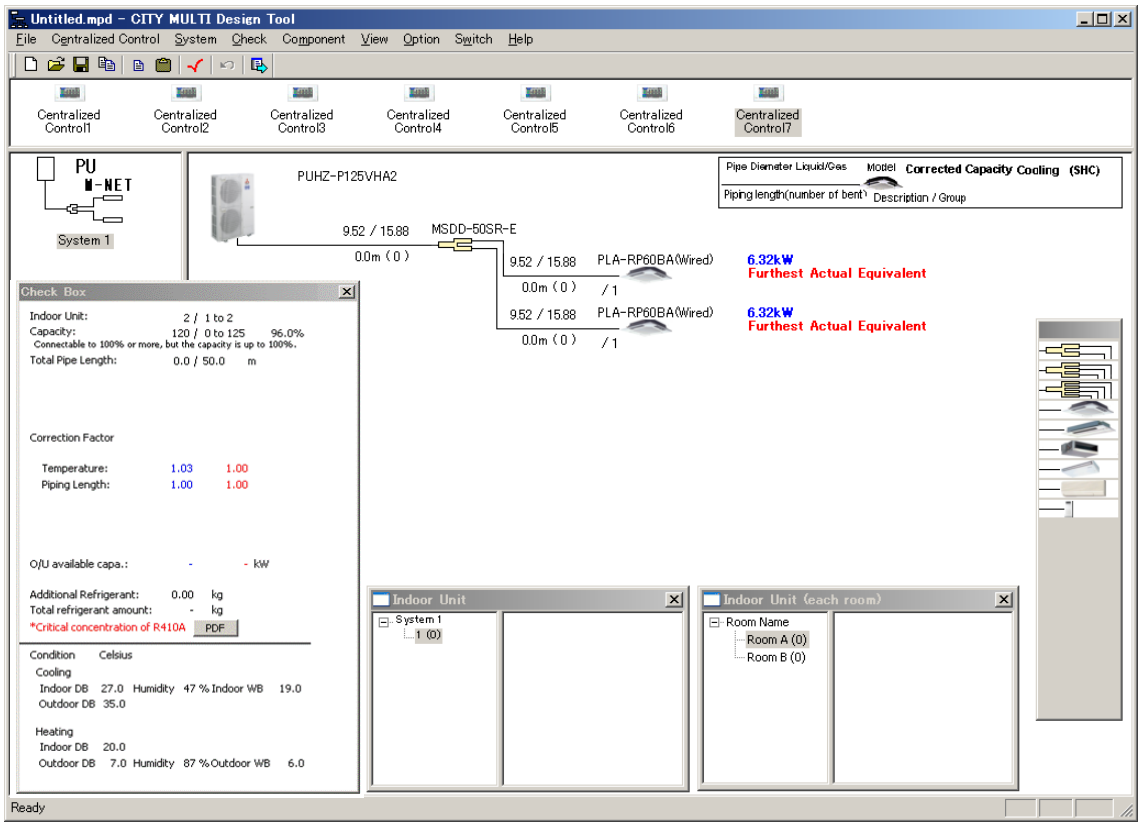


### 9.8.2 Selection of Indoor Units

Please select indoor unit type in the component box and drag and drop on the location for indoor unit. Then the dialog for indoor units is shown. Please insert the data and press [OK].



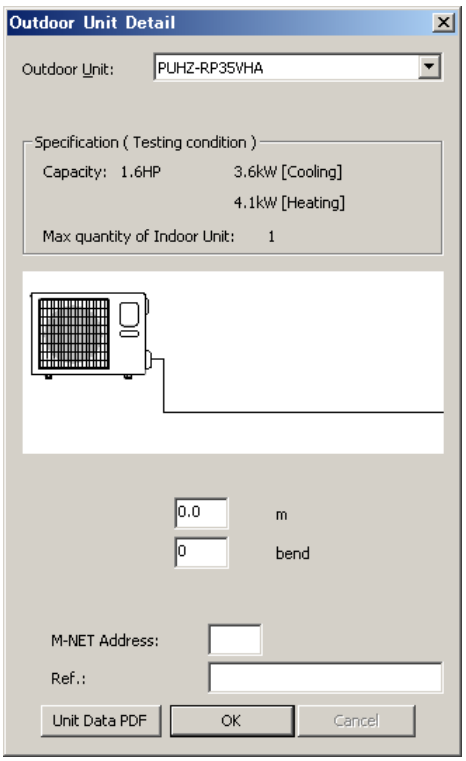

## 9.9. How to Make PU/PUH/PUHZ System




Basic operation is same as in case of Y series. Please refer to the manual of Y series.

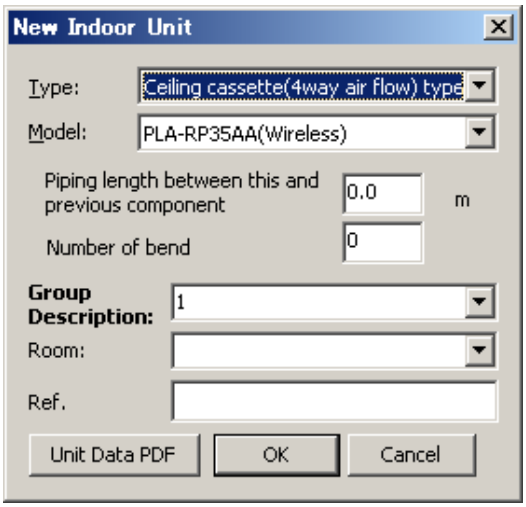
### 9.9.1 Selection of Outdoor Units

When the PU/PUH/PUHZ are chosen, the dialog for outdoor unit is shown on the screen. It is necessary for PU/PUH/PUHZ series to select the model name.



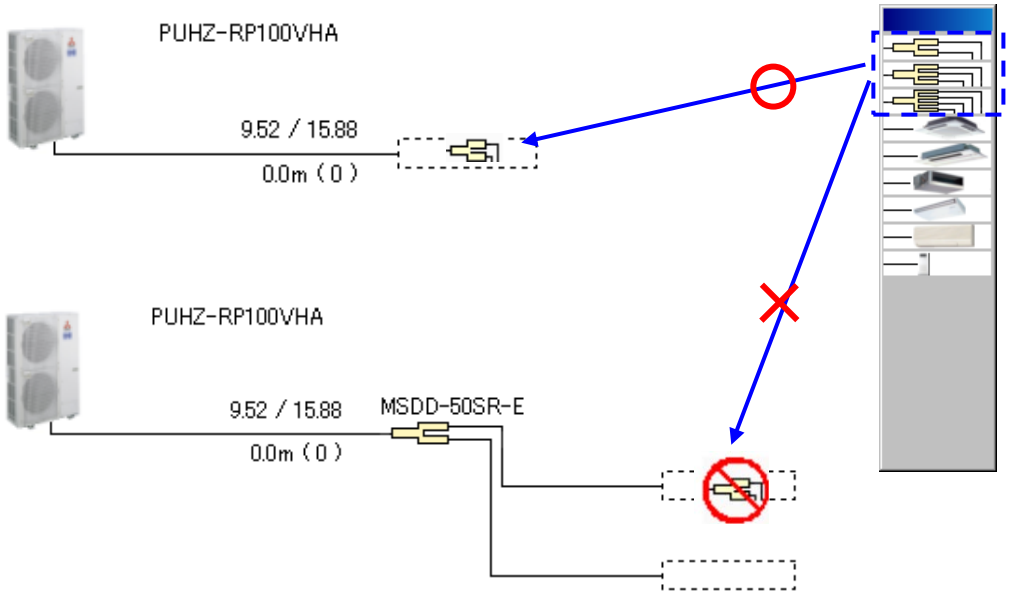

### 9.9.2 Selection of Indoor Unit

Please select indoor unit type in the component box and drag and drop on the location for indoor unit. Then the dialog for indoor units is shown. Please insert the data and press [OK].

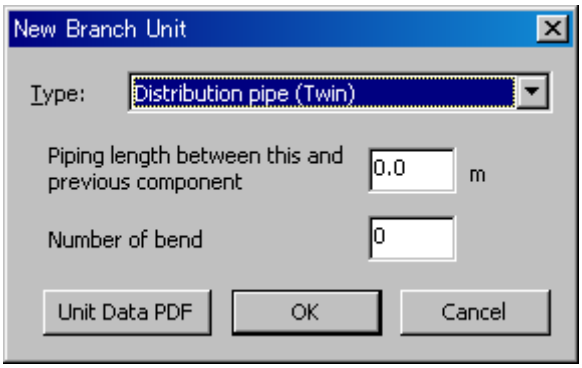


### 9.9.3 Selection of Distribution Pipe

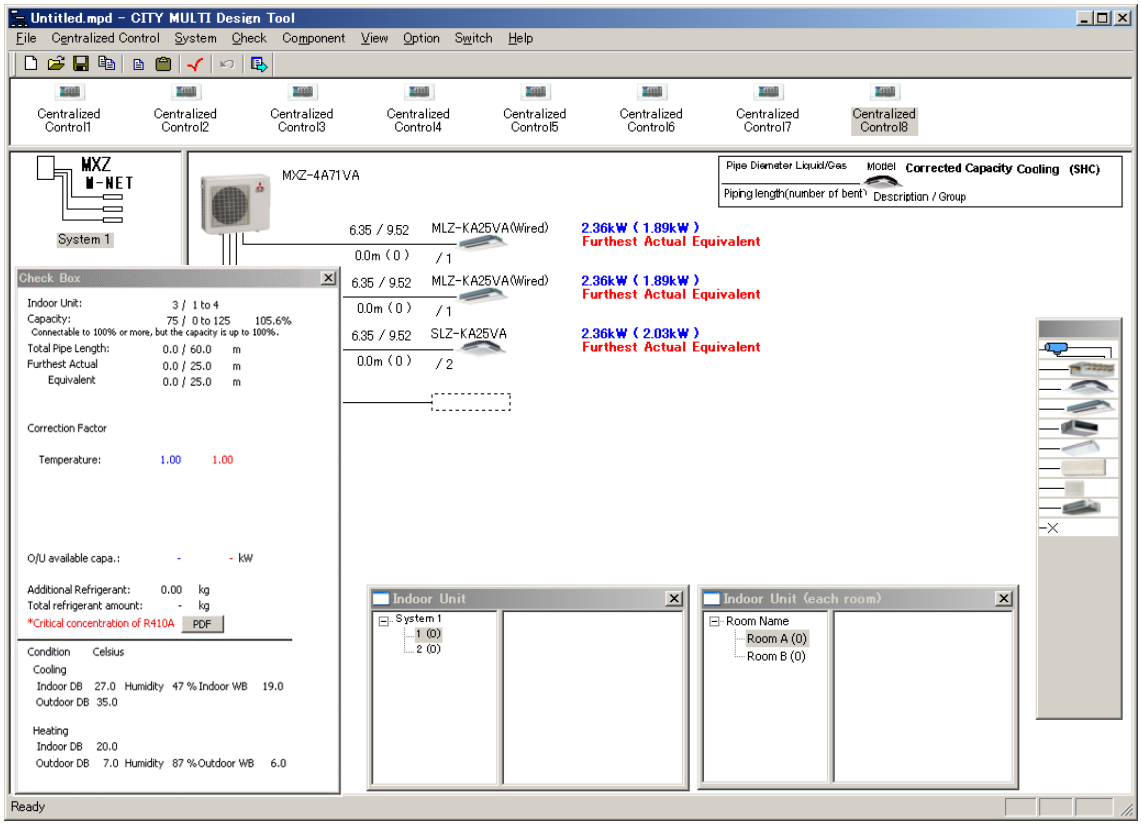
In case outdoor units which can be used for multiple indoor unit's system is selected, distribution pipe for multiple indoor unit's system can be set. If the system can not be approved for multiple indoor unit's system or the distribution pipe can't be placed, the distribution pipe can not be set.




Input each data to the following dialog and click "OK".



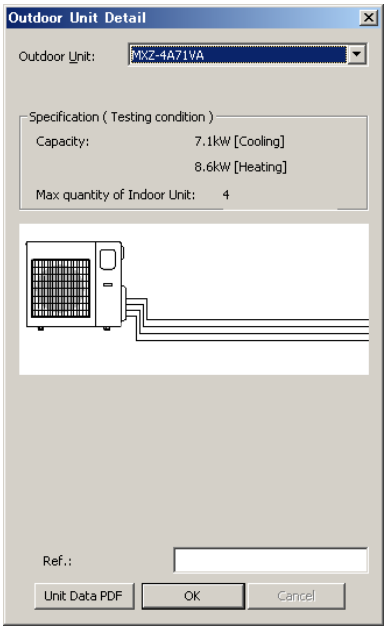
## 9.10. How to Make MXZ System




Basic operation is same as in case of Y series. Please refer to the manual of Y series

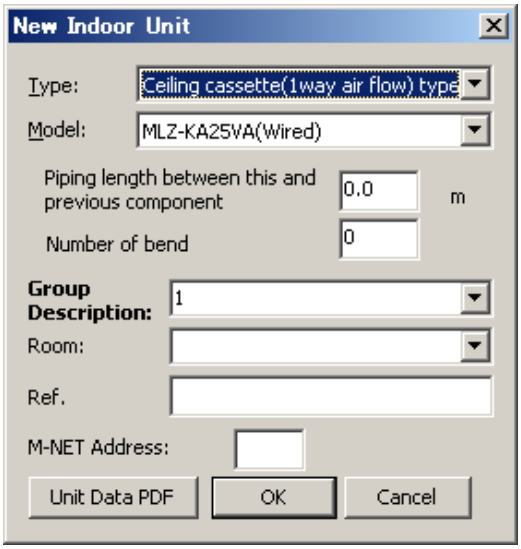
### 9.10.1 Selection of Outdoor Unit

When the MXZ are chosen, the dialog for outdoor unit is shown on the screen. It is necessary for MXZ series to select the model name.



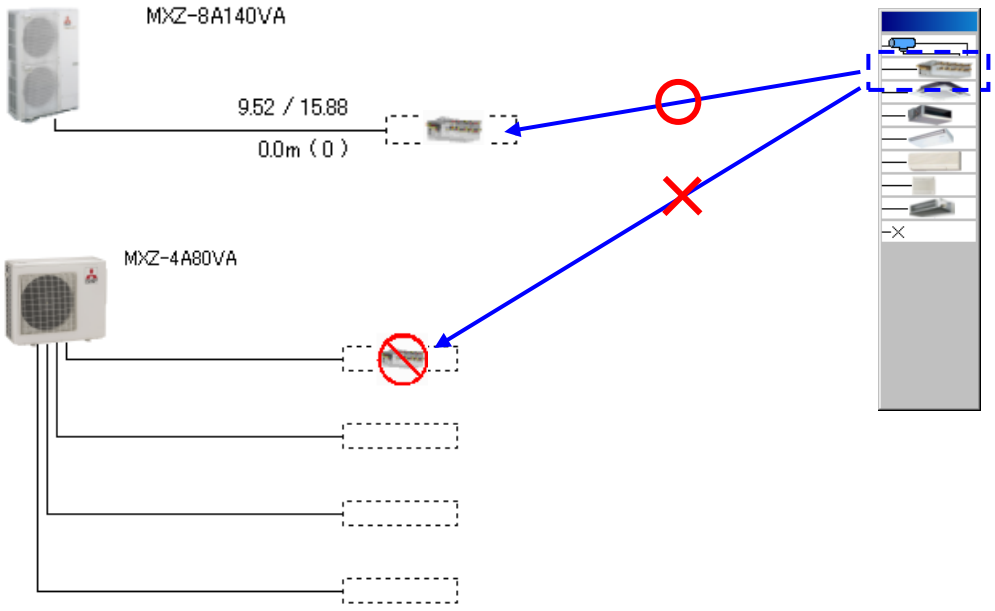
### 9.10.2 Selection of Indoor Unit

Please select indoor unit type in the component box and drag and drop on the location for indoor unit. Then the dialog for indoor units is shown. Please insert the data and press [OK]

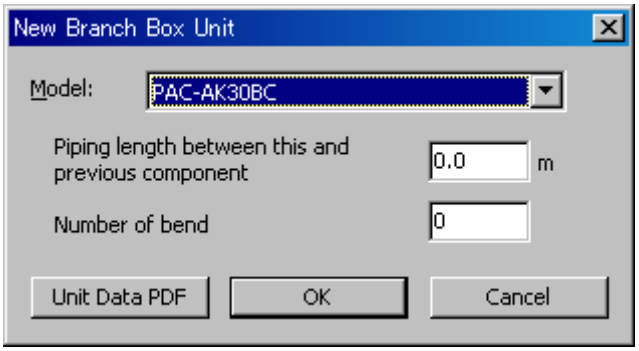



### 9.10.3 Selection of Branch Box

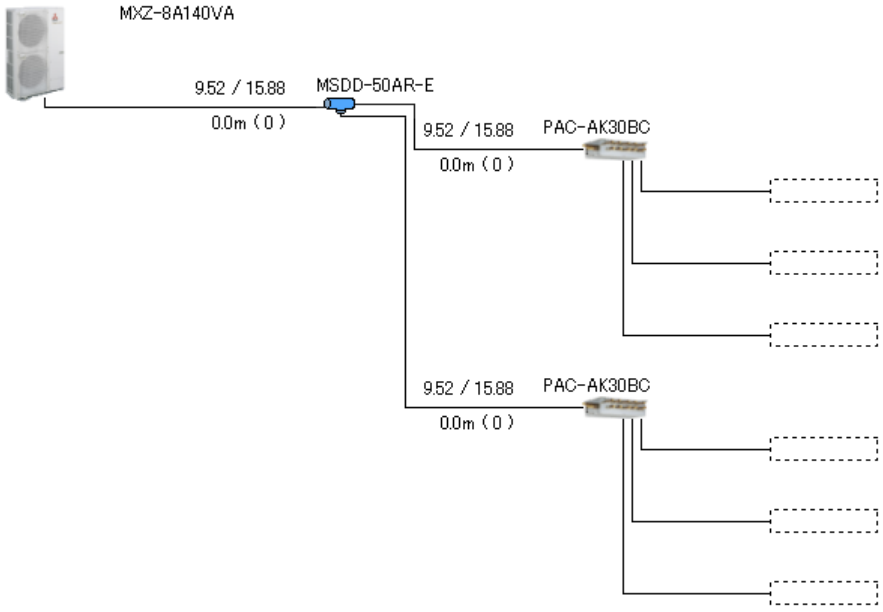
In case MXZ-8A140VA is selected, the branch box must be set in the system. From component box, please select and set the branch box. (Branch box (PAC-AK30 or 50) is used for MXZ-8A140 only)



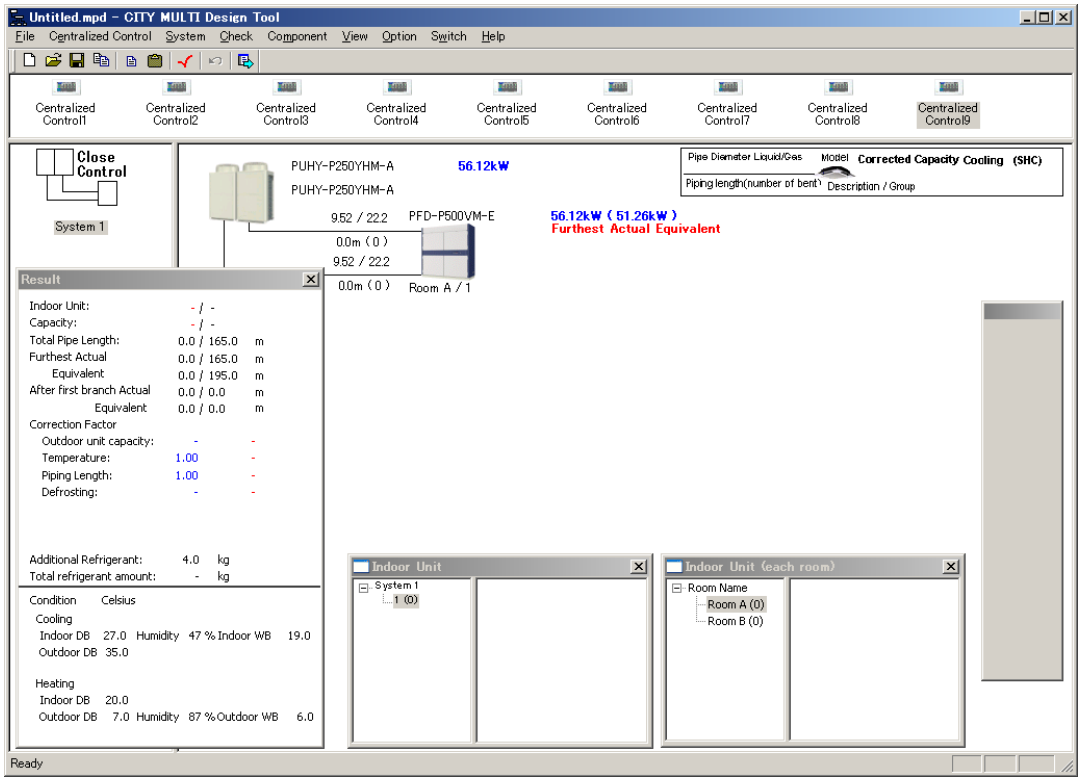

When branch box is set on the screen, the dialog is shown. Please insert the data and press [OK]




In case 2 units of branch box are needed, the joint pipe (MSDD-50) is necessary to set as below.



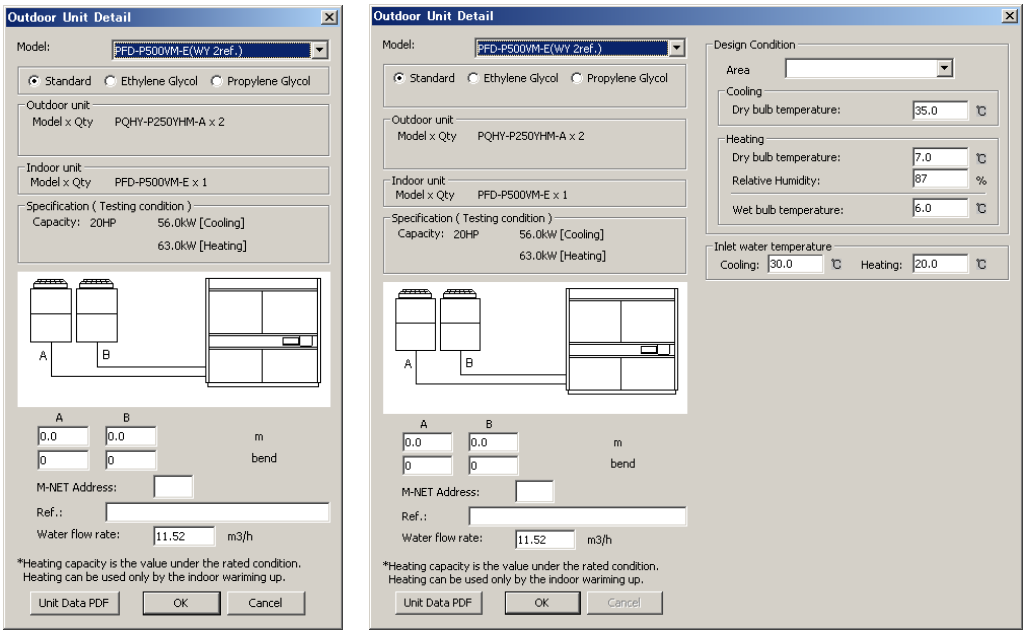
## 9.11. Input Close Control Series




The basic operation is the same as Y series. Please refer to the manual of Y series.

### 9.11.1 Selecting Indoor Unit

When close control system is chosen, the dialog for indoor unit (outdoor unit to be connected) appears on the screen. Select the Model of indoor unit, and the outdoor unit is selected automatically. When "Individual temperature setting for each indoor unit" is selected on Project Property, "Design Condition" appears.



(1) Model

Select the model name of indoor unit (outdoor unit to be connected) from the pull-down menu.

For selected model, the model name and No. of the units are shown in the column "Outdoor unit" or "Indoor unit" respectively. Also, the rated capacity is shown in the column "Specification（Testing Condition）."

(2) Antifreeze

When WY series unit is selected for the outdoor unit to be connected and an antifreeze can be selected for the unit, the setting field appears. Select the antifreeze to be used.

(3) Maximum Piping Length

Input the piping length between the outdoor unit and next component.

(4) Number of Bent

Input the number of bent between the outdoor unit and next component.

(5) M-NET address

If you want to set the M-NET address of outdoor unit manually, input the M-NET address.

(6) Ref

Input the reference number for outdoor unit if necessary.

(7) Water Flow Rate

When WY series unit is selected for the outdoor unit to be connected, input the water flow rate.

(8) Design Condition

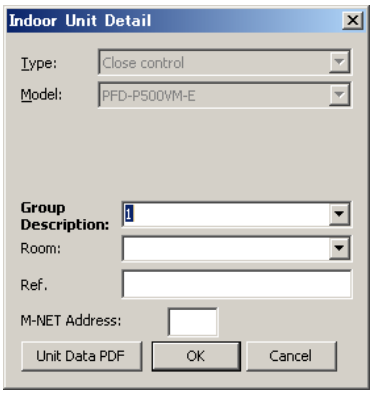
When "Individual temperature setting for each indoor unit" is selected on Project Property, "Design Condition" appears. Input the Design Condition of indoor unit to be placed.

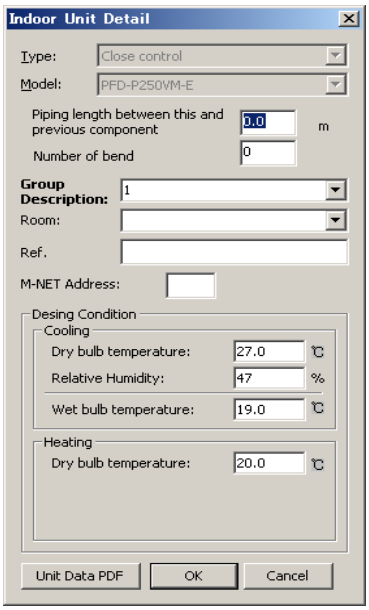
(9) "Unit Data PDF" button

Click the "Unit Data PDF" button to see the PDF files including the specifications of selected model.

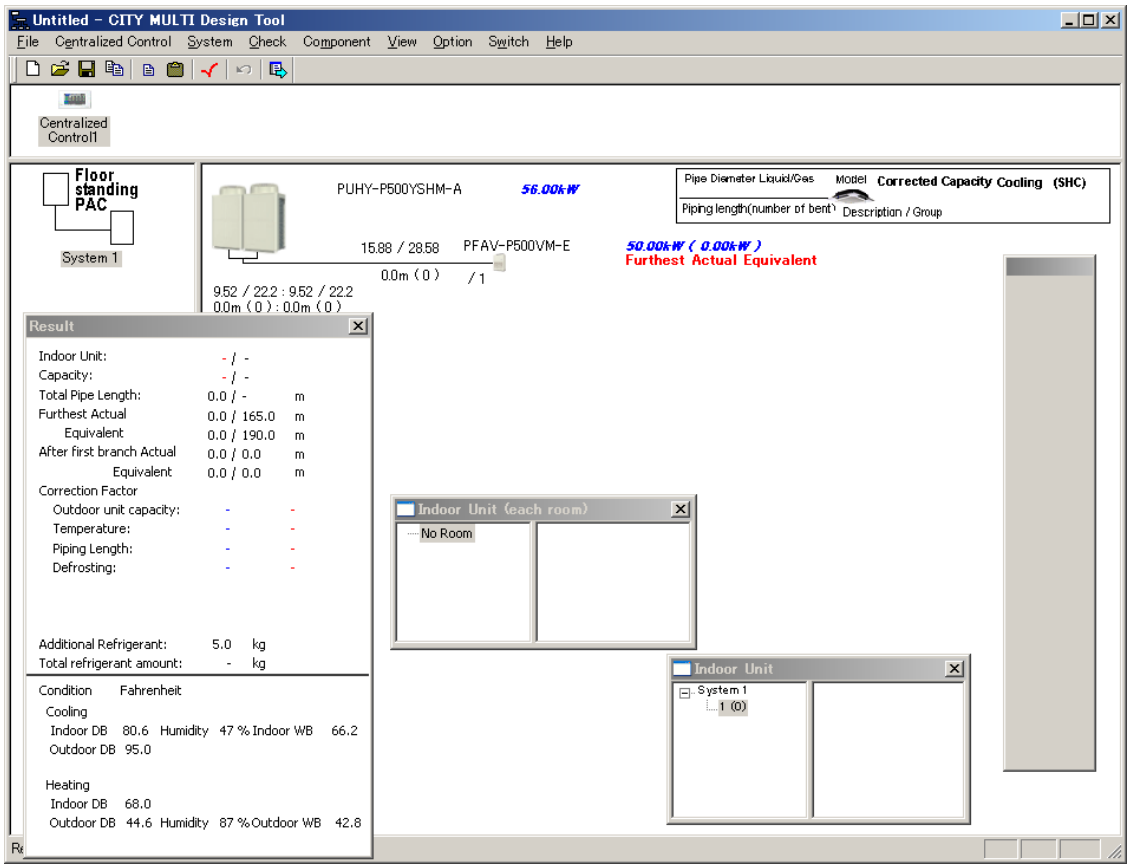
### 9.11.2 Change the Indoor Unit Information

To change the assigned indoor unit group, Room, Ref, M-NET address, or Design Condition, double-click the target indoor unit or select the indoor unit, and go to [Details] in the [Component] menu.




## 9.12. Input Large Capacity Floor Standing PAC Series



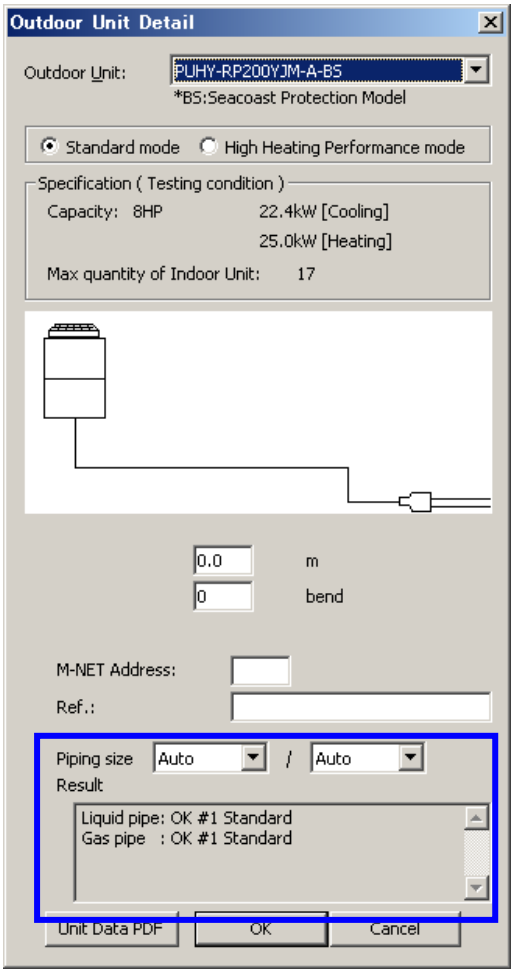

The basic operation is the same as Close control series. Please refer to the manual of Close control series.

## 9.13. Input Replace Y series

The basic operation is the same as Y series. Please refer to the manual of Y series.

### 9.13.1 Existing Replace Multi Piping Judgment

When outdoor unit is Replace Y or Replace R2 series, piping size column appears.




When using Replace Multi piping judgment, input the existing piping size. When setting the standard piping size without evaluating the reusability of the existing piping, select “Auto.” After determining the input, evaluation results will appear in Result column as follows.

| Mark | Mark | Evaluation |
|---|---|---|
| #1 | ◎ | Standard |
| #2 | ● | Usable (Unit performance will be affected.)<br>This tool does not support pipe diameter correction factor.<br>Consult your dealer for details. |
| #3 | △ | Usable (Refrigerant charge amount limit will apply.)<br>When judgment is OK, it is connectable within specification, but when judgment is NG, it is not connectable. |

| | | |
|---|---|---|
| #4 | ▲ | Usable (Piping length limitation will apply.)<br>When judgment is OK, it is connectable within specification, but when judgment is NG, it is not connectable. |
| #5 | ○ | Usable (Vertical separation between OU and IU to be 20 m or less)<br>This tool cannot check vertical separation limit.<br>Consult your dealer for details. |
| #6 | × | Not use |

## 9.14. Input Replace R2 Series

The operation is the same as R2 series. Please refer to the manual of R2 series.

Functions for Replace Multi piping judgment is the same as Replace Y series.

## 9.15. Input DOAS Series

### 9.15.1 Selecting Outdoor Unit

When DOAS series is chosen, the dialog for outdoor unit appears on the screen. Select the Model of outdoor unit. The setting content is the same as Y series. Please refer to the manual of Y series.

When the outdoor unit is selected by pressing the OK button, indoor units or BC controllers are automatically assigned corresponding to the selected outdoor unit.

### 9.15.2 Changing the BC Controller

When the outdoor unit is selected, assigned BC controller will automatically be the one with six ports. To change the model of the BC controller, select the BC controller and display the dialog for changing the menu below.

· [Component] - [Change Component]

· [Menu from the right click] - [Change Component]

### 9.15.3 Changing the Indoor Unit Information

To change the assigned Indoor unit group, Room, Ref, M-NET address, Maximum piping length, or Design Condition, double-click the target indoor unit or select the indoor unit, and go to [Details] in the [Component] menu.

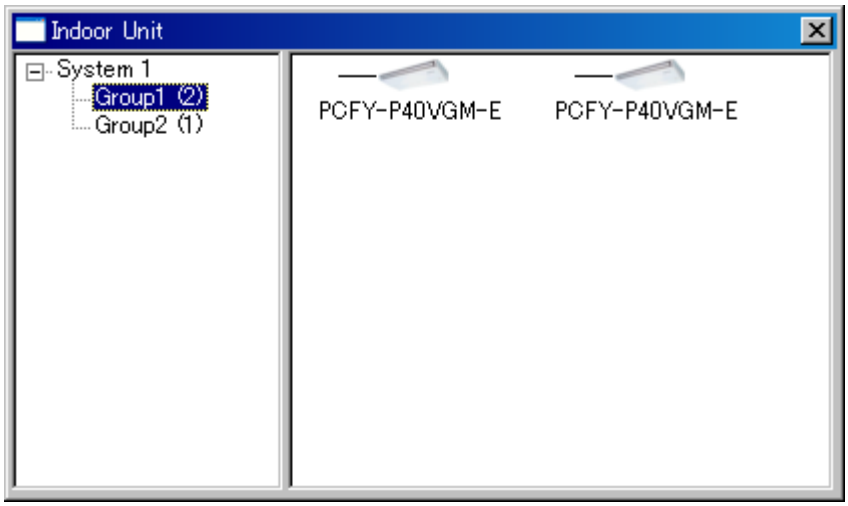
## 9.16. Registering the HYBRID CITY MULTI Series

Follow the same procedures as with the R2 series. Refer to the section on how to register the R2 series.

## 9.17. Indoor Unit Box

The indoor units which are input on Indoor Unit Input Dialog and which are deleted on Piping Design Window are placed in Indoor Unit Box. Indoor units that are input on Room Input Dialog and have refrigerant system (outdoor unit) name are placed here.

The indoor units in Indoor Unit Box can be placed to Piping Design Window by drag & drop.




(1) Left frame

The list of selected centralized control system group is shown. If you select one of the groups in the list, the unplaced indoor units on the current creating Refrigerant system are shown in the right frame of Indoor Unit Box.

The number in parentheses shows the quantity of indoor units which is remaining in Indoor Unit Box.

(2) Right frame

The unplaced indoor units of the group selected in the left frame are shown.

These units can be placed on Piping Design Window by drag and drop from here.

### 9.17.1 Delete the Indoor Unit in Indoor Unit Box

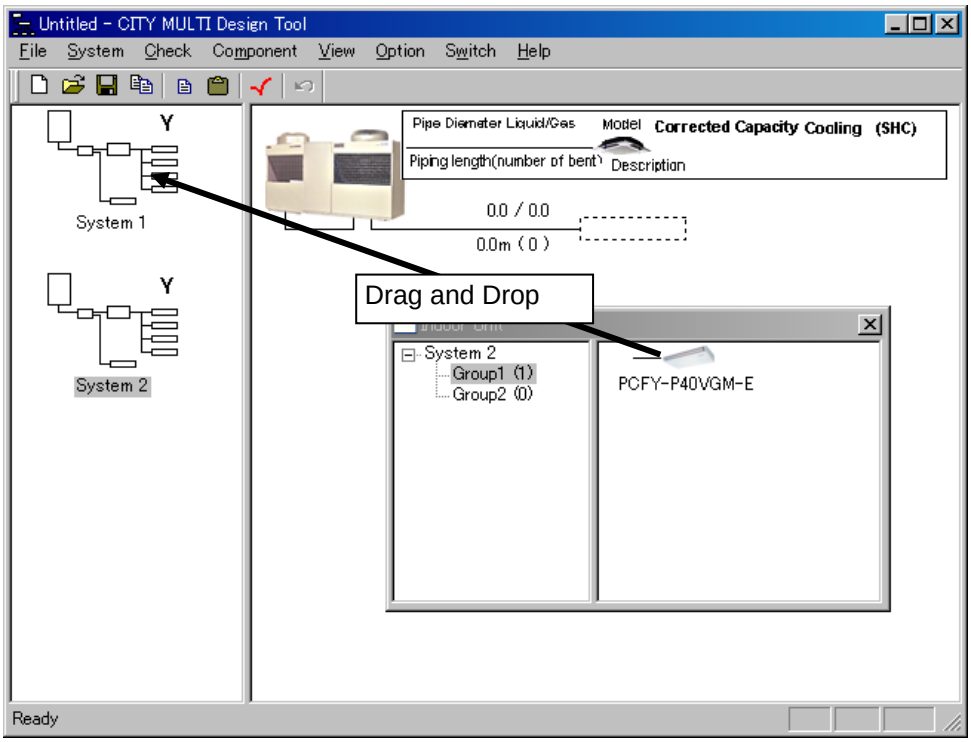
To delete the indoor unit in Indoor Unit Box, click the indoor unit and delete from the menu below.

[Menu from the right click] – [Remove Component]

To delete all the indoor units that are listed in the indoor unit box, click the system name (System 1 in the example above), and then select [All remove components] from the right-click menu.

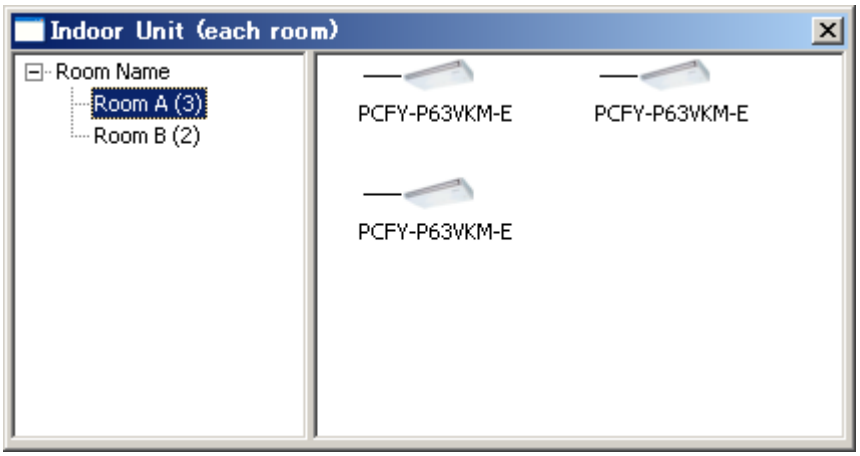
### 9.17.2 Move the Indoor Unit in Indoor Unit Box to the Other Refrigerant System

The indoor unit in Indoor Unit Box can be moved to the other refrigerant system. To move it to the other refrigerant system, drag and drop the indoor unit to the destination refrigerant system in the left frame of Piping Design Window. The unit will be placed in Indoor Unit Box of target refrigerant system.




## 9.18. Indoor Unit (each room)

Indoor units that are input on Room Input Dialog without a refrigerant system (outdoor unit) name are placed in Indoor Unit Box for each room. The indoor units in Indoor Unit Box for each room can be placed to Piping Design Window by drag & drop.




(1) Left frame

The list of room is shown. If new rooms are added on Piping Design Window, they will be shown subsequently. If you select one of the rooms in the list, the unplaced indoor units are shown in the right frame.

The number in parentheses shows the quantity of indoor units which is remaining in "Indoor Unit (each room)." In MEUS area, the number in parentheses indicates the quantity of all the unplaced indoor units including both UL and non-UL models. The number does not always match the quantity of indoor units in the right frame.

(2) Right frame

The unplaced indoor units in the room selected in the left frame are shown. In MEUS area, only UL standard indoor units that are selected at the series select are shown. These units can be placed on Piping Design Window by drag and drop from here.

### 9.18.1 Delete the Indoor Unit in Indoor Unit Box

To delete the "Indoor Unit (each room)", click the indoor unit and delete from the menu below.

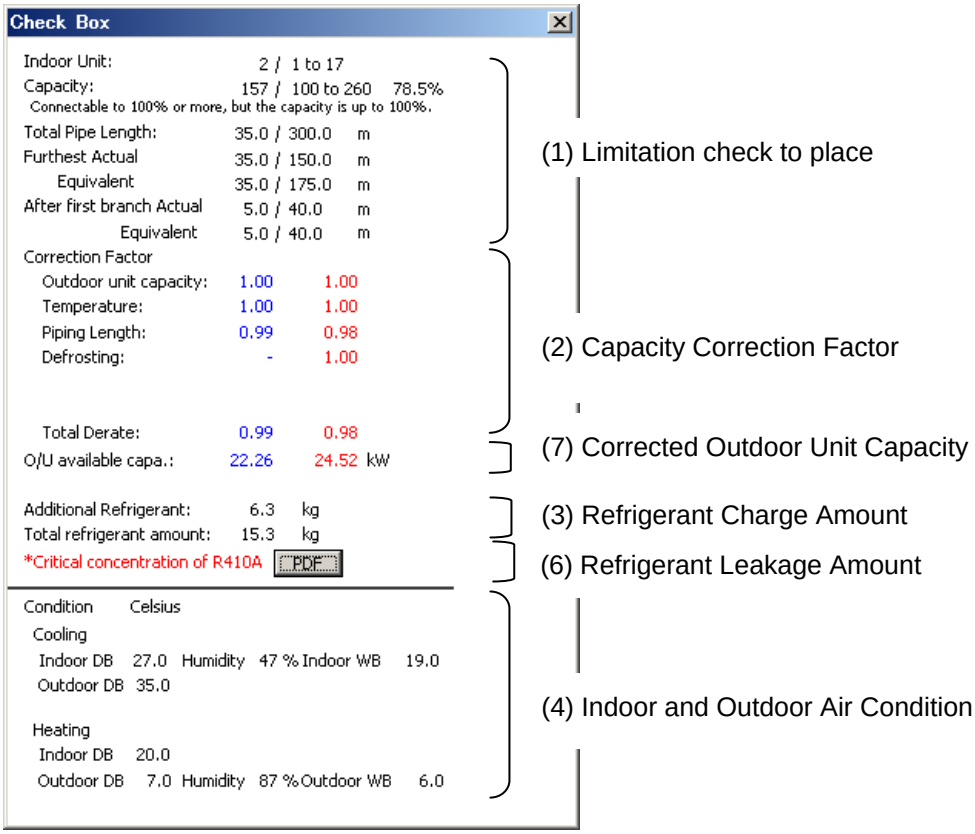
[Menu from the right click] – [Remove Component]

To delete all the indoor units in a given room that are listed in the indoor unit box, click the room name (Room Name in the example above), and then select [All remove components] from the right-click menu.

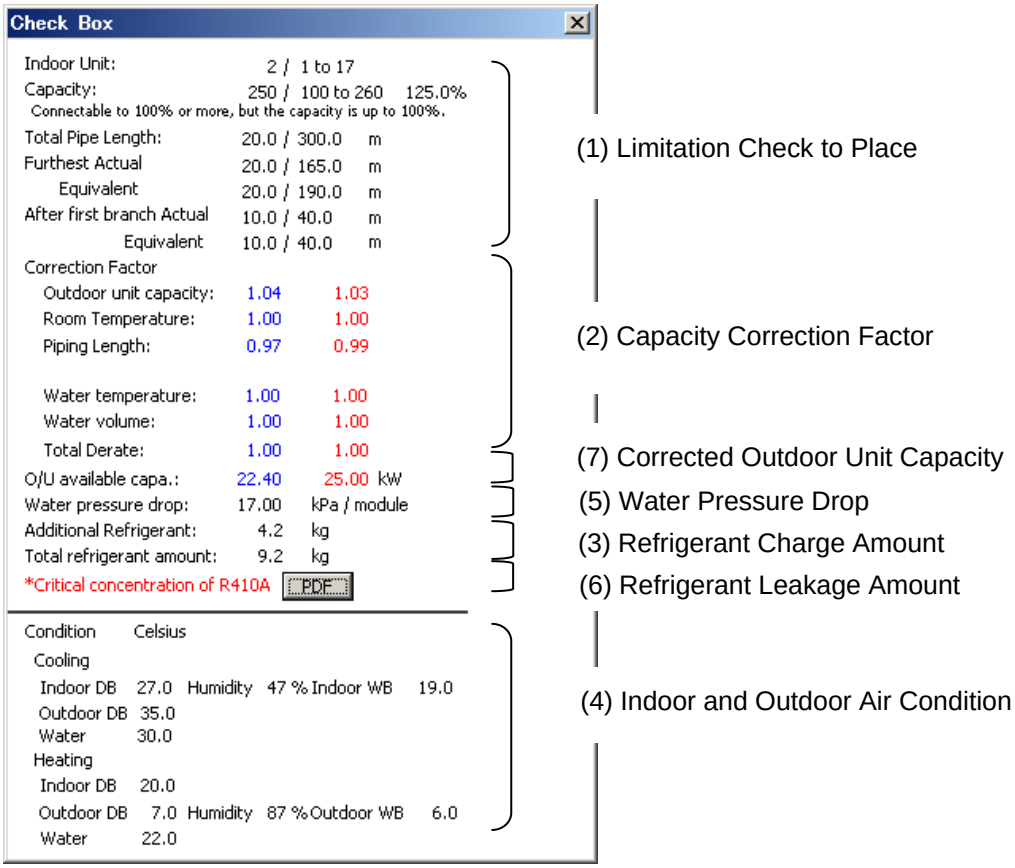
## 9.19. Check Box

The current value of Indoor unit, the piping length, the capacity correction factor and the outside air condition are shown in Check Box.

Y Series, R2 Series, S Series :



WY series, WR2 series:




(1) Placement Limitation Check

The condition of the placement limitation is shown. The value before slash [ / ] is the current setting, and the value after the slash [ / ] is the limitation range.

The value is shown in red if it exceeded the limitation range.

· Indoor Unit

The number of Indoor unit is shown.

· Capacity

The total number of the indoor unit capacity is shown.

In addition, a proportion of the connection capacity to the outdoor unit capacity is shown.

· Total Pipe Length

The total number of the piping length is shown.

· Furthest Actual

The actual piping length between the outdoor unit and the furthest indoor unit from the outdoor unit is shown.

· Furthest Equivalent

The equivalent piping length between the outdoor unit and the furthest indoor unit from the outdoor unit is shown.

· After First Branch Actual

The actual piping length between the first branch pipe and the furthest indoor

unit from the branch pipe is shown.

· After first branch Equivalent

The equivalent piping length between the first branch pipe and the furthest indoor unit from the branch pipe is shown.

(2) Correction Factor

The capacity correction factor is shown. The value in blue is for cooling, and the value in red is for heating.

· Outdoor Unit Capacity

The correction factor of outdoor unit capacity calculated by the connecting capacity of indoor unit is shown.

· Temperature/Room Temperature

The correction factor calculated by the outside air condition is shown.

· Piping Length

The correction factor calculated by the piping length is shown.

· Defrosting

The defrosting correction factor of heater is shown.

· Water Temperature

The correction factor of Inlet water temperature is shown. This factor is shown only when the heat source unit is selected.

· Water Volume

The correction factor of water flow rate is shown. This factor is shown only when the heat source unit is selected.

· Total Derate

Displays the total correction factor.

(3) Refrigerant Amount

Additional refrigerant charge amount and total refrigerant amount are shown.

(4) Design Condition

Design condition that is input on Project Design Window is shown. When "Individual temperature setting for each indoor unit" is selected on Project Property, temperature setting is made for each indoor or outdoor unit but not shown in Check Box.

(5) Water Pressure Drop

The value of water pressure drop is shown. This value is shown only when the heat source unit is selected.

(6) Refrigerant Leakage Amount

This value will be displayed only when the refrigerant leak warning and the [PDF] button for exporting related files are “R410A.”

(7) Corrected Outdoor Unit Capacity

The corrected capacity of outdoor units is shown.

## 9.20. Add a New Refrigerant System

To add a new refrigerant system, create the refrigerant system from the menu below.

- [System] - [New System]
- [Menu from the right click in the left frame] - [New System]

In case of adding the refrigerant system of MUZ/SUZ, PU/PUH/PUHZ and MXZ series, please select [with M-NET] for M-NET connection or [No M-NET] for independent system.

## 9.21. Create a New Refrigerant System from the Existing One

To create a new refrigerant system from the existing refrigerant system, select the refrigerant system, and then copy it from the menu below.

- [System] - [Copy System]
- [Menu from the right click in the left frame] - [Copy System]

## 9.22. Switch the Refrigerant System

To switch to the other refrigerant system, click the refrigerant system icon on the left frame.

## 9.23. Delete the Refrigerant System

To delete the created refrigerant system, select the refrigerant system and delete it from the menu below.

- [System] - [Remove System]
- [Menu from the right click in the left frame] - [Remove System]

## 9.24. Change the Outdoor Unit Type of the Refrigerant System

To change the outdoor unit type (Series selection), select the refrigerant system and change it from the menu below.

- [System] - [Change System]
- [Menu from the right click in the left frame] - [Change System]

The indoor units which were placed on Piping Design Window will be placed automatically. Refer to Section 7.4.1 for layout rule.

**Caution ! You can't change the Series selection for the refrigerant system from UL/nonUL, MUZ/SUZ, PU/PUH/PUHZ or MXZ after the setting has finished.**

## 9.25. Move a Refrigerant System to Another Centralized Control System

To move a refrigerant system to another centralized control system, select the refrigerant system on the left frame, and drag and drop it to the destination centralized control system on the top frame.

## 9.26. Output the Entry Data to the File

### 9.26.1 Detailed CSV File Output

Output the data such as the number of the component, the detail of the piping etc. to CSV file. There are two ways to output it as below.

(1) Output All Refrigerant Systems in All Centralized Control Systems

· [File] - [Export CSV - Project]

All refrigerant systems and the contents on Control Design Window are output.

(2) Output All Refrigerant Systems in the Selected Centralized Control System.

· [Centralized Control] - [Export CSV - Centralized Control]

The contents of all refrigerant systems in the selected centralized control systems and Control Design Window are output.

(3) Output the Selected Refrigerant System Only

· [System] - [Export CSV - System]

The contents of the selected refrigerant system are output.

Each of the output data is put a tag (the data in < >) that is each item name.

Each of the tagged data is as below.

| Tag | Data | Project | Central | System |
|---|---|---|---|---|
| <Project> | Centralized Control System Name | ✓ | ✓ | ✓ |
| <System> | System Name | ✓ | ✓ | ✓ |
| <Outdoor Unit Title> | Title line of the outdoor unit data. It's a title for each data item of the outdoor unit after this line. | ✓ | ✓ | ✓ |
| <Outdoor Unit Model> | Outdoor unit data. With outdoor unit title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Indoor Unit Title> | Title line of the indoor unit data. It's a title for each data item of the indoor unit after this line. | ✓ | ✓ | ✓ |
| <Indoor Unit> | Indoor unit data. With indoor unit title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Branch Title> | Title line of the branch pipe data. It's a title for each data item of the branch pipe after this line. | ✓ | ✓ | ✓ |

| | | | | |
|---|---|---|---|---|
| <Branch> | Branch pipe data. With branch title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Joint Pipe Title><br>(R2 Series Only) | Title line of the joint pipe data. It's a title for each data item of the joint pipe after this line. | ✓ | ✓ | ✓ |
| <Joint Pipe> | Joint Pipe Data. | ✓ | ✓ | ✓ |
| <Pipe Title> | Title line of the piping data. The data such as the size for liquid pipe and gas pipe, the input piping length and the number of bent are output.<br>It's a title for each data item of the piping data after this line. | ✓ | ✓ | ✓ |
| Y, WY, S Series :<br><Outdoor Unit to First Joint><br>R2, WR2 Series :<br><Outdoor Unit to BC controller> | Piping data of outdoor unit. The piping data between the outdoor unit and the first joint (BC controller in case of R2 Series) and its between the outdoor unit and the sub unit are output. With pipe title, you can see what each value is. | ✓ | ✓ | ✓ |
| Y, WY, S Series :<br><First Joint to Indoor unit><br>R2, WR2 Series :<br><BC Controller to Indoor Unit> | Piping data of outdoor unit after the first joint.<br>With pipe title, you can see what each value is. | ✓ | ✓ | ✓ |
| <BC Controller to BC Controller><br>(R2 Series Only) | Piping data between Main BC controller and Sub BC controller. With pipe title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Outdoor Unit to Indoor Unit><br>(MUZ/SUZ,PU/PUH/PUHZ,MXZ Series Only) | Data of piping between outdoor unit to indoor unit. With pipe title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Pipe Summary Totals Title > | Title line of total piping data. Total amount of the piping length for each piping size is output.<br>It's a title for each data item after this line. | ✓ | ✓ | ✓ |
| <Pipe Summary Totals> | Total amount data of piping length for each piping size. With pipe summary totals title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Water Flow Rate Title> | Title line of the data on water flow. It's a title for each data item of water flow after this line. This is output only when WY, WR2 series is selected. | ✓ | ✓ | ✓ |

| | | | | |
|---|---|---|---|---|
| <Water Flow Rate> | The data on water flow. With water flow rate title, you can see what each data is. The data is output only when WY, WR2 series is selected. | ✓ | ✓ | ✓ |
| <Optional Parts Title> | Title line of data on local controller, interface, etc. It explains about the items after this line. | ✓ | ✓ | ✓ |
| <Optional parts > | The data on local controller, interface, etc. With Optional parts title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Additional Refrigerant Charge Title> | Title line of additional refrigerant charge. It's a title for each data of the additional refrigerant charge in the next line. | ✓ | ✓ | ✓ |
| <Additional Refrigerant Charge> | Additional refrigerant change data. With additional refrigerant charge title, you can see what each value is. | ✓ | ✓ | ✓ |
| <Lossnay Unit Title> | Title line of Lossnay unit data. It's a title for each data item of Lossnay unit data after this line. | ✓ | ✓ | - |
| <Lossnay Unit> | Lossnay Unit Data. With lossnay unit title, you can see what each value is. | ✓ | ✓ | - |
| <Controller Title> | Title line of Lossnay controller and system controller. It's a title for each data item of the remote controller after this line. | ✓ | ✓ | - |
| <Controller> | Lossnay Controller / System Controller Data. With Controller Title, you can see what each value is. | ✓ | ✓ | - |
| <Component Title> | Title line of other component. | ✓ | ✓ | - |
| <Component> | Other component data. (Feeder or Extended Feeder Component) | ✓ | ✓ | - |
| <Upper Controller Title> | Title line of the data on high-level expansion controllers AG-150A and AE-200E(A). | ✓ | - | - |
| <Upper Controller> | The data on high-level expansion controllers AG-150A and AE-200E(A). | ✓ | - | - |
| <Design Condition> | Title line of temperature condition. | ✓ | ✓ | ✓ |
| <Temperature title> | Title line of Temperature data after this line. | ✓ | ✓ | ✓ |
| <Temperature Cooling> | The data of the temperature condition for cooling that is input on Project Property Window is output. | ✓ | ✓ | ✓ |
| <Temperature Heating> | The data of the temperature condition for heating that is input on Project Property Window is output. | ✓ | | ✓ |
| <Unit Title> | Title line of Setting Unit. (Unit of the length, etc) | | | ✓ |
| <Unit> | The setting unit is output. | ✓ | ✓ | ✓ |
| <Prepared on> | The preparation date that is input on Project Property Window is output. | ✓ | ✓ | ✓ |

| | | | | |
|---|---|---|---|---|
| <Customer's name> | The customer’s name that is input on Project Property Window is output. | ✓ | ✓ | ✓ |
| <Comment> | The comment that is input on Project Property Window is output. | ✓ | ✓ | ✓ |
| <Frequency> | The frequency selected on Project Property Window is output. | ✓ | ✓ | ✓ |
| <version> | Program version. | ✓ | ✓ | ✓ |

When projects and centralized control systems are output, the data from <Project> to <Additional Refrigerant charge> is output on a refrigerant system basis for each centralized control system.

When projects are output, the data from <Project> to <Component> is output on a centralized control basis.

The data items that have [ - ] in Refrigerant System field in the above list are NOT output.

When it output, each line is separated by the separator symbol such as comma or semicolon, which is set in [Regional Options] on your OS.

### 9.26.2 Component QTY Output

Output the quantity of each component. There's two ways to output it as below.

(1) Output All Refrigerant Systems

· [File] - [Export Unit Qty - Project]

All refrigerant system and the number of each component on Control Design Window is output.

(2) Output the Selected Centralized Control System

· [Centralized Control] - [Export Unit Qty – Centralized Control]

The number of each component on the selected centralized control system is output.

(3) Output the Selected Refrigerant System Only

· [System] - [Export Unit Qty - System]

The quantity of each component on the selected refrigerant system is output.

The data is output separately by the rows below with gathering the data of each data item.

| Data title | Data |
|---|---|
| <Project><br>Project Name | The entered customer's name on Project Property Window is output on this line <Project>.<br>From this line to the next data item, the numbers of high-level AG-150A, AE-200E(A), and Power supply units entered on expansion controller setting screen are output.<br>When the selected centralized control or refrigerant system is output, only the data title is output. (The component, which is designed in Control Design Window, is NOT output.) |
| <Centralized Control>,Centralized Control System Name | About the centralized control system shown on the line <Centralized control>, the number of remote controller, Lossnay and power supply unit entered on Control Design Window is output.<br>When the selected refrigerant system is output, only the data title is output. (The component, which is designed in Control Design Window, is NOT output.) |
| <System><br>System Name | About the system showed on the line <System>, the number of outdoor / indoor unit, joint, BC controller and local remote controller entered on Piping Design Window is output. |

And, the line of the number information is output in the below order.

[Component's Name], [Quantity], [Description (Indoor Unit Only)]

When it output, each line is separated by the separator symbol such as comma or semicolon, which is set in [Regional Options] on your OS.

### 9.26.3 Output the Image Data to Clip board

Copy the image data on the right frame of the selected refrigerant system to Clip board from the menu below.

· [System] - [Copy to Clipboard]

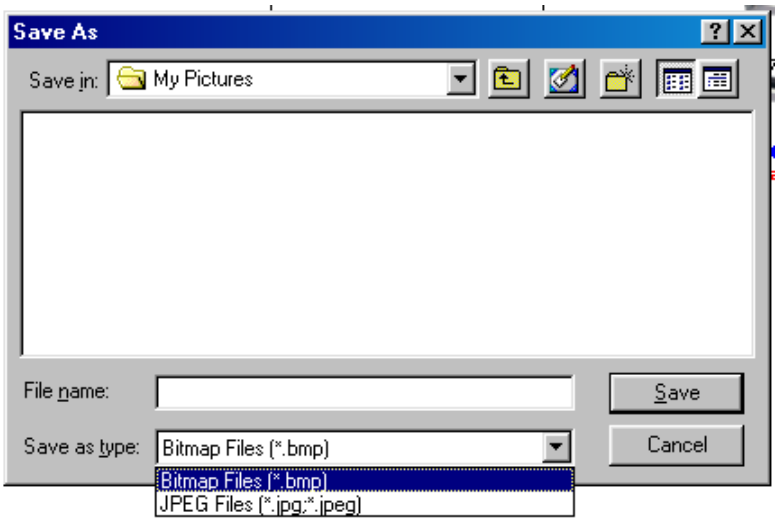
· Button on Tool bar

### 9.26.4 Output the Image Data File

Save the image data on the right frame of the selected refrigerant system as a picture file from the menu below. Bitmap format or JPEG format are available to save it.

· [System] - [Export Image…]

Select the file format from File Type on the dialog [Save as].

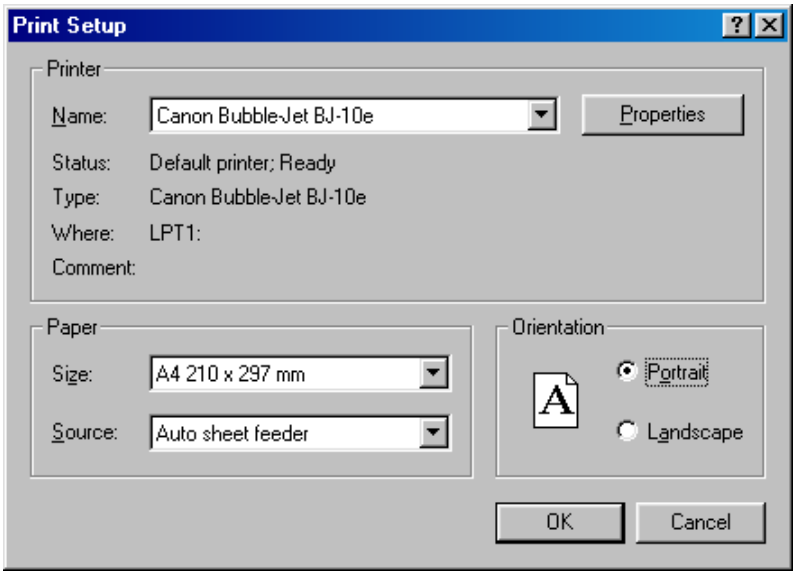



### 9.26.5 Image Output to PDF File

It's possible to output the right frame image of selected refrigerant system as PDF format file. Execute it from the following menu.

· [System] - [Export PDF…]

Printer setting window appears once selected the above menu, and select the size and direction of paper. Press "OK" and the dialog [Save as] is shown. The file can be saved with inputting the file name and press "Save".




## 9.27. Hide the Words on the Screen and Tool Bar

Switch to display or hide the window such as Indoor Unit Box or the capacity and the piping size of the system showing on the right frame from View menu.

· [Tool Bar] Menu

Menu Switch Tool Bar to display or hide.

· [Status Bar] Menu

Switch Status Bar to display or hide.

· [Unit Name] Menu

Switch the model name of each component on the right frame to display or hide.

· [Unit Description] Menu

Switch Description of Indoor Unit showing on the right frame to display or hide.

· [Group] Menu

Switch the Group showing on the right frame to display or hide.

· [Pipe Length] Menu

Switch the piping length showing on the right frame to display or hide.

· [Pipe Size] Menu

Switch the piping size showing on the right frame to display or hide.

· [Pipe Bend] Menu

Switch the number of bent showing on the right frame to display or hide.

· [Show Error Message] Menu

Switch the message shown on the furthest piped place from the outdoor unit on the right frame.

· [Capacity] Menu ([Cooling] / [Heating] / [Cooling/Heating])

Switch the capacity to display or hide. It's shown as below for each menu.

[Cooling] : Total Heat Cooling Capacity (Sensible Heat Cooling Capacity)

[Heating] : Heating Capacity

[Cooling/Heating] : Total Heat Cooling Capacity / Heating Capacity

If the same menu is selected again, the capacity is hidden. If the capacity is selected, M-NET Address is not shown.

· [M-NET Address] Menu

Switch the M-NET address to display or hide. If you select this menu, Capacity is not shown.

· [Description Box] Menu

Switch Description showing on the upper-right corner of the right frame to display or hide.

· [Check Box] Menu

Switch Check Box to display or hide.

· [Indoor Unit Box] Menu

Switch Indoor Unit Box to display or hide.

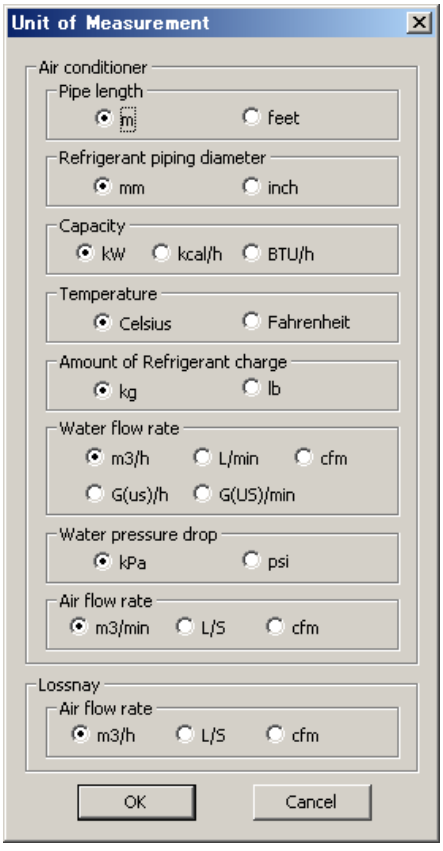
· [Indoor Unit Box – each room] Menu

Switch Indoor Unit Box (each room) to display or hide.

## 9.28. Change Unit of Measurement

It's possible to change the unit of measurement such as piping length or capacity showing on the window. Display the dialog from the below menu, and change it.

· [Option] - [Unit of Measurement]



(1) Pipe length

You can change the unit for pipe length to meter (m) or feet (feet).

(2) Refrigerant piping diameter

You can change the unit of refrigerant piping diameter to millimeter (mm) or inch (inch).

(3) Capacity

You can change the unit of capacity to kilowatt (kW) or kilocalorie (kcal/h) or BTU (BTU/h).

(4) Temperature

You can change the unit of Temperature to Celsius or Fahrenheit.

(5) Amount of Refrigerant charge

You can change to kilogram (kg) or pound (lb) for the unit of additional refrigerant.

(6) Water flow rate

You can change to $m^3$/h, L/min, cfm, G(us)/h or G(us)/min for the unit of Water flow rate.

(7) Water pressure drop

You can change to kPa, psi for the unit of Water pressure drop.

(8) Air flow rate

You can select the Air flow rate unit among $m^3$/min, L/S, and cfm.

(9) Lossnay air flow rate

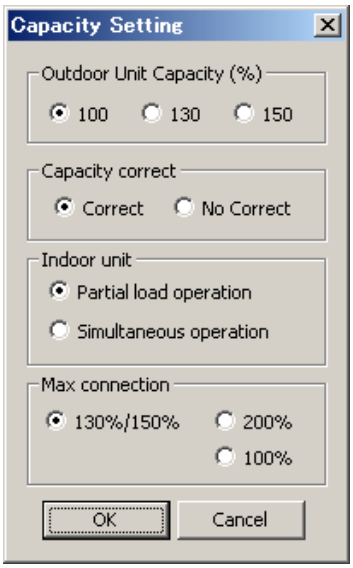
You can change the air flow rate unit to $m^3$/min, L/S, or cfm.

If the unit of measurement has changed, the each value must be input by the selected unit.

## 9.29. Setting Change for Outdoor Unit Auto-Selection and Capacity Correction

It's possible to change the setting of the capacity correct calculation and the connecting capacity setting when the outdoor unit is automatically selected.

· [Option] - [Capacity Setting]




(1) Connecting capacity setting when the outdoor unit is automatically selected

Set the selection standard of the outdoor unit auto-selection. According to the value, outdoor unit is selected. Indoor units are connected up to the percentage of Outdoor unit capacity. Select the percentage from 100%, 130% or 150%. (For Y Series, it's selected 130% even if you select 150%.) 100% is selected as default setting.

(2) Capacity Correct Setting

Set whether the capacity shown on the right frame is displayed by the rated value [No Correct] or by the corrected capacity [Correct] that is calculated according to indoor unit connection capacity, temperature, piping length and defrosting correction. Select [Correct] to do the capacity correction, or select [No Correct] not to do it.

[No Correct] is selected as default setting.

(3) Capacity Correct Setting for Indoor Unit

In case it sets to make a correction in the section(2), set whether it corrects the indoor unit capacity by the connection capacity. Select [Partial load operation] if you don't want to correct, and select [Simultaneous operation] if you want to correct. [Partial load operation] is selected as a default.

(4) Maximum Connection Capacity

Sets the maximum connection capacity of the indoor unit. 130%/150% is set by default.

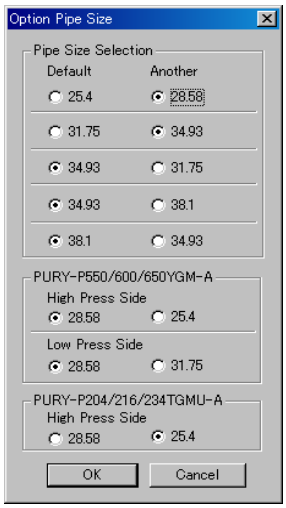
* To enable 200% outdoor unit capacity connection, select 200% and input password. Applicable outdoor units are limited. Consult your dealer for the password.

## 9.30. Pipe Size Option Setting

Some outdoor units can select the other size of piping. Display the dialog from the following menu and select the piping size to use on each option.

· [Option] - [Pipe Size Selection]

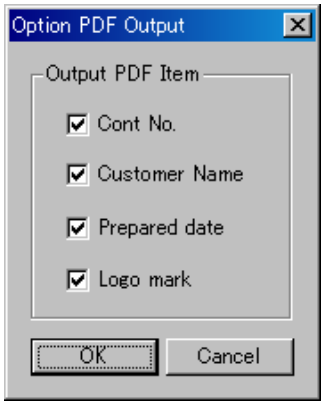
To use the other size of piping, please select [Another]. The piping is used in Piping Design Window.




## 9.31. PDF Output Setting

It can be changed the necessary item to output that is shown as header information. Display the dialog from the following menu and clear the check box for the unnecessary item.

· [Option] - [PDF Output]




· Cont No.

Output the control number that input on Project Property Window

· Customer Name

Output the customer name that input on Project Property Window.

· Prepared date

Output the prepared date that input on Project Property Window.

· Logo mark

Output the company logo mark. To change the logo mark, change the graphic data of bitmap file [corp_logo.bmp] in the install folder.

(It's saved in C: Program Files CityMultiDesignTool corp_logo.bmp as a default.)

### 9.32. Change the Project Property

It's possible to change again the project detail set at the chapter 6. Display the following menu for Project Property setting.

· [File] - [Change Project Property]

Please refer to the chapter 6 in regard to the setting.

### 9.33. Move to Control Design Screen

After the input on Piping Design Window is completed, it's possible to do the setting for Remote controller and Lossnay on Control Design Window.

Switch the window from the menu below.

· [View] - [Control View]

· Button on Tool bar

If an error has detected in the refrigerant system, the error message is shown and it can't be moved to Control Design Window. Modify it referring to the error message.

### 9.34. Save the Input Data

To save the input data, save it to the file from the menu below.

· [File] - [Save Project]

The dialog to save is shown. Specify the file name and save it.

If the file name was specified before, it's overwritten without appearing the dialog.

· [File] - [Save Project As]

Save it with different file name from this menu. Specify the file name and save it.

### 9.35. Create New Project

To finish the current project and create a new one, execute the following menu.

· [File] - [New Project]

· Button on Tool bar

### 9.36. Open the Saved File

To open the saved file, select the following menu and specify the file from the dialog to open files.

· [File] - [Open Project]

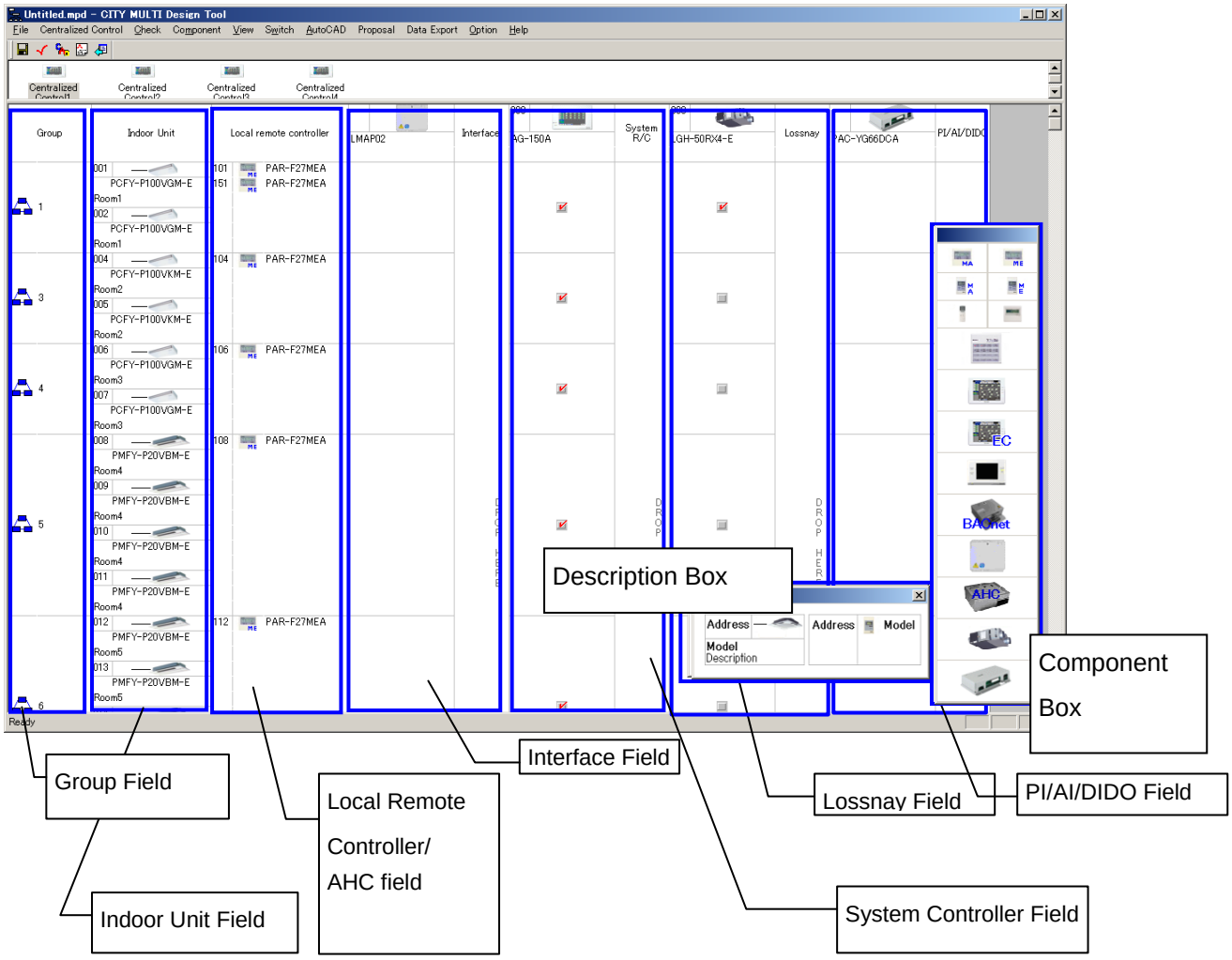
· Button on Tool bar

## 10. CONTROL DESIGN WINDOW

Configure Local/System controller and Lossnay on Control Design Window.

Local Remote controller is set automatically for Refrigerant System Group unconnected to M-NET. Thus Refrigerant System Group unconnected to M-NET doesn't show in this screen.

## 10.1. Entry screen




(1) Group Field

Groups of indoor unit are shown.

(2) Indoor Unit Field

Indoor units in the group are shown.

(3) Local Remote Controller/AHC Field

This field is for setting local remote controller and AHC. Put them here by drag and drop.

(4) Interface Field

This field is for setting LM/BM Adapter. Put it to the point [DROP HERE] by drag and drop. And also, the assigned LM/BM Adapter is shown.

(5) System Controller Field

This field is for setting system controller. Put it to the point [DROP HERE] by drag and drop. And also, the placed system controller is shown.

(6) Lossnay Field

This field is for setting Lossnay. Put it to the point [DROP HERE] by drag and drop.

And also, the placed Lossnay is shown.

(7) PI/AI/DIDO Field

This field is for setting PI/AI/DIDO. Put it to the point [DROP HERE] by drag and drop. And also, the assigned PI/AI/DIDO is shown.

(8) Component Box

To place remote controller or Lossnay, drag and drop them from here.

(9) Description Box

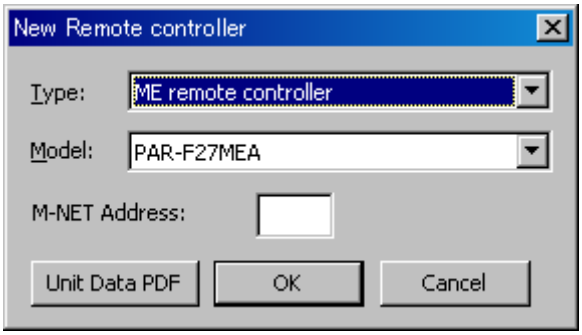
This is a guide for the meaning of each word or number that are shown for indoor units or system controllers.

## 10.2. Layout Local Remote Controller

### 10.2.1 Placement for a Group

Local remote controller is placed for each group. Pick the local remote controller from Component Box, then drag and drop it to Local remote Controller Field in the group to place it. Then the following dialog appears. Select each data and click “OK”.

Note) If there’s only one model in the dropped type, it places without the dialog appearance.




(1) Type **MUST**

Select the type of the local remote controller. The type you selected from Component Box is selected as a default.

(2) Model **MUST**

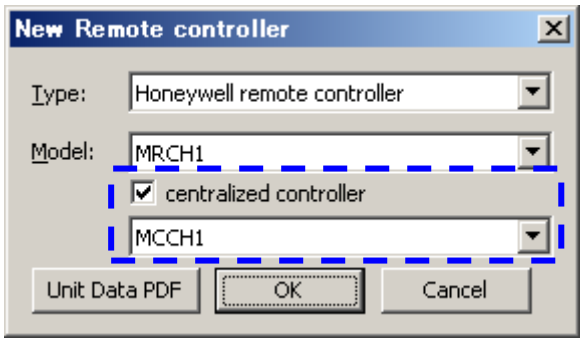
Select the model of the local remote controller. The model list of the type you selected is shown.

(3) M-NET Address

It shows when you select M-NET remote controller. If you want to set M-NET address manually, input the address. If you want to set it automatically, there’s no need to input it.

(4) Honeywell Centralized Remote Controller

If "Honeywell remote controller" is selected, to use a Honeywell centralized remote controller, check the centralized controller check box and select the name of the centralized remote controller to be used.

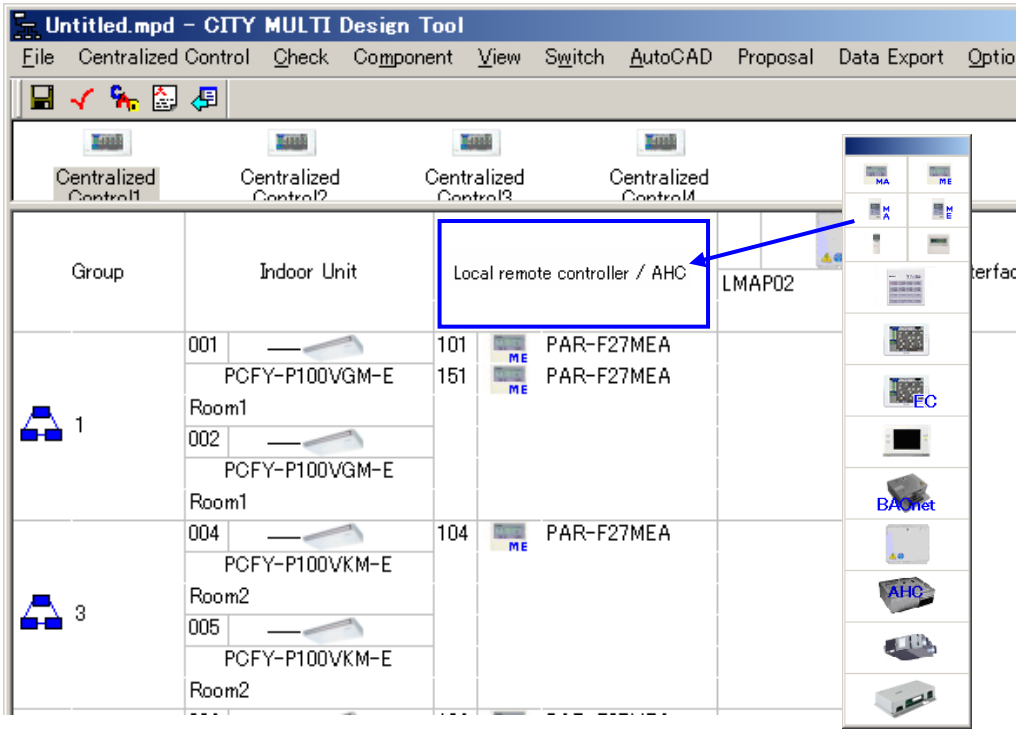



It's possible to set up to two local remote controllers for one group.

### 10.2.2 Placement for All Groups

Same local remote controller can be placed to all groups by the collective operation. Pick the local remote controller from Component Box, then drag and drop it to Local remote Controller Title Field to place it. MA, ME or Wireless remote controller is placed to all indoor unit groups. Lossnay remote controller is placed to all lossnay groups.

Note ) It is not placed to the groups of MUZ/SUZ, PU/PUH/PUHZ, MXZ system nor the groups which already have two local remote controllers.



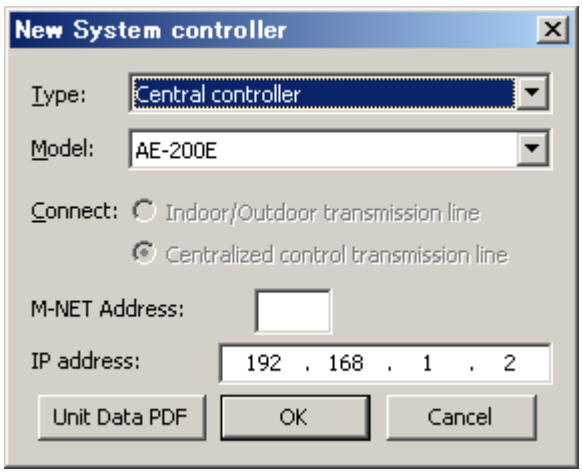

## 10.3. Layout System Controller

To place system controller, drag and drop the system controller to [DROP HERE] in System controller field from Component Box.

Then the following dialog appears. Select each data and click "OK".

Note) If there's only one model in the dropped type, it places without the dialog appearance.

(In this case, centralized control transmission line is selected for M-NET connection point.)




(1) Type **MUST**

Select the type of the system controller. The selected type on Component Box is selected as a default.

(2) Model **MUST**

Select the model of the system controller. The model list of the selected type is shown.

(3) M-NET Connection Point (Connect) **MUST**

Specify the connection point of the system controller.

· Indoor/Outdoor transmission line

In case you select this, system controller is connected to the outdoor unit which has the smallest address indoor unit in selected group.

And if the system controller is unable to connect to Indoor/Outdoor transmission line, you can't select this option.

· Centralized control transmission line

In case you select this, system controller is connected to Centralized control transmission line.

(4) M-NET Address

If you want to set M-NET address manually, input the address. If you want to set it automatically, there's no need to input it.

(5) IP address

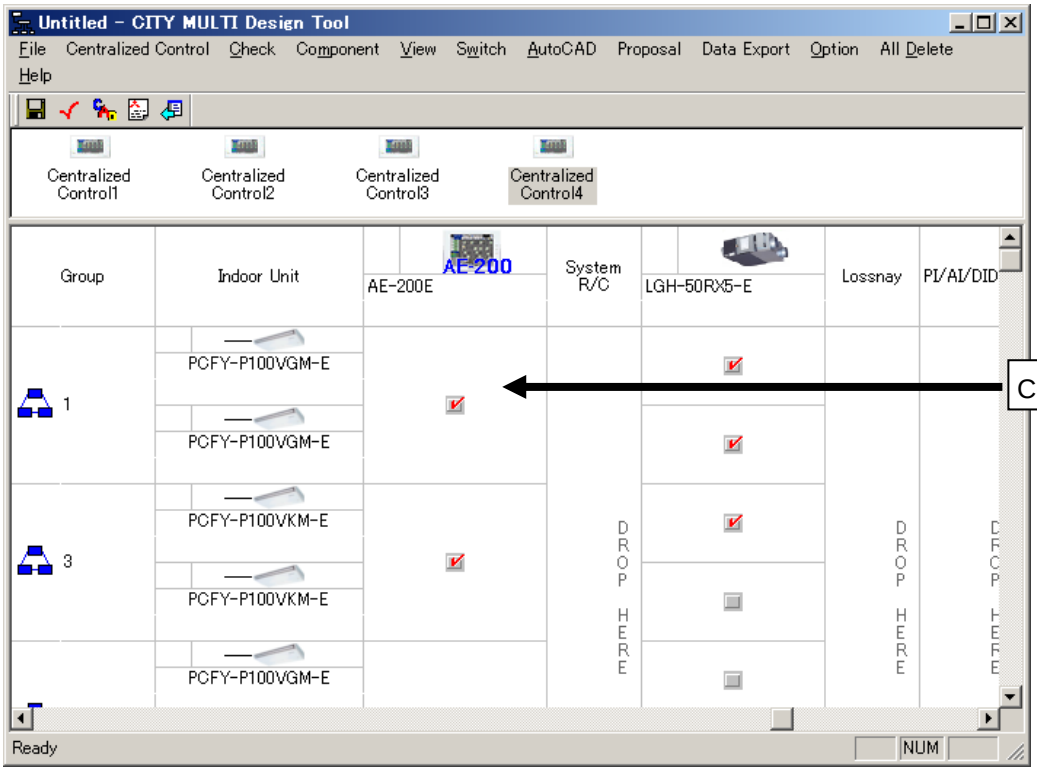
IP address appears when "with LAN connection" is selected on the Project Property window, and when central controller or expansion controller is selected for Type.

Input IP address for system controller to be assigned.

After the system controller is placed, the row for the system controller is added. Check Box is shown on a group basis in the each row of system controller. Specify the group controlled by the system controller by checking the Check Box.

When checking the checkboxes for all groups, select a system controller to be checked, and check them from the menu below.

· [Component] - [Select all group]

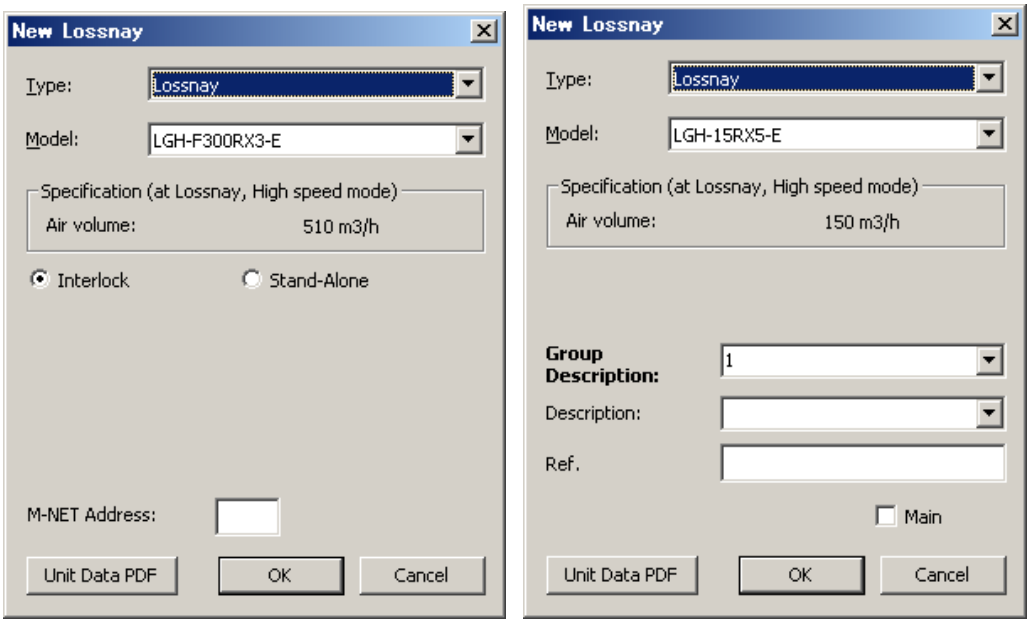



## 10.4. Layout Lossnay

To place Lossnay, drag and drop the losnnay to [DROP HERE] in Lossnay field from Component Box.

The following dialog appears. Select each data and click “OK”.

※With M-NET ※No M-NET




(1) Type **MUST**

Select the type of the Lossnay. The selected type on Component Box is selected as a default.

(2) Model **MUST**

Select the model of the Lossnay. The model list of the selected type is shown.

And, the rated value (Lossnay ventilation mode, fan: high speed mode) of the selected model is shown in “Specification (at Lossnay, High speed mode)”.

(3) Interlock/Stand-Alone **MUST**

Specify the operating method for Lossnay.

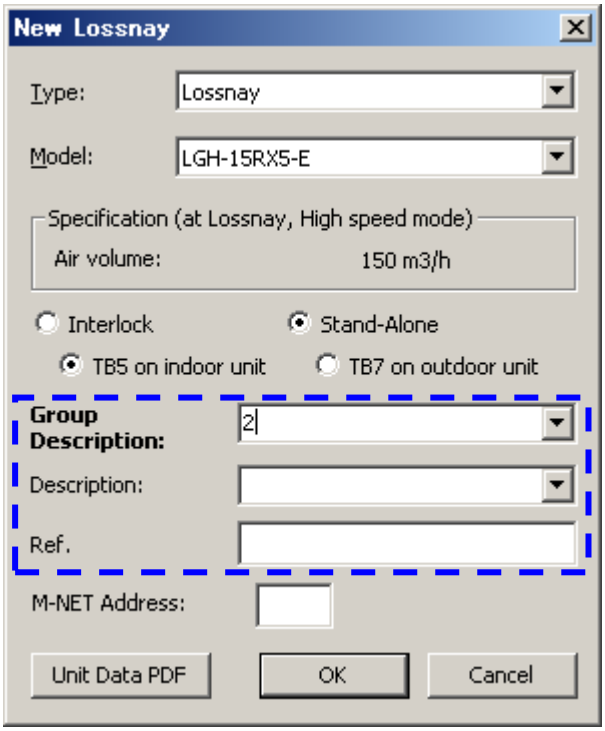
· Interlock

In case of operating with Indoor unit, select Interlock.

· Stand-Alone

In case of operating Lossnay only, select Stand-Alone. Entry fields for the group name, Description, and Ref. appear if you select this. Specify the group name. (You need to input a different name from Indoor unit group.)

Also, select the connection target for the M-NET cable: “TB5 on indoor unit” for connecting to the indoor-outdoor transmission cable; “TB7 on outdoor unit” for connecting to the transmission cable for the centralized control system.




(4) M-NET Address

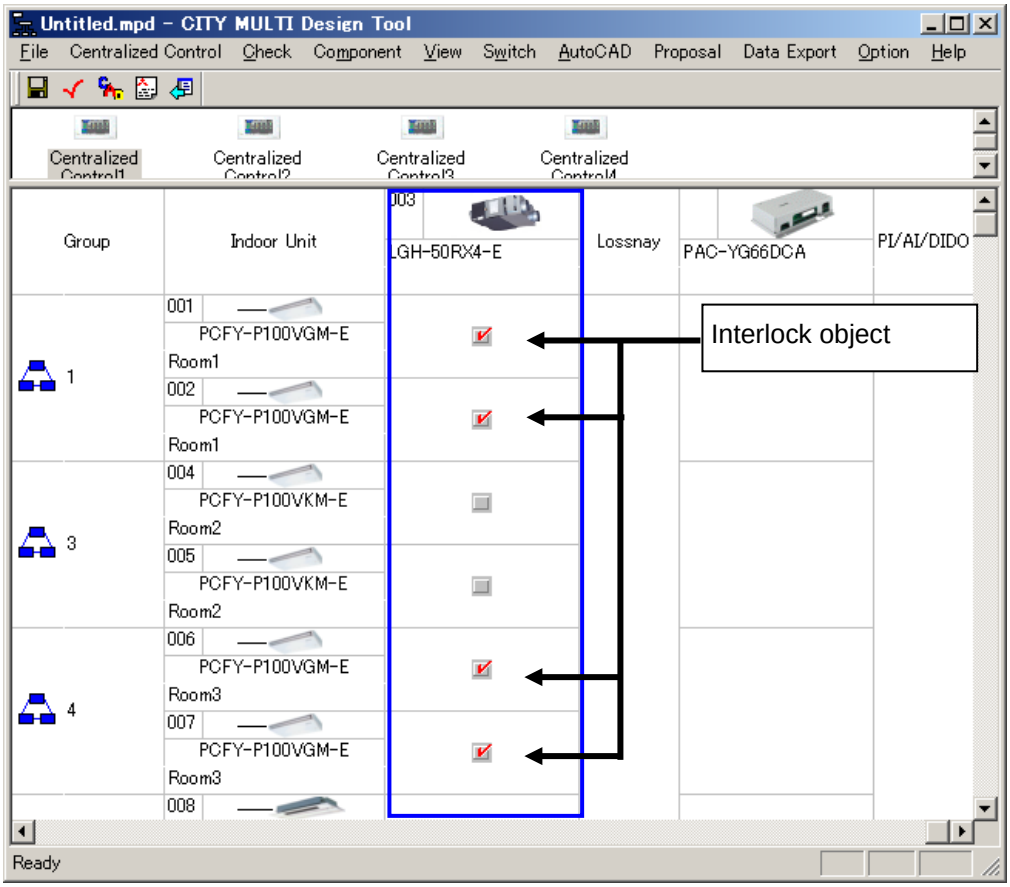
If you want to set M-NET address manually, input the address. If you want to set it automatically, there's no need to input it.

(5) Main Setting

For No M-NET, check the Lossnay to be set as the main setting in the group.

### 10.4.1 Setting of Lossnay (Interlock)

After the interlocked Lossnay was placed, the row for the Lossnay is added. Check Box is shown on indoor unit basis in the each row of interlocked lossnay. To specify the indoor unit interlocked by the Lossnay, check the Check Box.



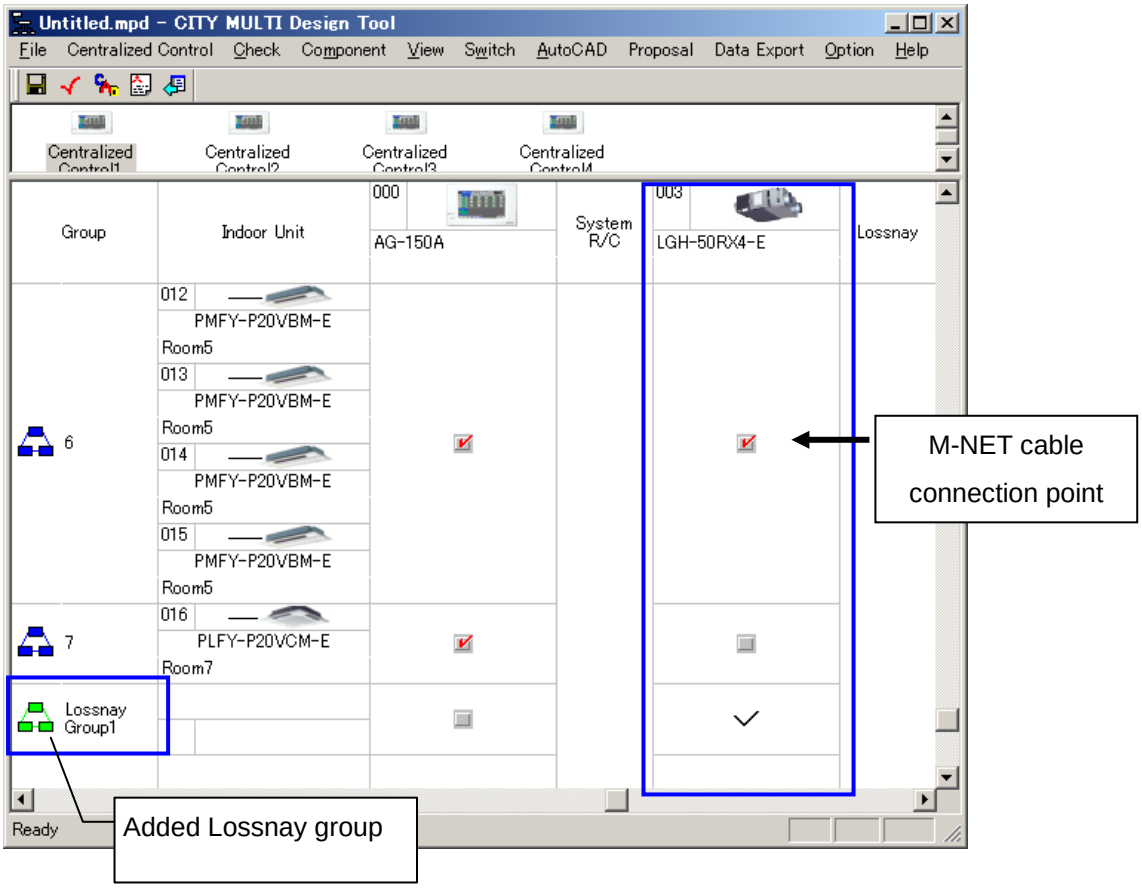

When AutoCAD drawing is output, it's connected to the Indoor/Outdoor transmission line of the refrigerant system where the smallest address indoor unit between all interlocked units is. When P-series unit is interlocked, Lossnay is connected to the interlocked indoor unit with Slim-Lossnay connection cable.

### 10.4.2 Setting of Lossnay (Stand-alone)

Input the group name of Lossnay to Group description on the dialog. (You need to input a different name from indoor unit group.) If the unregistered name is input, the line of the input group is added. Place the local remote controller to the local remote controller field on the added line in case of placing it to operate the stand-alone lossnay.

After the stand-alone lossnay was placed, the row for the lossnay is added. When "TB5 on indoor unit" is selected for the connection target, Check Box is shown on a group basis in the each row of stand-alone lossnay. Specify the connection point of M-NET cable with checking one of the check boxes. When AutoCAD is output, it's connected to the Indoor/Outdoor transmission line of the refrigerant system in which Indoor unit in the group you checked the Check Box is placed.

When "TB7 on outdoor unit" is selected for the connection target, Check Box does not appear.




### 10.4.3 Input Lossnay Independent System

When creating the centralized control system on the Piping Design Screen, select “Lossnay (with M-NET)” or “Lossnay (No M-NET)” on the Series Select window.

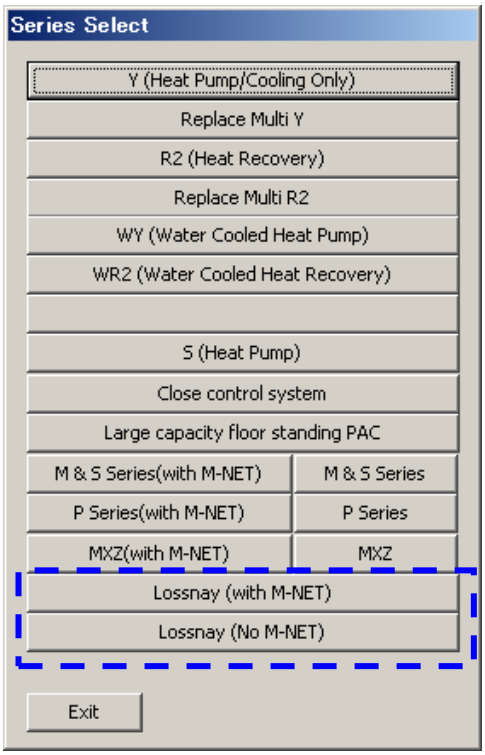
・Lossnay (with M-NET)

Select for control with M-NET.

・Lossnay (No M-NET)

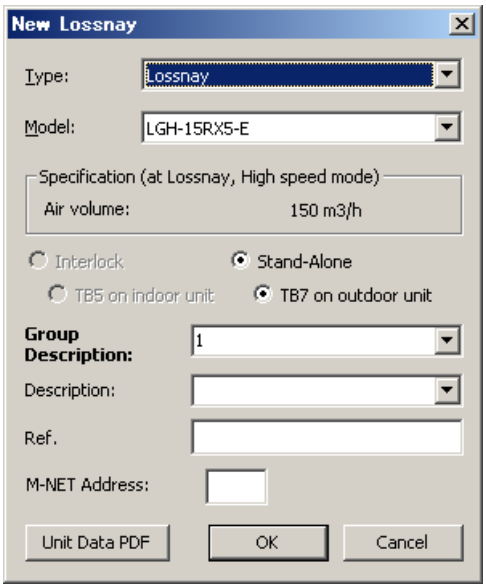
Select to enter a microcomputer-controlled Lossnay.

The Control Design Screen will appear.

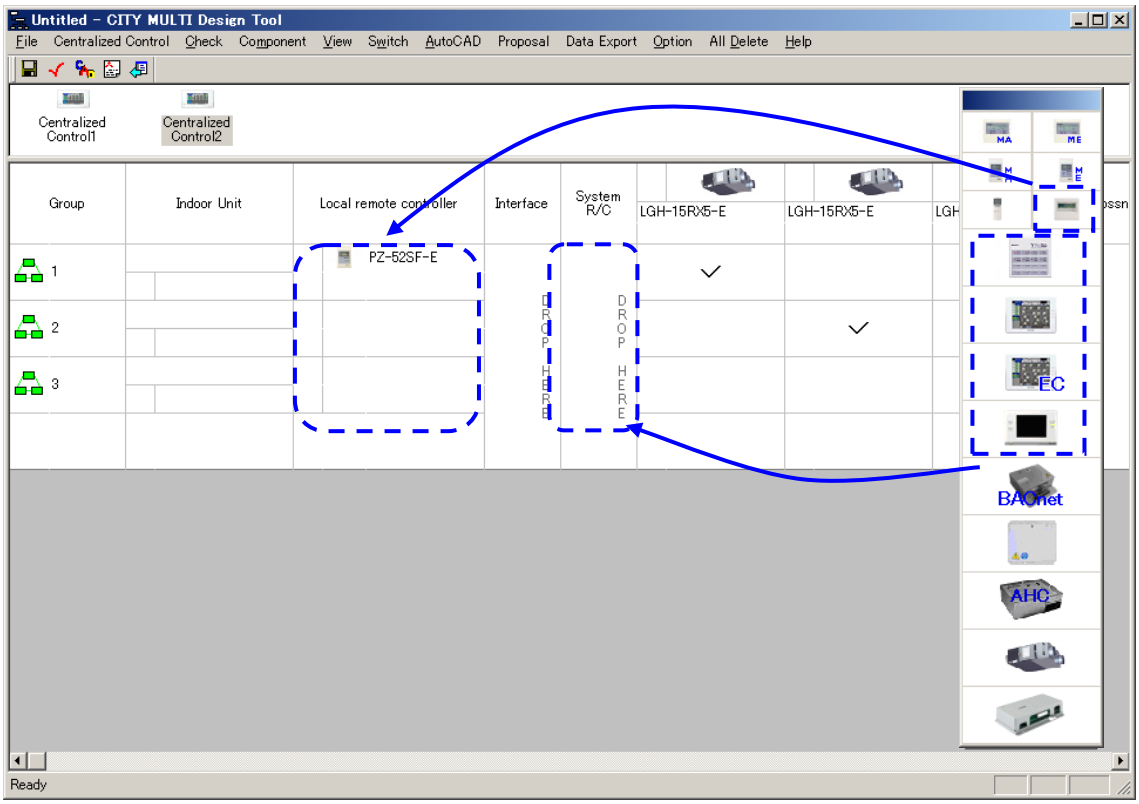



To place Lossnay, drag and drop the Lossnay referring to 10.4.

(Only “Stand-Alone” and “TB7 on outdoor unit” can be selected for Lossnay independent system. For No M-NET, the connection destination cannot be selected. )



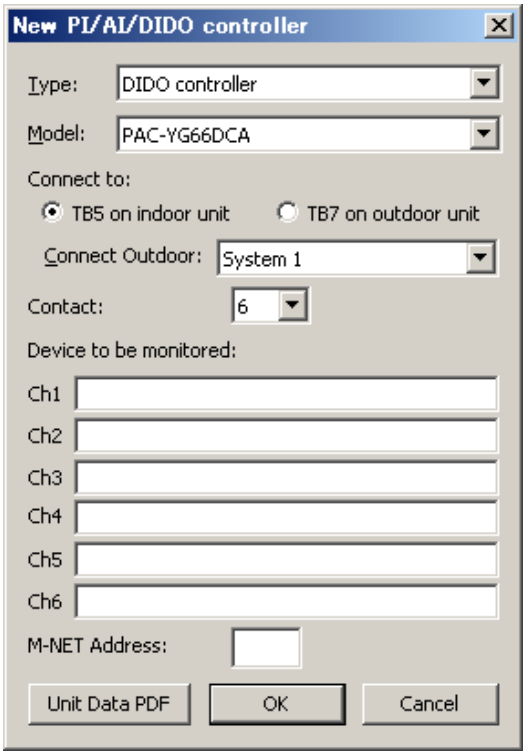
Place the local remote controller and system controller to the new Lossnay group by dragging and dropping them.



## 10.5. Layout PI/AI/DIDO

To assign PI/AI/DIDO, drag and drop the PI/AI/DIDO to [DROP HERE] in PI/AI/DIDO field from Component Box.

Then the following dialog appears. Select each data and click “OK”.




(1) Type **MUST**

Select the type of the PI/AI/DIDO.

(2) Model **MUST**

Select the model of the PI/AI/DIDO. The model list of the selected type is shown.

(3) Connect to **MUST**

Select "TB5 on indoor unit" or "TB7 on outdoor unit" to connect to the PI/AI/DIDO. When "TB5 on indoor unit" is selected, select refrigerant system to be connected.

(4) Connect Outdoor

When "TB5 on indoor unit" is selected, select refrigerant system to connect to the PI/AI/DIDO. PI/AI/DIDO is connected to the indoor-outdoor transmission cable in the selected system.

(5) Contact

Enter the number of contacts.

(6) Device to be monitored

A column for each contact is shown. Input the device to be connected to each contact.

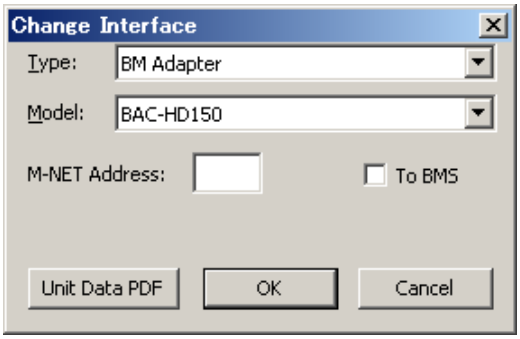
(7) M-NET Address

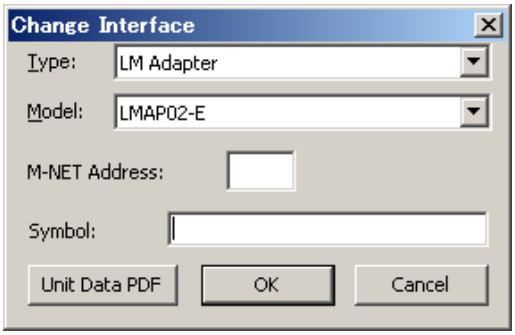
If you want to set the PI/AI/DIDO address manually, input the address.

If you want to set it automatically, there's no need to input it.

## 10.6. Layout LM/BM Adapter

To assign LM/BM Adapter, drag and drop the LM/BM Adapter to [DROP HERE] in Interface field from Component Box. Then the following dialog appears. Select each data and click "OK".




(1) Type **MUST**

Select the type of the LM/BM Adapter.

(2) Model **MUST**

Select the model of the LM/BM Adapter. The model list of the selected type is shown.

(3) M-NET Address

If you want to set the LM/BM Adapter address manually, input the address.

If you want to set it automatically, there's no need to input it.

(4) To BMS

To BMS appears when BM Adapter is selected for Type. Check the checkbox next to To BMS to display To BMS next to the BM Adapter using AutoCAD output.

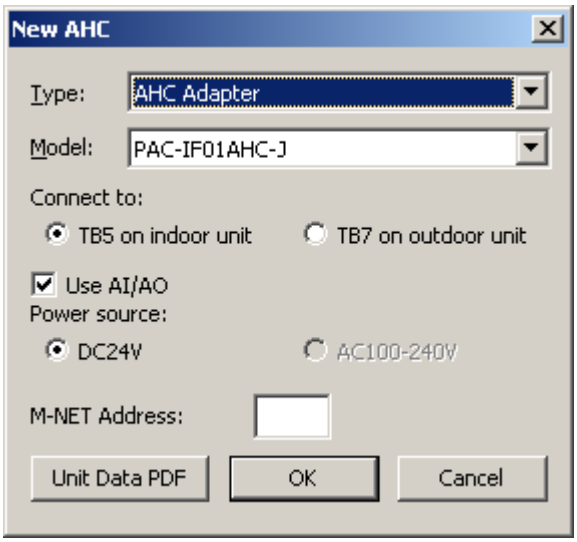
(5) Symbol

Symbol appears when LM Adapter is selected for Type. Input the symbol for LM Adapter to be placed.

## 10.7. Place AHC Adapter

To place an AHC Adapter, select an AHC Adapter from the component box, and drag and drop it in the local remote controller field.

Fill out the dialog box that appears (see below), and click OK to finish placing AHC Adapter.




(1) Type **Must**

Select the type of adapter to be placed.

(2) Model **Must**

Select the model of the adapter to be placed. In the “Model” dropdown list, available models for the selected type will appear.

(3) Connection Target (Connect to) **Must**

Choose between connecting the AHC Adapter to the indoor-outdoor transmission line of the refrigerant system (TB5 on indoor unit) or to the centralized control transmission line (TB7 on outdoor unit). When connecting it to the indoor-outdoor transmission line (TB5 on indoor unit), select the refrigerant system to which the AHC Adapter will be connected.

(4) Power Source

Choose the type of power source between “DC24V” and “AC100-240V.”

(5) M-NET Address

Enter the M-NET address of the AHC Adapter to be placed when setting the address manually. This field can be left blank when setting the address automatically.

## 10.8. Change Model of the Placed Component

To change the model of the placed component, select the component to change and display the dialog from the following menu.

· [Component] - [Change]

· [Menu from the right click] - [Change]

Change the model from the displayed dialog.

## 10.9. Delete the Placed Component

### 10.9.1 Deleting the Selected Component

To delete the placed component, select the component and delete it from the menu below.

· [Component] - [Remove]

· [Menu from the right click] - [Remove]

### 10.9.2 Collectively Deleting the Placed Component

When collectively deleting the placed components such as local remote controllers, select the menu that corresponds to the target component from the All Delete menu.

・[Local remote controller] Menu

Collectively delete the local remote controllers.

・[Interface] Menu

Collectively delete the interfaces.

・[System R/C] Menu

Collectively delete the system remote controllers.

・[Lossnay] Menu

Collectively delete the Lossnay units.

・[PI/AI/DIDO] Menu

Collectively delete the PI/AI/DIDO controllers.

・[AHC] Menu

Collectively delete the AHC.

## 10.10. Change Details of the Placed Component

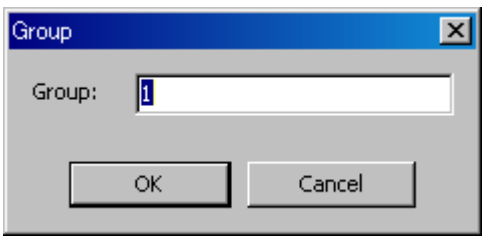
To change each detail of the placed component such as the connection point of the system controller, the setting of Lossnay (Interlock/Stand-alone) or the group and description, display the dialog from the following menu and change it. The locked item is covered in gray.

· [Component] - [Detail]

· [Menu from the right click] - [Detail]

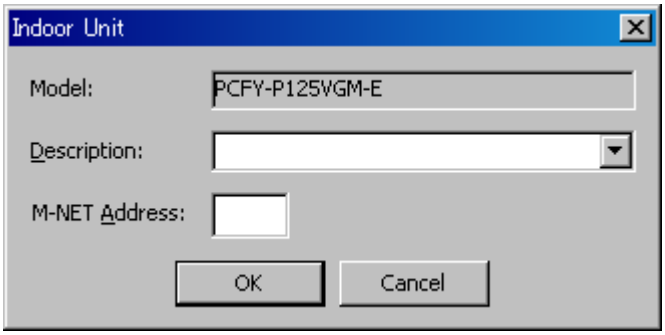
## 10.11. Change the Group Name

Double-click Group and the following dialog appears. Change the group name and click OK, it's done.



## 10.12. Change the Description and Address of Indoor Unit

Double-click indoor unit and the following dialog appears. In this dialog you can change the M-NET address and the description of indoor unit.




(1) Model

IU Model name double-clicked shows.

(2) Description

Input the description of the IU Model double-clicked.

(3) M-NET Address

If you want to set M-NET address manually, input the address. If you want to set it automatically, there's no need to input it.

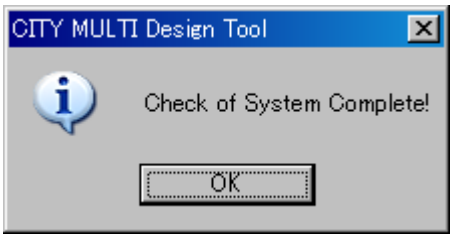
## 10.13. Check the System Structure

From the following menu, it's possible to check whether there's any problem on the system structure or not.

· [Check] - [Check System]

· Button on Tool bar

The following message appears in case of no problem on the structure.




The following message appears in case there's some problem on the structure. Refer to the message and modify it.

## 10.14. Hide Tool Bar and Words on the Screen

From the View menu, it can switch to display/hide name or description on the screen, Tool bar and Status bar.

· [Unit Name] Menu

Switch to display/hide the model name of each unit.

· [Unit Description] Menu

Switch to display/hide the description of each unit.

· [Unit Address] Menu

Switch to display/hide the address of each unit.

· [Tool Bar] Menu

Switch to display/hide Tool bar.

· [Status Bar] Menu

Switch to display/hide Status bar.

· [Description Box] Menu

Switch to display/hide the description box.

## 10.15. Address Setting

### 10.15.1 Address Setting

From the following menu, it can set the address for each unit.

· [AutoCAD] - [Set Address]

Once set the address for each unit, the address is fixed. In case the structure was changed after setting like the indoor unit addition, the address of the unit that has already set address can't be changed. The additional unit is newly given an unused address.

Furthermore, the address is set as well as when AutoCAD output menu is selected.

### 10.15.2 Reset the Address

Once AutoCAD drawing was output, the address for each unit is locked. To reset all addresses and set new addresses for each unit again, reset them from the menu below.

· [AutoCAD] - [Reset Address]

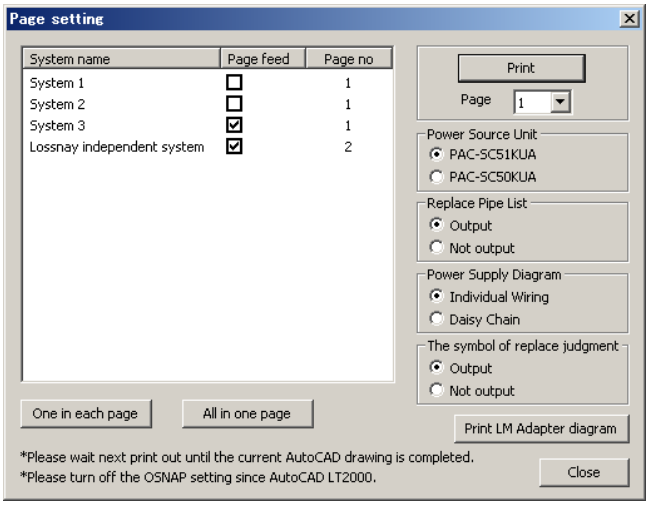
## 10.16. Output AutoCAD Drawing

With using AutoCAD, it's possible to output the skeleton drawing for the input refrigerant type and control.

Execute the AutoCAD output from the menu below on Control Design Window.

· [AutoCAD] - [Output AutoCAD]

· Button on Tool bar




With AutoCAD Output, it can output all refrigerant system in a same page, and also it can output in multiple pages. In case of outputting in multiple pages, it needs to specify the refrigerant system where to separate in multiple pages.

A) Check the box in [Page feed] column to specify where to separate in multiple pages, then it is separated in multiple pages after the refrigerant system.
   And the page number of each refrigerant system is displayed in [Page no] column, so please refer it as well.
   · Click [One in each page], then each refrigerant system is printed in one page separately.
   · Click [All in one page], then all refrigerant system is printed in one page.

B) Select the output page from the drop-down menu of [Page] on the right side.

C) Select the power supply unit.
   The power supply selection window will not appear when the followings apply:
   ・When a G-50A, AG-150A, EC, GB-50ADA, or BMAP is used as a system controller
   ・When no power supply to the centralized control system is required
   ・When “Not use” is selected in the Power supply unit dialog

D) Click [Print] button, then the selected pages are printed.

When there is a Lossnay unit for which “TB7 on outdoor unit” has been selected in the Lossnay independent system or Stand-Alone, the Lossnay unit is printed on the individual page that is for the system displayed in the “Lossnay independent system.” Select the page to print the Lossnay unit for which “TB7 on outdoor unit” has been selected in the Lossnay independent system or Stand-Alone.

When LM Adapter is placed, wiring diagram of LM Adapter can be output by pressing "Print LM Adapter diagram."

When Replace Y series or Replace R2 series is used, the pipe size output can be

enabled/disabled by selecting Output/Not output from the Replace Pipe List.

Whether the power supply of the City Multi indoor unit is to be individually wired or daisy chained can be selected in the Power Supply Diagram frame.

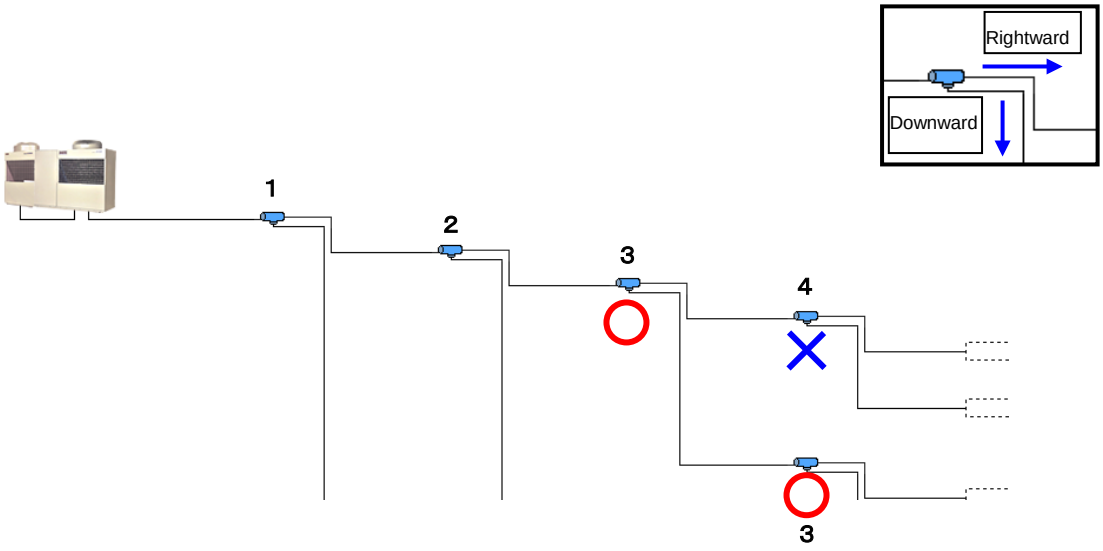
When Individual Wiring is selected, it will be individually wired.

When Daisy Chain is selected, it will be daisy-chained.

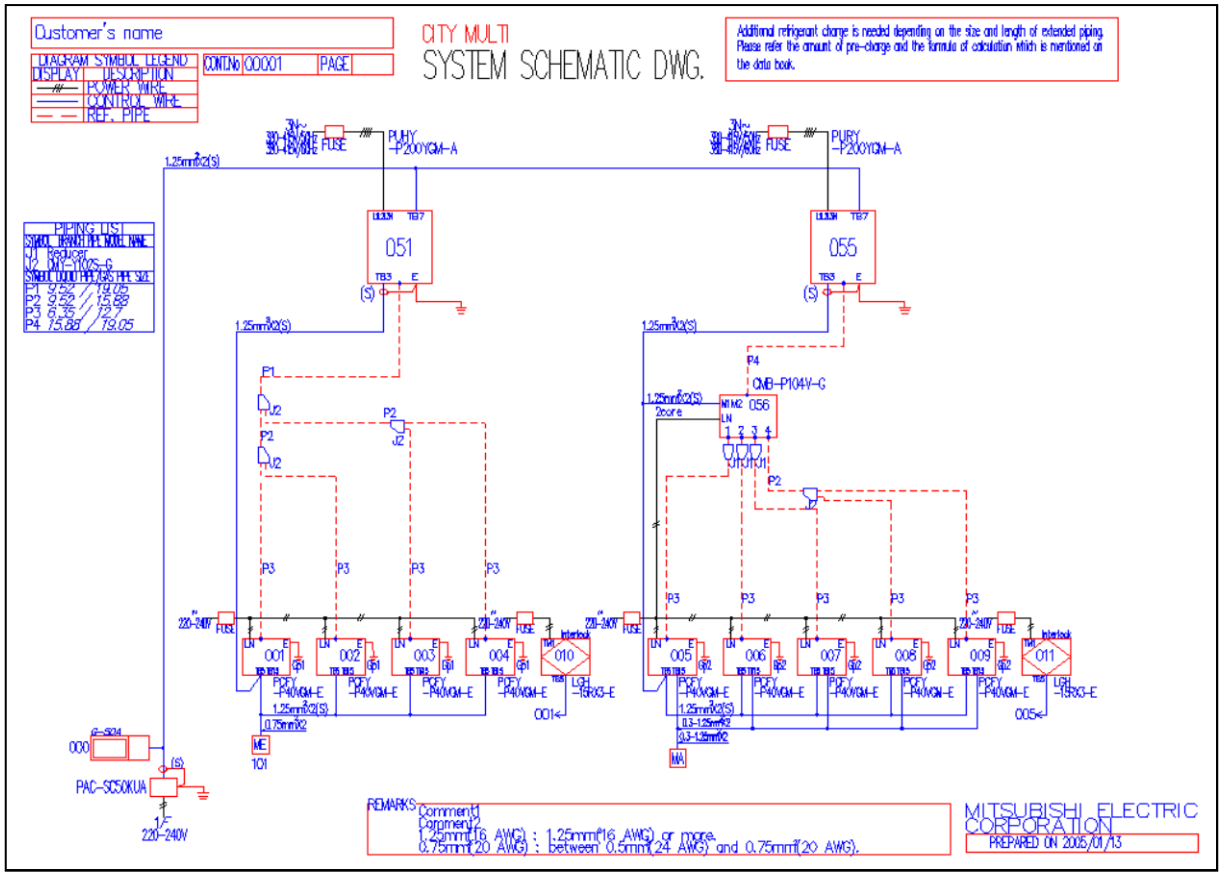
Evaluation results of Replace Multi piping judgment for Replace Y or Replace R2 series can be output by selecting Output/Not output in “The symbol of replace judgment.”

| |
|---|
| Set the version and the path name of the installed AutoCAD if it’s the first time to execute it. To set the path name, please set from [Option]-[Option AutoCAD] |

**Caution ! It can’t output AutoCAD drawing in case the steps of Joint are more than 4 steps to the rightward in the refrigerant system on this tool.**



The skeleton drawing is output as below.




(1) Symbol for Local remote controller

Here is the list of symbol for local remote controller.

| Symbol | Description |
|---|---|
| ME | M-NET remote controller |
| MA | MA remote controller |
| CR | Compact remote controller (Common in MA, M-NET type) |
| WR | Wireless remote controller (controller) |
| WA | Wireless remote controller (receiver) |
| LR | Lossnay remote controller |

(2) M-NET Address

If there is the unit whose M-NET address has not been set, it is set automatically.

Also, the set address of each unit is locked once the address is set. In case the structure is something changed such as an indoor unit addition after AutoCAD output, the locked address is output for the unit that is already drawn before. The added unit is newly given an unused address.

(3) Layer

The drawing is separated to the layer below.

| Layer name | Contents | Description |
|---|---|---|
| 0 | Common layer | Basic unit commonly needed for Refrigerant, Control and Electric system are placed. (Outdoor unit, Indoor unit, etc.) |
| 1_cooling | Refrigerant layer | Refrigerant piping unit and the wiring are placed. (Header, Joint, Branch pipe, Multi-distribution system, etc.) |
| 2_control | Control layer | Unit and the wiring for the control system are placed. (Remote controller, Control Wire, etc.) |
| 3_electricity | Electric layer | Unit and the wiring for the electric system are placed. (Power Supply Unit, Power source, etc.) |
| 4_earth | Earth layer | Earth wire and Earth power supply are placed. |
| 5_differernt _diameter | Replace Multi piping judgment layer | Marks for Replace Multi piping judgment for Replace unit are placed. |

(4) Font

It's possible to change the font of "Customer's name", "Comment" and "Description" on AutoCAD drawing. These characters are grouped as Style Name "yourfont". Select "yourfont" from Style Name, then select the appropriate font in Text Style setting window.

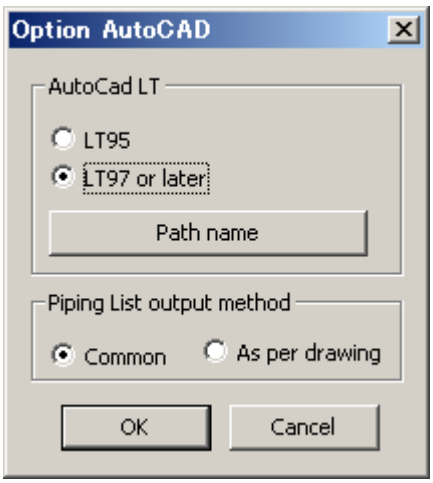
AutoCAD LT: [Menu] -> [Format] -> [Text Style…]

### 10.16.1 AutoCAD Output Setting Change

AutoCAD setting for AutoCAD drawing output and the piping list output form can be changed.

Display the setting window from the following menu.

· [Option] - [Option AutoCAD]




(1) AutoCAD Setting

Set the AutoCAD version and the path for the program.

Click [Path name] button to set the path.

(2) Setting the Piping List Output Form

Set the output form of refrigerant piping list corresponding to the piping symbol of output drawing data.

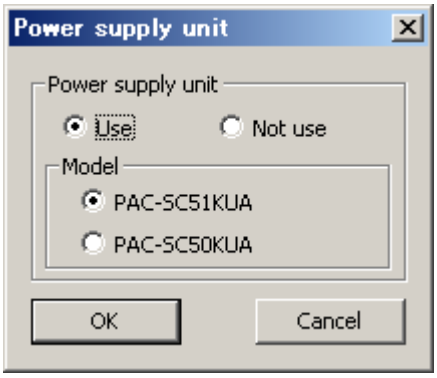
· Common : Output the list of model name or size by the common No. of all drawings.

· As per drawing: Output the list of model name or size contained within the refrigerant system of output drawing.

### 10.16.2 Power Supply Unit Setting

It's possible to set a power supply unit to be connected to the transmission cable for the centralized control system. Display the setting window from the following menu.

· [Option] - [Power supply unit]




(1) Selecting the use of power supply unit

When connecting a power supply unit to the transmission cable for the centralized

control system, select “Use.”

When power is supplied from an outdoor unit without connecting a power supply unit, select “Not use.”

(2) Selecting the Power Supply Unit Model

When using a power supply unit, select the power supply unit model to be used.

## 10.17. Output the Input Data to File

### 10.17.1 Output Window Image to Clipboard

It’s possible to copy the window image of Control Design Window to clipboard.

Select the following menu and execute it.

· [File] - [Copy to Clipboard]

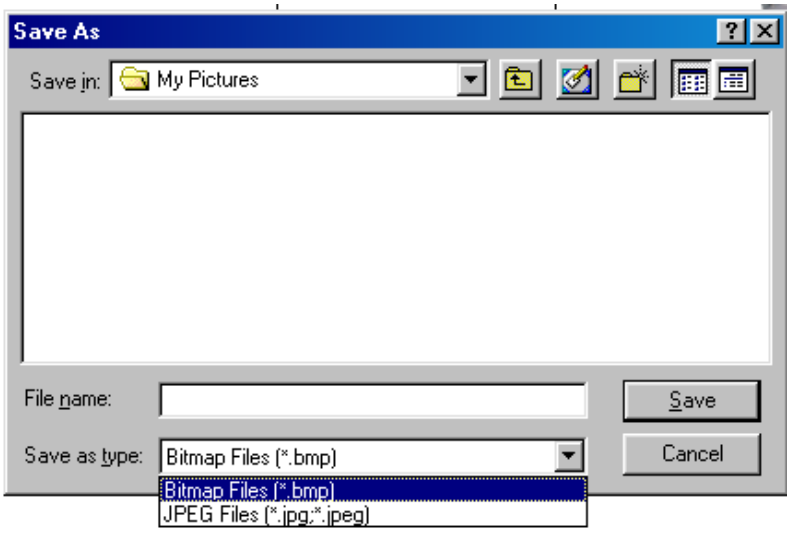
### 10.17.2 Save Window Image to File

It’s possible to save the window image of Control Design Window to the graphics file. Format that can be saved are bitmap format or JPEG format.

Select the following menu and execute it.

· [File] - [Export image…]

For the file format, please select from [Save as type] on [Save as] dialog.

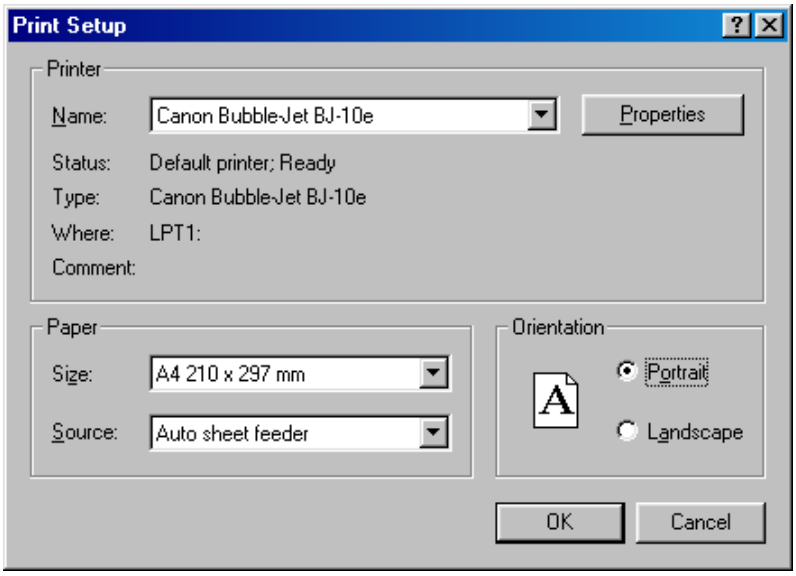



### 10.17.3 Output Image to PDF File

It’s possible to output the window image of Control Design Window to PDF file. Select the following menu and execute it.

· [File] - [Export PDF]

Printer setting window appears once selected the above menu, then select the size and direction of paper. Press “OK” and the dialog [Save as] is shown. The file can be saved with inputting the file name and press “Save”.




## 10.18. Export the Proposal File

With using Excel, it's possible to output the proposal document on the piping and control system.

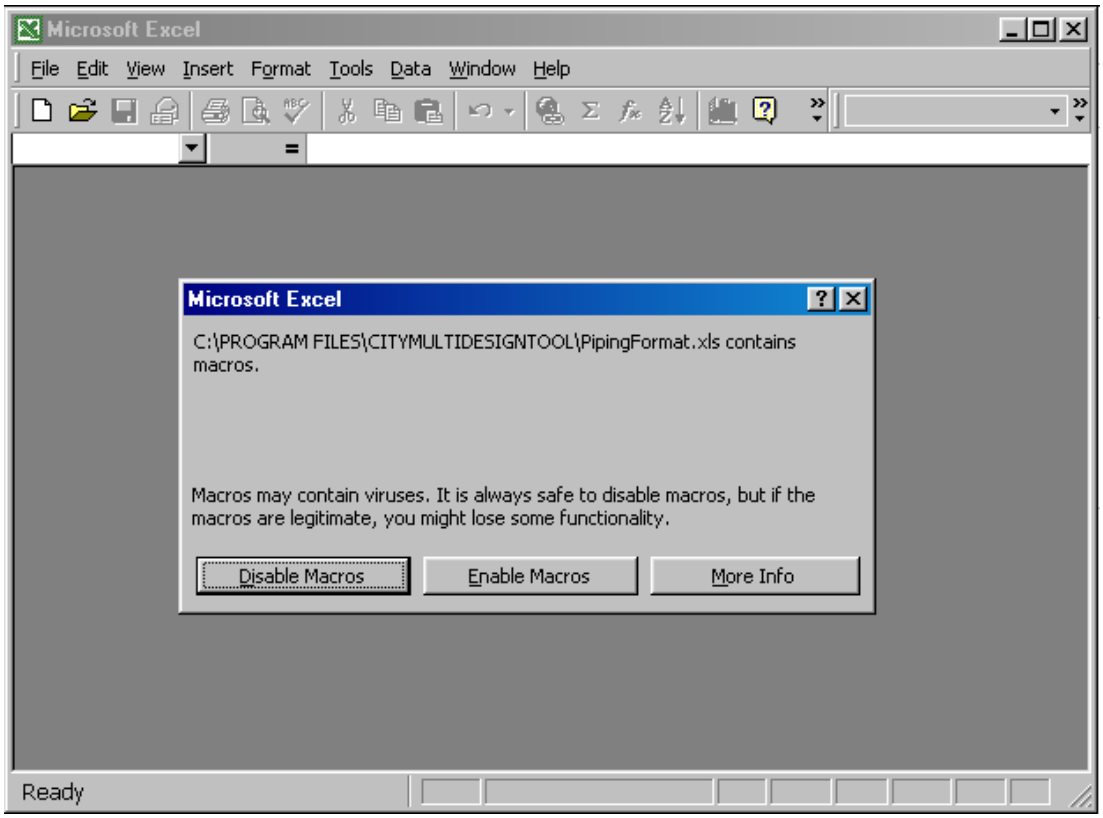
Execute the proposal output from the menu below on Control Design Window.

・[Proposal] - [Export Proposal File]

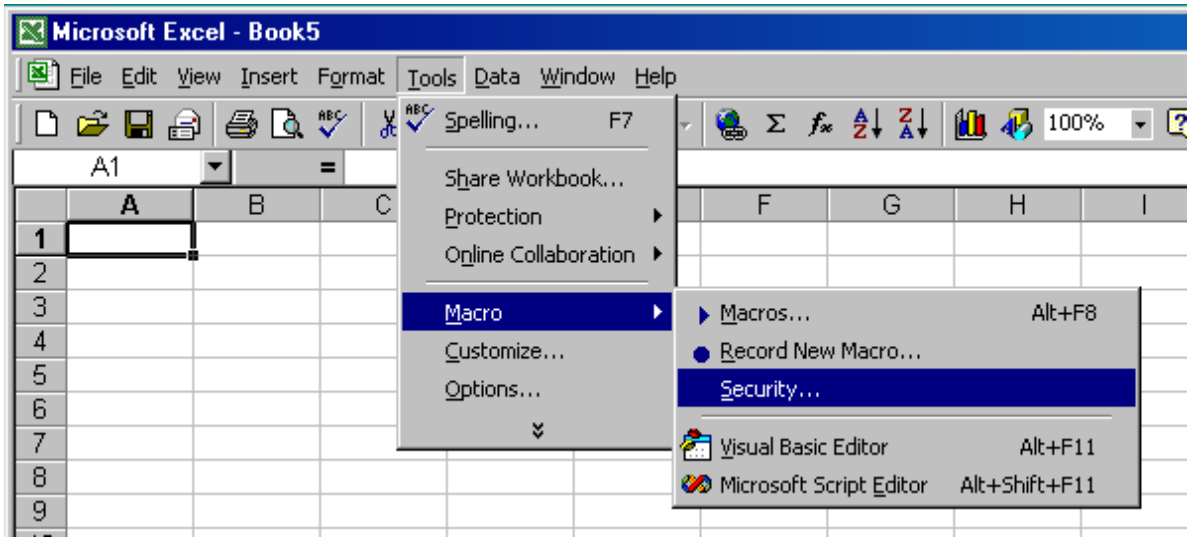
・Button on Tool bar

**Caution ! Microsoft Excel 2000 or later is needed for proposal output**

After selecting the menu, Excel starts. When the dialog to select enable/disable the macro is shown, select "Enable Macros".




Note) To execute the macro, you need to set the security level of Excel macro as Medium or lower. To change the setting, select [Tools] - [Macro] - [Security...] on Excel menu.



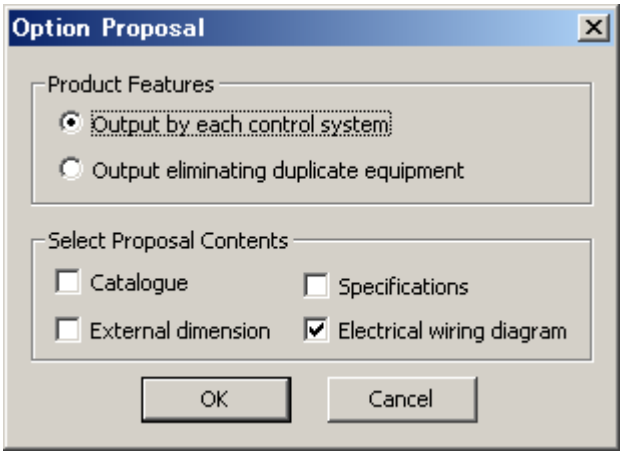

When the dialogue below is shown, select “Medium” or lower.

### 10.18.1 Proposal Document Output Setting Change

Proposal document output setting can be changed.

Display the setting window from the following menu.

・[Option] - [Option Proposal]




(1) Setting the product features output form

Set the output form of product features. When "Output by each control systems" is selected, the form is output for each centralized control system. (The overlapped data of the same models among centralized control systems is output.) When "Output eliminating duplicate equipment" is selected, the form is output without overlapping data in the whole project.)

(2) Setting the Select Proposal Contents

Set the output data of Product Features. The checked data items are output.

## 10.19. Output the Information of Indoor Units Placed in the Project

The setting dialog appears from the following menu.

・[Proposal] - [C/H load model information]

**Caution! Microsoft Excel 2000 or later is needed for output.**

After selecting the menu, Excel starts.

When the dialog to select enable/disable the macro is shown, select "Enable Macros" as well as proposal file output.

### 10.20. Export AG150-A Initial Setting Data

It's possible to output the initial setting data of AG150-A on the piping and control system.

The setting dialog appears from the following menu. Choose a destination, then an output folder for each centralized control system, which is the initial setting data of AG150-A will be created in the folder.

・[Data Export] - [Initial Setting Data of AG-150A]

### 10.21. Move to Piping Design Screen

To go back to Piping Design Window, select the menu below.

· [View] - [Main View]

· Button on Tool bar

### 10.22. Move to Expansion Controller Setting Screen

When "with LAN connection" is selected on the Project Property window and when expansion controllers are assigned in the centralized control system, move to the expansion controller setting screen from the menu below and make the setting of AG-150A (s) and AE-200E(A)(s) which have higher priority than other expansion controllers.

・[View] - [EC Assignment view]

### 10.23. Move to the LAN Connection Screen

When "with LAN connection" is selected on the Project Property window, move to the LAN connection screen from the menu below. LAN connection skeleton drawing can be output on the screen.

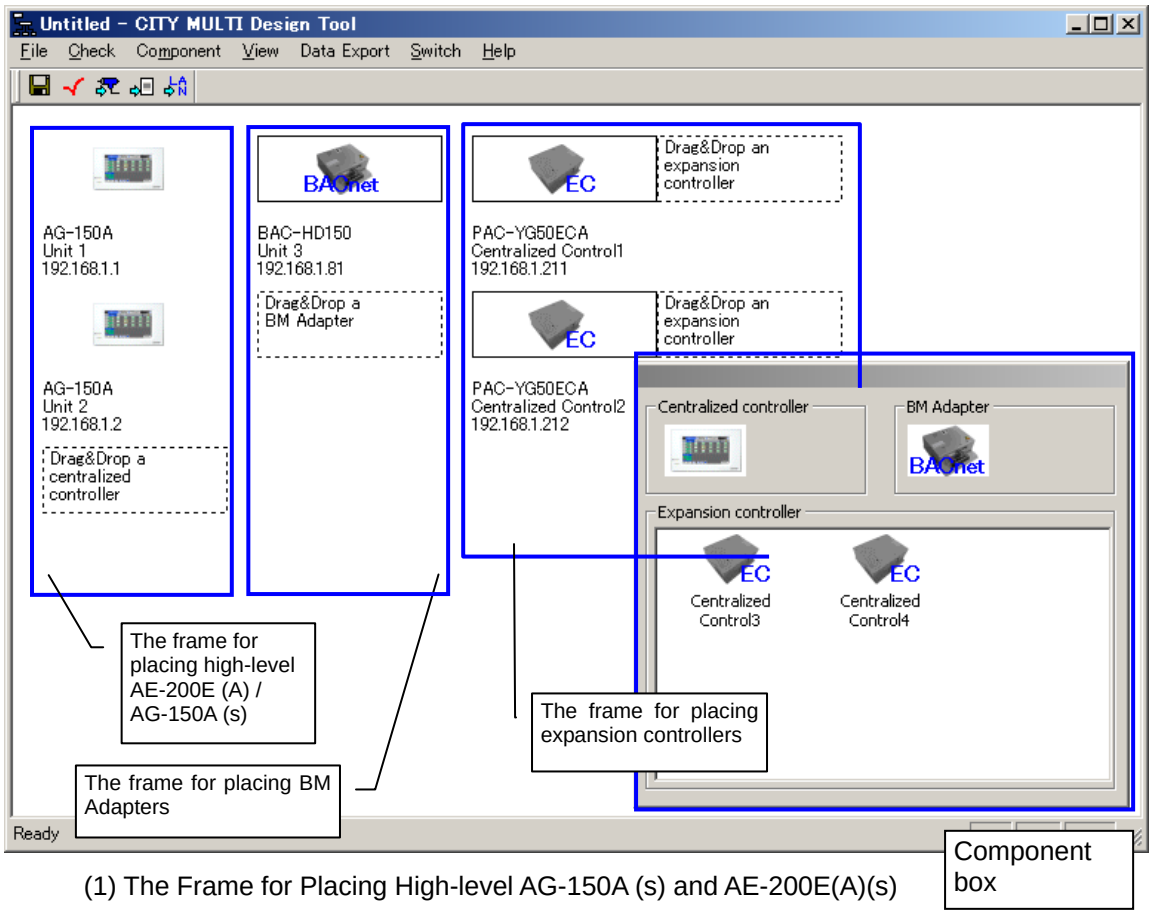
・[View] - [LAN connection view]

The system with expansion controllers need the setting of AG-150A (s) and AE-200E(A) prior to the drawing output as AG-150A and AE-200E(A) have higher priority in the control system.

## 11. Expansion Controller Setting Screen

The setting of previously placed (on the Control Design window) high-level AG-150A and AE-200E(A) can be made on the expansion controller setting screen.

## 11.1. Entry screen




(1) The Frame for Placing High-level AG-150A (s) and AE-200E(A)(s)

Place the high-level AG-150A (s) and AE-200E(A)(s) in the frame. Drag and drop AG-150A (s) and AE-200E(A)(s) from the component box to place them. The dropped AG-150A (s) and AE-200E(A)(s) will be shown in the frame.

(2) The Frame for Placing Expansion Controllers

Place the expansion controllers in the frame. Drag and drop the expansion controllers from the component box to place them. The dropped expansion controllers will be shown in the frame.

(3) The Frame for Placing BM Adapters

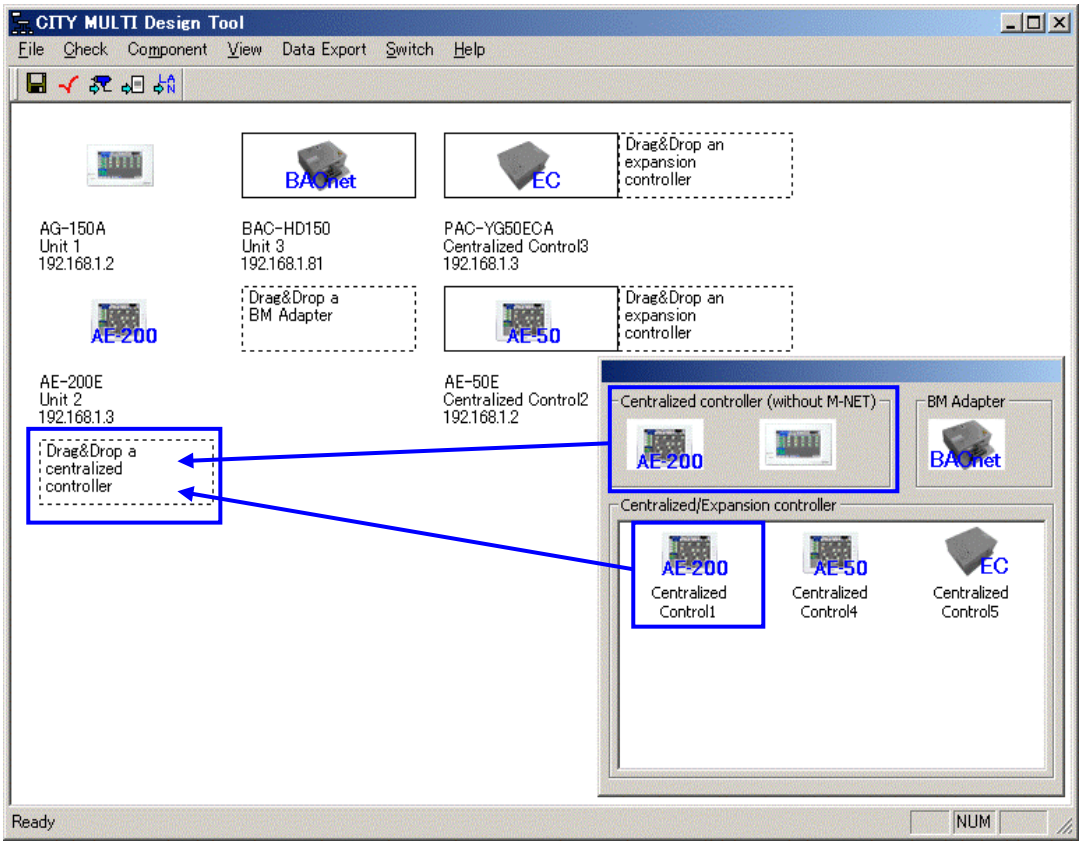
Place the BM Adapters that can be connected to 150 units in the frame. Drag and drop the BM Adapters from the component box to place them. The dropped BM Adapters will be shown in the frame.

(4) Component Box

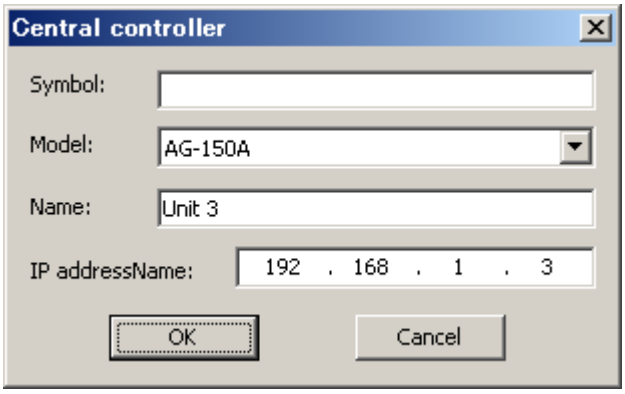
Drag and drop the components (AG-150A/AE-200E(A)/expansion controller) from the component box.

## 11.2. Input High-level AE-200E (A) / AG-150A

Drag and drop the high-level AG-150A (s) and AE-200E(A)(s) from "Centralized Controller" (without M-NET) or from the Centralized/Expansion controller in the component box to place them.




Input each data to the following dialog box and click "OK".




(1) Symbol

Input a symbol for the centralized controller.

(2) Model **MUST**

Select the model name of the centralized controller from the pulldown menu.

(3) Name **MUST**

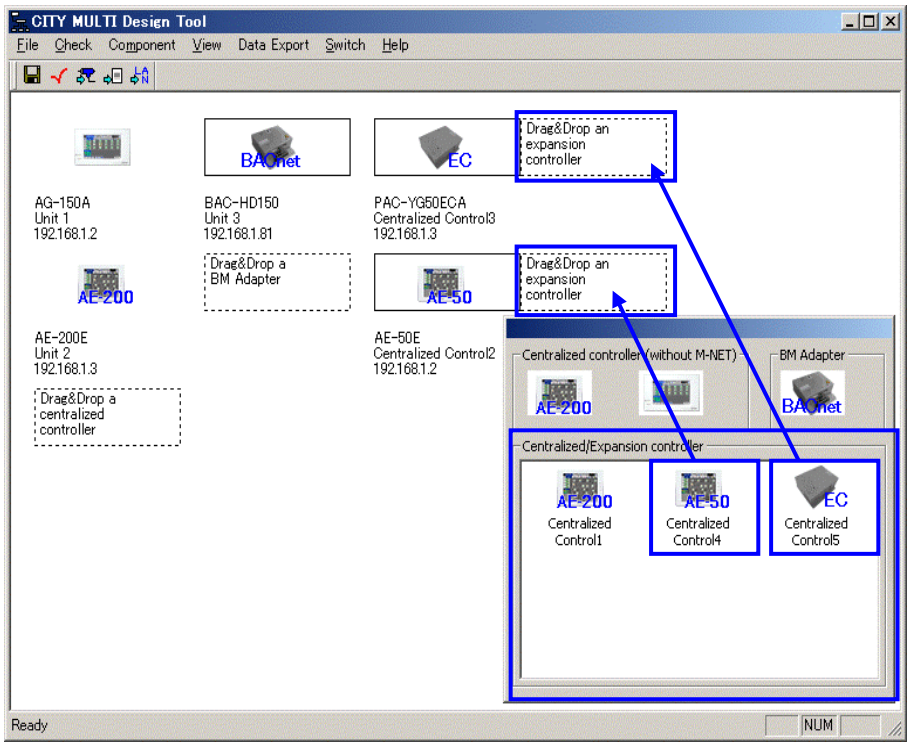
Input a unique name for the centralized controller to discern it from other centralized controllers.

(4) IP address

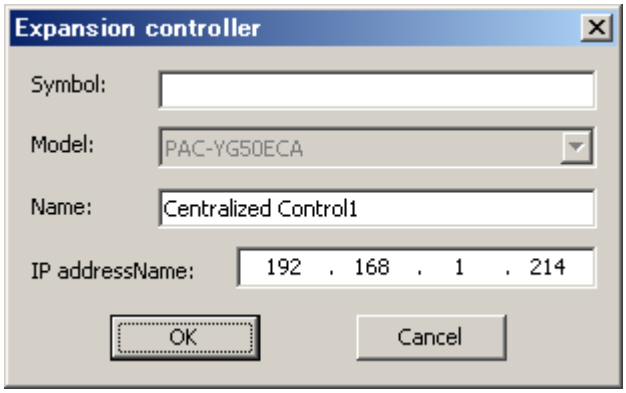
Input the IP address of the centralized controller.

## 11.3. Relate the High-level AG-150A (s) with the Expansion Controllers

The expansion controllers previously chosen on the Control Design window are placed in "Centralized/Expansion controller" of the component box. Drag the expansion controllers from the box and drop them on the dashed square next to the high-level AG-150A to and AE-200E(A) to the expansion controller to relate with.




Input each data to the following dialog box and click "OK".




(1) Symbol

Input a symbol for the expansion controller.

(2) Model

The model name of the expansion controller will be displayed.

(3) Name **MUST**

The name of the centralized control system with the selected expansion controller is displayed.

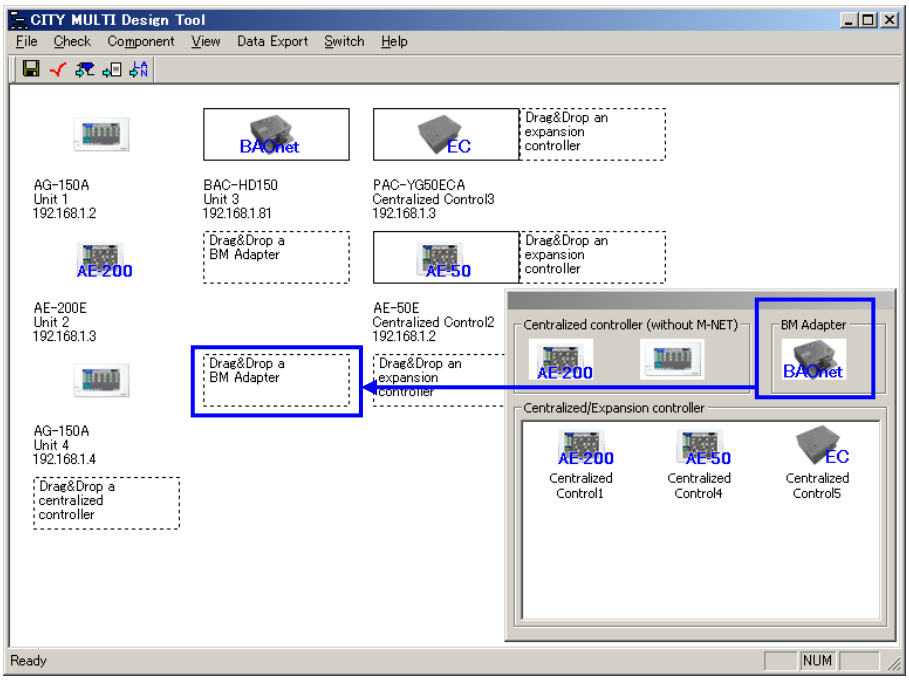
The name of the centralized control system can be changed, as long as it does not overlap with names for other systems.

(4) IP Address

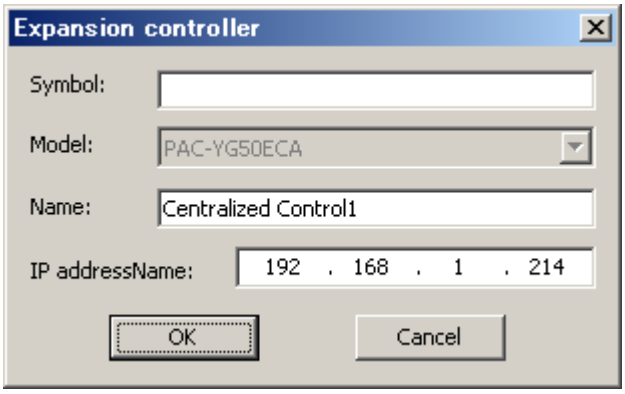
Input the IP address of the expansion controller.

## 11.4. Place the BM Adapters that can be connected to 150 units

Drag the BM Adapters from the component box and drop them on the dashed square to the right of the high-level AG-150A. BM Adapters can be placed only when an AG-150 is used as a high-level system controller.




Input each data to the following dialog box and click "OK".




(1) Symbol

Input a symbol for the BM Adapter.

(2) Model **MUST**

The model name of the BM Adapter will be displayed.

(3) Name **MUST**

Input a name to identify the BM Adapter to be placed.

The name of the BM Adapter cannot overlap with names for other BM Adapters or remote controllers.

(4) IP Address

Input the IP address of the BM Adapter.

(5) To BMS

Check the checkbox next to To BMS to display To BMS next to the BM Adapter using AutoCAD output.

## 11.5. Check the System Structure

It can be checked if the system structure has any problem or not from the menu below.

・[Check] - [Check System]

If there is any problem on the system structure, the error message for the problem appears. Refer to the error message and modify it.

## 11.6. Delete the Placed Controllers

To delete the controller, select the controller and delete it from the menu below.

・[Component] - [Remove]

・[Menu from the right click] – [Remove]

The deleted controllers are transferred to the Component box.

## 11.7. Change the Details of the Placed Controller

Select the controller and display the dialog for changing from the menu below, and change the details of the placed controller.

・[Component] - [Detail]

・[Menu from the right click]– [Detail]

## 11.8.Output the Input Data to the File

### 11.8.1 Copy the Screen Image to the Clip board

Copy the screen image of the expansion controller setting screen to the Clip board from the menu below.

・[File] - [Copy to Clipboard]

### 11.8.2 Output the Image Data File

Save the screen image of the expansion controller setting screen as a picture file from the menu below. Bitmap format or JPEG format are available.

・[File] - [Export Image…]

Select the file format from File Type on the dialog [Save as].

## 11.9. Export AG150-A Initial Setting Data

It's possible to output the initial setting data of AG150-A on the piping, control, and expansion controller system as well as the Control Design Window. *Not applicable to AE-200

Execute the data output from the menu below.

・[Data Export] - [Initial Setting Data of AG-150A]

## 11.10. Hide the Words on the Screen

From [View] menu, switch to display or hide the details such as model and model name of components showing under each component on the screen.

・[Symbol] Menu

Switch Symbol to display or hide.

・[Model] Menu

Switch Model name to display or hide.

・[Name] Menu

Switch the name of the each equipment to display or hide.

・[IP Address] Menu

Switch the IP address to display or hide.

## 11.11. Move to Another Screen

To move to Piping design or Control Design window, select the screen from [Switch] menu or the button on the Tool bar.

・[Main View] Menu or button on the tool bar

Switches to the Piping design window.

・[Control View] Menu or button on the tool bar

Switches to the Control design window.

・[LAN Connection view] Menu or button on the tool bar

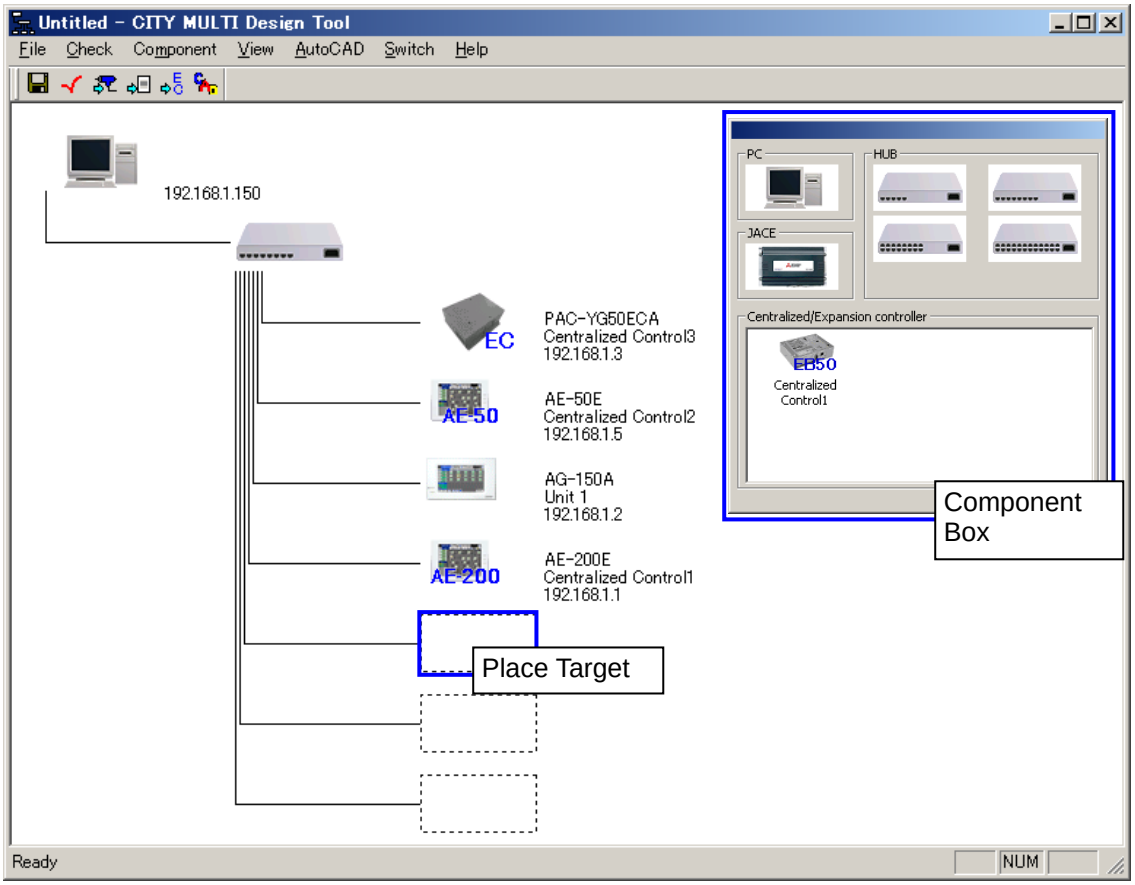
Switches to the LAN connection window.

## 12. LAN Connection Screen

Make settings to output the skeleton drawing of the LAN connection with the controllers set up on the Control design and Expansion controller setting screen.

All controllers are connected to the system via a HUB.

### 12.1. Entry screen




(1) Component Box

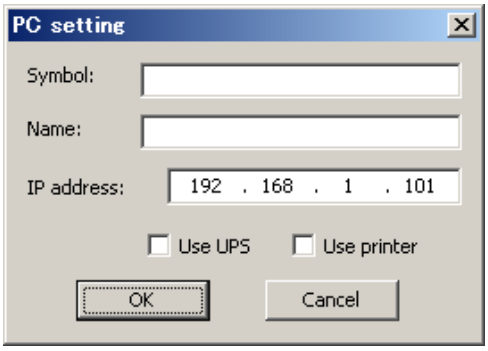
Drag and drop the PC, HUB, or controllers previously chosen in the Control design and Expansion controller setting screen.

(2) Place Target

Target place of drag and drop for component such as HUB or controller is shown by dashed square frame. Drop the component here to place it.

### 12.2. Place PC

Drag and drop the PC from the component box to place it. Target place of drag and drop for PC is shown by dashed square frame with the text, "Drag & Drop a PC or Hub". Input each data to the following dialog box and click "OK".




(1) Symbol

Input the symbol of the PC.

(2) Name

Input the name of the PC.

(3) IP Address **MUST**

Input the IP address of the PC.

(4) Use UPS

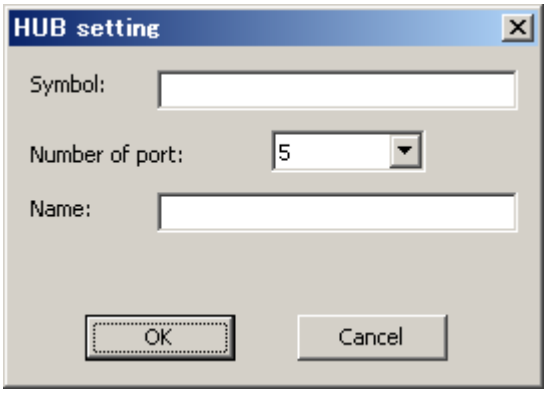
Select whether to connect UPS to the PC or not. Check the checkbox to connect UPS on the skeleton drawing.

(5) Use Printer

Select whether to add a printer for the PC or not. Check the checkbox to connect a printer on the skeleton drawing.

### 12.3. Place HUB

Drag and drop the HUB from the component box to place it. HUB (s) can be dropped to any dashed square (s), as long as they do not exceed fourth stage in cascade connection. Input each data to the following dialog box and click "OK".




(1) Symbol

Input the symbol of the HUB.

(2) Number of Port

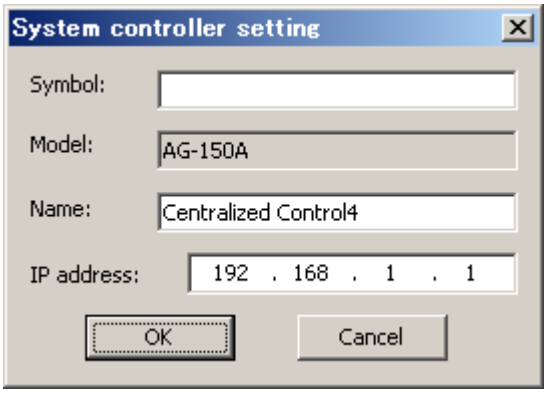
Select the number of port to which the HUB is connected. 5, 8, 16 and 24 ports are available.

(3) Name

Input the name of the PC.

## 12.4. Place Controller

The controllers previously chosen in the Control design and Expansion controller setting screen are placed in the "Centralized/Expansion controller" of the component box. Drag and drop the controllers from the component box to place them. The controllers can be dropped to the dashed squares with no message in the frame. Input each data to the following dialog box and click "OK".




(1) Symbol

The symbol of the dropped controller is displayed in the dialog box. Change the symbol as necessary.

(2) Model

The model of the controller is displayed in the dialog box.

(3) Name

The name of the controller is displayed in the dialog box. The displayed name is the name of centralized control system for the controllers which has been set up on the Control design screen.

Change the name as necessary.

(4) IP Address **MUST**

The IP address of the controller is displayed in the dialog box.

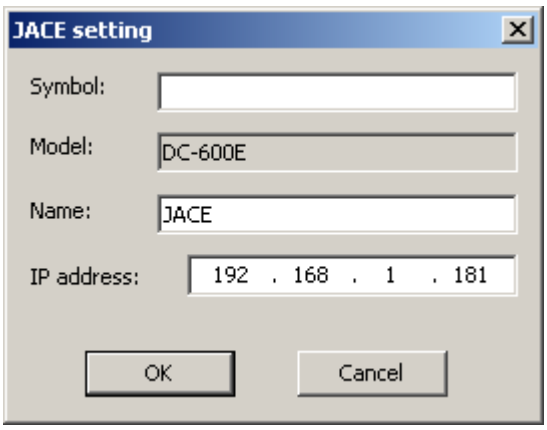
Change the IP address as necessary.

## 12.5. Place JACE

To place a JACE, select a JACE from the component box, and drag and drop it in the local remote controller field.

JACE can only be placed in a blank frame.

Fill out the dialog box that appears when a JACE is dropped in the frame (see below), and click OK to finish placing JACE.




(1) Symbol

Enter the symbol designated for the JACE to be placed.

(2) Model

The model of the JACE to be placed will appear.

(3) Name

Enter the name of the JACE to be placed.

(4) IP address **Must**

Enter the IP address of the JACE to be placed.

### 12.6. Check the system structure

It can be checked if the system structure has any problem or not from the menu below.

・[Check] - [Check System]

If there is any problem on the system structure, the error message for the problem appears. Refer to the error message and modify it.

### 12.7. Delete the placed component

To delete the placed component, select the component and delete it from the menu below.

・[Component] - [Remove]

・[Menu from the right click] – [Remove]

The deleted controllers are transferred to the Component box.

### 12.8. Change the details of the placed component

Select the component and display the dialog for changing from the menu below.

・[Component] - [Detail]

・[Menu from the right click] – [Detail]

## 12.9. Output the Input Data to the File

### 12.9.1 Copy the Screen Image to the Clip board

Copy the screen image of the LAN connection view to the Clip board from the menu below.

・[File] - [Copy to Clipboard]

### 12.9.2 Output the Image Data File

Save the screen image of the LAN connection as a picture file from the menu below. Bitmap format or JPEG format are available.

・[File] - [Export Image…]

Select the file format from File Type on the dialog [Save as].

## 12.10. Hide the Words on the Screen

From [View] menu, switch to display or hide the details such as model and model name of components showing under each component on the screen.

・[Symbol] Menu

Switch Symbol to display or hide.

・[Model] Menu

Switch Model name to display or hide.

・[Name] Menu

Switch the name of the each equipment to display or hide.

・[IP Address] Menu

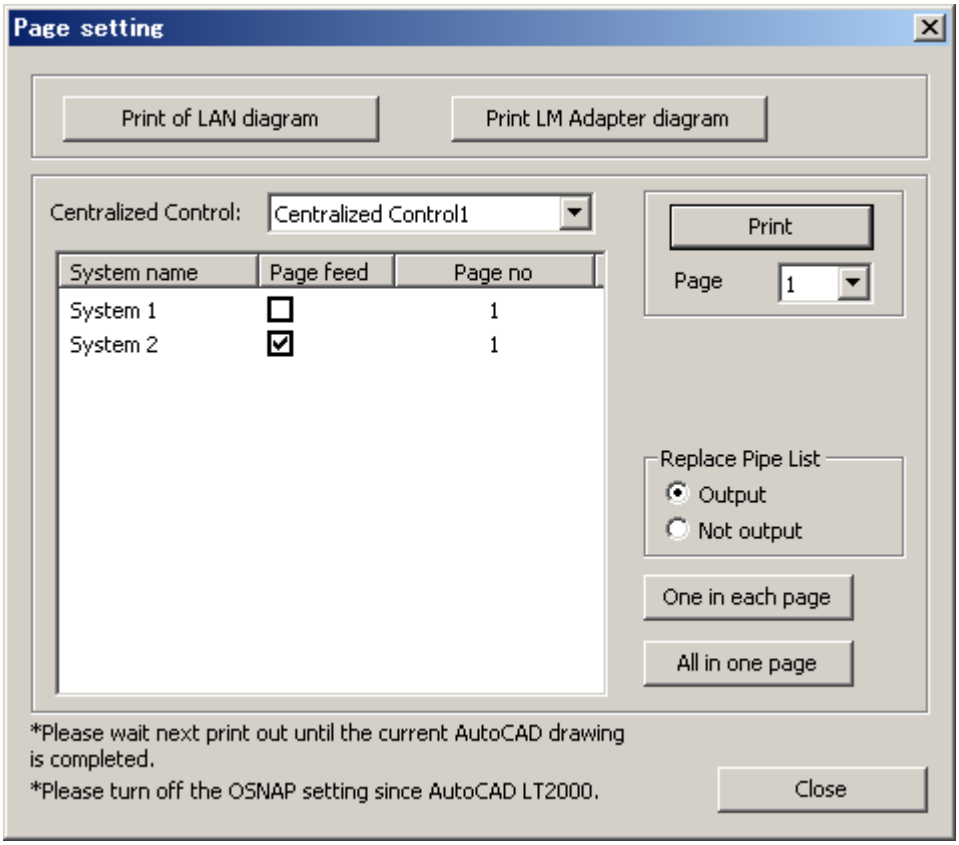
Switch the IP address to display or hide.

## 12.11. Output AutoCAD Drawing

With using AutoCAD, it's possible to output the skeleton drawing for the input piping sysytem and control. Execute the AutoCAD output from the menu below.

・[AutoCAD] - [Output to AutoCAD]

・Button on the Tool bar




Click on "Print of LAN diagram" on the top for the LAN connection view output. When LM Adapter is placed, skeleton drawing of wiring diagram of LM Adapter can be output by pressing "Print LM Adapter diagram."

Select the centralized control system in the pulldown menu of "Centralized Control" and click on "Print" button to output the skeleton drawing in the same format as shown in 9.14.

## 12.12. Move to Another Screen

To move to Piping design or Control Design window, select the window from [Switch] menu or the button on the Tool bar.

・[Main View] or the button on the Tool bar

Switches to the Piping Design window.

・[Control View] or the button on the Tool bar

Switches to the Control Design window.

・[EC Assignment view] Menu

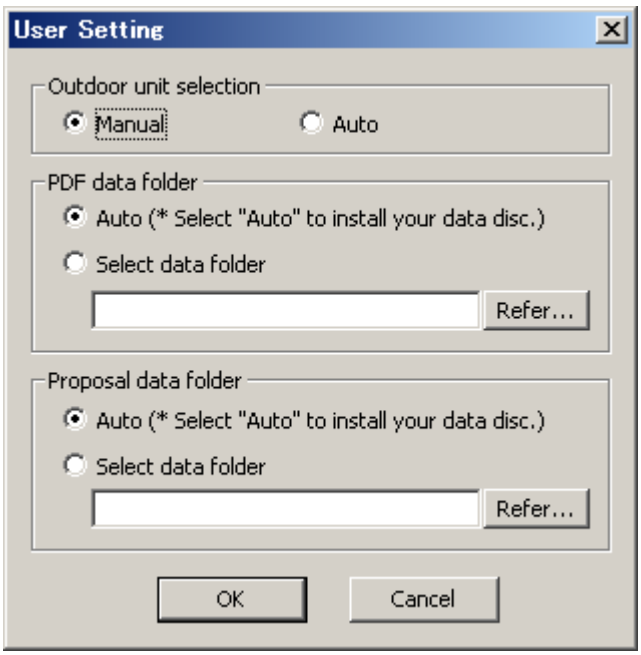
Switches to the Expansion controller setting screen.

## 13. Tool Settings

### 13.1. User Settings

Make the tool settings. Select the following menu commands in the Piping Design window or Control Design window to open the setting window.

・[Option] - [User Setting]




(1) Outdoor Unit Selection

Set how the outdoor unit is selected when creating a refrigerant system.

Select Manual to manually set the outdoor unit model when creating a refrigerant system. Select Auto to automatically set the outdoor unit model when creating a refrigerant system

(2) PDF Data Folder

Set the data to be used with Unit Data PDF.

Select Auto to use the data installed by the PDF data installer.

To specify the data to be used, select Select data folder and click the Refer button and specify the data folder to be used.

(3) Proposal Data Folder

Set the data to be used for proposal data output.

Select Auto to use the data installed by the proposal data installer.

To specify the data to be used, select Select data folder and click the Refer button and specify the data folder to be used.

## 14. Error Message and Countermeasure Action

| Window | Error Message and Action |
|---|---|
| Project Property Window | **Message:**<br>This tool cannot calculate the corrected cooling/heating capacity in this temperature condition.<br>The outdoor relative humidity must be between 30%RH and 80%RH (cooling)/90%RH (heating).<br>**Action:**<br>This tool can't calculate the capacity correction of "All fresh air indoor unit" if the outdoor relative humidity is out of 30%RH ~ 80%RH for cooling, and 30%RH ~ 90%RH for heating. (In this case, the rated capacity is displayed.)Set the relative humidity within the above range in case you consider the capacity correction. |
| Room Input Dialog | **Message:**<br>No indoor unit is selected.<br>**Action:**<br>Indoor unit is not registered at all.<br>If no indoor unit is input, you cannot move to Piping Design Window.<br>Click "Cancel" to exit. |
| | **Message:**<br>Group Description is empty.<br>**Action:**<br>Group name is not input. Group name must be registered. |
| | **Message:**<br>Outdoor Unit is empty.<br>**Action:**<br>Outdoor unit is not input. Outdoor unit must be registered |
| | **Message:**<br>A group cannot have more than 16 indoor units.<br>**Action:**<br>Indoor unit is limited to register up to 16 units in one group. |
| | **Message:**<br>UL and non-UL Devices are placed in one System.<br>**Action:**<br>UL and non-UL devices are placed in one group at the time of MEUS (UL and non-UL) area selection. |

| | |
|---|---|
| Indoor Unit Input Dialog | **Message:**<br>Empty Group Description exists. Project file cannot be created.<br>**Action:**<br>There are indoor units without group name. Group name must be specified for all indoor units. |
| | **Message:**<br>Empty Outdoor Unit exists. Project file cannot be created.<br>**Action:**<br>There are outdoor units without group name. Group name must be specified for all outdoor units. |
| | **Message:**<br>File contains unknown mode (***) data. Project file cannot be created.<br>**Action:**<br>Unknown model exists (shown in red) in the registered indoor units. It can't be moved to Piping Design Window with unknown model. Modify the model name to the actual existing model. |
| | **Message:**<br>No indoor unit is selected.<br>**Action:**<br>Indoor unit is not registered at all. To move to Piping Design Window without input any indoor unit on this window, click "Skip" button. |
| | **Message:**<br>Maximum quantity of Indoor unit is 50 units.<br>**Action:**<br>You're trying to register more than 50 indoor units. Indoor unit is limited to register up to 50 units in the whole project on this tool. |
| | **Message:**<br>Group Description is empty.<br>**Action:**<br>Group name is not input. Group name must be registered. |
| | **Message:**<br>Outdoor Unit is empty.<br>**Action:**<br>Outdoor unit is not input. Outdoor unit must be registered. |

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| | **Message:**<br>There is no Indoor unit model that satisfies the demanded capacity.<br>**Action:**<br>There's no indoor unit which satisfies the demanded capacity. Change the Type, or reset to satisfy the demanded capacity with multiple units. |
| | **Message:**<br>Selected file is not valid CSV format to this tool.<br>**Action:**<br>The selected file is not Unit List file format (CSV format). Specify the file created by Unit List file format.<br>(Refer to the 8.2.1 for Unit List file format) |
| | **Message:**<br>UL and nonUL Devices are placed in one system.<br>**Action:**<br>UL and nonUL devices are placed in one group at the time of MEUS area selection. It can't be placed UL and nonUL model together in same group. |
| Piping Design Window | **Message:**<br>Please complete the system design.<br>**Action:**<br>There's a blank space which is not registered any component. Place Cap [] to the blank space in which any component are not placed. |
| | **Message:**<br>Do not connect a Cap to Joint pipe.<br>**Action:**<br>Cap can't be placed to the branch of Joint. In case of connecting only one indoor unit to Joint, delete the Joint and place the indoor unit directly. |
| | **Message:**<br>The set temperature is beyond the CITY MULTI design condition.<br>**Action:**<br>The temperature condition is beyond the operable range of the selected outdoor unit. Reset the temperature condition and set it within the range. |

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| | **Message:**<br>Total pipe length (actual) exceeds the limit.<br>**Action:**<br>The total pipe length exceeds the limit. Modify length and set it within the range referring to the limit value of Check box. |
| | **Message:**<br>Furthest pipe length (actual) after the BC controller exceeds the limit.<br>**Action:**<br>The pipe length (actual length) to the furthest indoor unit from BC controller exceeds the limit. Modify length and set it within the range referring to the limit value of Check Box.<br>Note) [Furthest Actual] or [Furthest Actual Equivalent] is shown at the place where the furthest indoor unit is placed. |
| | **Message:**<br>Furthest pipe length (equivalent) after the BC controller exceeds the limit.<br>**Action:**<br>The pipe length (equivalent length) to the furthest indoor unit from BC controller exceeds the limit. Modify the length and set it within the range referring to the limit value of Check Box.<br>Note) [Furthest Equivalent] or [Furthest Actual Equivalent] is shown at the place where the furthest indoor unit is placed. |
| | **Message:**<br>Furthest pipe length (actual) after the first joint exceeds the limit.<br>**Action:**<br>The pipe length (actual length) to the furthest indoor unit from the first branch exceeds the limit. Modify the length and set it within the range referring to the limit value of Check Box.<br>Note) [Furthest Actual] or [Furthest Actual Equivalent] is shown at the place where the furthest indoor unit is placed. |
| | **Message:**<br>Furthest pipe length (equivalent) after the first joint exceeds the limit.<br>**Action:**<br>The pipe length (equivalent length) to the furthest indoor unit from the first branch exceeds the limit. Modify length and set it within the range referring to the limit value of Check Box.<br>Note) [Furthest Equivalent] or [Furthest Actual Equivalent] is shown at the place where the furthest indoor unit is placed. |

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| | **Message:**<br>Furthest pipe length (actual) exceeds the limit.<br>**Action:**<br>The pipe length (actual length) to the furthest indoor unit from the outdoor unit exceeds the limit. Modify the length set it within the range referring to the limit value of Check Box.<br>Note) [Furthest Actual] or [Furthest Actual Equivalent] is shown at the place where the furthest indoor unit placed. |
| | **Message:**<br>Furthest pipe length (equivalent) exceeds the limit.<br>**Action:**<br>The pipe length (equivalent length) to the furthest indoor unit from the outdoor unit exceeds the limit. Modify the length and set it within the range referring to the limit value of Check Box.<br>Note) [Furthest Equivalent] or [Furthest Actual Equivalent] is shown at the place where the furthest indoor unit placed. |
| | **Message:**<br>Pipe length (actual) between the outdoor unit and the BC controller exceeds the limit.<br>**Action:**<br>The pipe length (actual length) between the outdoor unit and BC controller exceeds the limit. Modify length and set it within the range. |
| | **Message:**<br>Pipe (equivalent) length between the outdoor unit and the BC controller exceeds the limit.<br>**Action:**<br>The pipe length (equivalent length) between the outdoor unit and BC controller exceeds the limit. Modify the length and set it within the range. |

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| | **Message:**<br>Pipe length (actual) between the outdoor units exceeds the limit.<br>**Action:**<br>The sub pipe length (actual length) of outdoor unit exceeds the limit. Modify it to fall into the range. "Sub-pipe" means the refrigerant pipe between composing units.<br>e.g.) pipe between Compressor and Heat exchanger unit (PUHY-P700YSGM-A)<br>pipe between Main unit and Sub unit (PUHY-P850YSGM-A) |
| | **Message:**<br>Pipe length (equivalent) between the outdoor units exceeds the limit.<br>**Action:**<br>The sub pipe length (equivalent length) of outdoor unit exceeds the limit. Modify the length and set it within the range. |
| | **Message:**<br>Pipe length between the branch box and the indoor unit exceeds the limit.<br>**Action:**<br>The pipe length limit between branch box and indoor unit is exceeded. Modify the length and set it within the range. |
| | **Message:**<br>Total pipe length between the branch box and the indoor unit exceeds the limit.<br>**Action:**<br>Total pipe length limit between branch box and indoor unit is exceeded. Modify the length and set it within the range. |
| | **Message:**<br>Pipe length (actual) between the outdoor unit and the branch box exceeds the limit.<br>**Action:**<br>Pipe length limit between outdoor unit and branch box is exceeded. Modify the length and set it within the range. |

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| | **Message:**<br>Error in the quantity of indoor units<br>**Action:**<br>The indoor unit quantity exceeds the limit. Modify the quantity and set it within the range, or change the outdoor unit to the model has a bigger capacity. |
| | **Message:**<br>The indoor unit of the selected size cannot be connected.<br>**Action:**<br>The size of the selected indoor unit can't be placed to the setting outdoor unit. Change the indoor unit to the one has capacity can be placed. |
| | **Message:**<br>Error in the total capacity of indoor units<br>**Action:**<br>Indoor unit total capacity exceeds the limit of the setting outdoor unit. Change the indoor unit capacity and set it within the range, or change the outdoor unit to the one has bigger capacity. |
| | **Message:**<br>Indoor unit capacity connected to the header exceeds the limit.<br>**Action:**<br>The connection capacity to Header exceeded the limit. Change the capacity to place using Joint. |
| | **Message:**<br>Number of bends must be 10 or less.<br>**Action:**<br>Number of bends must be less than 10. (MUZ/SUZ series) |
| | **Message:**<br>The selected combination is not allowed.<br>**Action:**<br>The floor installation type and other type of indoor unit can't be combined. (PU/PUH/PUHZ series) |

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| | **Message:**<br>The selected indoor unit cannot be connected to the selected outdoor unit.<br>**Action:**<br>The indoor unit which cannot be connected with selected outdoor unit is used. Change the indoor unit model. |
| | **Message:**<br>The distribution pipe cannot be connected to the selected outdoor unit.<br>**Action:**<br>The distribution pipe which cannot be used for selected outdoor unit is used. Check the quantity of indoor units corresponding to simultaneous multi-system for the selected outdoor unit. |
| | **Message:**<br>The selected combination is not allowed.<br>Please check again and change component.<br>**Action:**<br>The distribution pipe or other component is selected to the unsupported outdoor unit. Change the component model by “change component” menu. |
| | **Message:**<br>All indoor units connected to the same outdoor unit must be in the same group.<br>**Action:**<br>When PU/PUH/PUHZ series is used as simultaneous multi system, all indoor units in same refrigerant system need to be set as same group. |
| | **Message:**<br>Indoor units connected to M-NET and those NOT connected to M-NET cannot be present within a group.<br>**Action:**<br>You can’t set M-NET indoor unit and non M-NET indoor unit in same group. Check if the outdoor unit is M-NET connection or not. |
| | **Message:**<br>Please limit the branch within three levels to right direction in this tool.<br>**Action:**<br>There’s a limit for the level to be able to place Joint on this tool. Modify the number of level to place Joint within three steps to right direction. |

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| | **Message:**<br>Indoor unit capacity connected to Joint exceeds the limit.<br>**Action:**<br>The connectable capacity to the below Joint is limited for R2 Series. It can't be placed with exceeding the limit.<br>R410A : up to 140<br>R22 : up to 160 |
| | **Message:**<br>The selected indoor unit needs two ports to connect it to BC controller.<br>**Action:**<br>In case of the indoor unit capacity needs joint pipe, the joint pipe is placed automatically. However, it can't be placed if there's not enough space for the joint quantity up and down to the setting place at this time. |
| | **Message:**<br>OA Processing Unit and Indoor Unit cannot be included in the same group.<br>**Action:**<br>OA Processing Unit and Indoor Unit can't be included in the same group. |
| | **Message:**<br>Group name is duplicated.<br>**Action:**<br>The message is shown when the selected group name for indoor unit has already used as the group name for the created Lossnay. It can't include Indoor unit and Lossnay in a same group. |
| | **Message:**<br>A group cannot have more than 16 indoor units.<br>**Action:**<br>Up to 16 indoor units can be included in a same group. |
| | **Message:**<br>Total quantity of indoor units and Lossnay must be 50 or less.<br>**Action:**<br>A total of 50 indoor units or lossnays can be placed in this project on this tool. If the total quantity exceeds 50, the project must be separated. |

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| | **Message:**<br>The specified unit type is not available.<br>**Action:**<br>The message is shown when the indoor unit type selected from Component Box has not released in the selected region and the frequency. |
| | **Message:**<br>File contains unknown model (****) data. Program will terminate.<br>**Action:**<br>The message is shown when the unreleased unit in the selected region and frequency is included in the saved file to be opened. (The unloaded model is shown in brackets( )<br>Change the region and frequency, and open the file again. |
| | **Message:**<br>Group Description is empty.<br>**Action:**<br>Group name of Indoor units is not input. Group name must be input. |
| | **Message:**<br>The specified format is not supported.<br>**Action:**<br>The unsupported format on this tool is selected when the image file saving. Only Bitmap and JPEG format is supported on this tool. |
| | **Message:**<br>No printer Device found.<br>**Action:**<br>The message is shown when even one printer hasn't installed at the time of PDF file output. PDF file can't be output without one or more printers are installed. |
| | **Message:**<br>Failed to create PDF file.<br>**Action:**<br>The message is shown when PDF file output was unsuccessful. It may be caused by the out of HDD free space or in case the specified file to save is used. |

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| | **Message:**<br>System name is dupliated.<br>**Action:**<br>The message is shown when the same name as the existing system is trying to be given to the system. |
| | **Message:**<br>Outdoor unit is not selected. Try again after selecting outdoor unit.<br>**Action:**<br>It can't be checked the height difference if the model name of outdoor unit is not selected. Select the model of outdoor unit and check. |
| | **Message:**<br>Height difference between the highest indoor unit and lowest indoor unit exceeds the limit.<br>**Action:**<br>The height difference of indoor unit exceeds the limit. |
| | **Message:**<br>Height difference between the indoor unit and outdoor unit (higher) exceeds the limit.<br>**Action:**<br>The height difference between indoor unit and outdoor unit exceeds the limit. (In case outdoor unit is located higher than indoor unit.) |
| | **Message:**<br>Height difference between the indoor unit and outdoor unit (lower) exceeds the limit.<br>**Action:**<br>The height difference between indoor unit and outdoor unit exceeds the limit. (In case outdoor unit is located lower than indoor unit.) |
| | **Message:**<br>Height difference between the indoor unit and BC controller exceeds the limit.<br>**Action:**<br>The height difference between indoor unit and BC controller exceeds the limit. |

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| | **Message:**<br>Height difference between the BC controller (Main) and BC controller (Sub) exceeds the limit.<br>**Action:**<br>The height difference between Main and Sub BC controller exceeds the limit. |
| | **Message:**<br>Height difference between the outdoor unit and branch box exceeds the limit.<br>**Action:**<br>Height difference limit between outdoor unit and branch box is exceeded. |
| | **Message:**<br>Height difference between the indoor unit and branch box exceeds the limit.<br>**Action:**<br>Height difference limit between indoor unit and branch box is exceeded. |
| | **Message:**<br>The value in "Indoor unit (Highest)" must be larger than that in "Indoor unit (Lowest)".<br>**Action:**<br>For the setting height of indoor unit, 'Indoor Unit (highest) Location' must be a larger value than 'Indoor Unit (lowest) Location'. |
| | **Message:**<br>Error in the range of water flow rate: Enter value between ** and **.<br>**Action:**<br>Water flow rate exceeds the settable range for the selected model. Please input the value in the specified range by [** and **]. |
| | **Message:**<br>Indoor units connected to the different series of outdoor unit cannot be present within a group.<br>**Action:**<br>You should not include the indoor units of Heat pump system and Heat recovery system in same group. |

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| | **Message:**<br>The M-NET address must be between ** and **.<br>**Action:**<br>Input M-NET Address in the specified range by [** and **]. |
| | **Message:**<br>Fresh air intake type indoor unit cannot be connected to the selected outdoor unit.<br>**Action:**<br>Fresh air intake type indoor unit is connected to the noncompliant outdoor unit. Change fresh air intake type to other type or change outdoor unit to fresh air compliant type. |
| | **Message:**<br>OA Processing unit cannot be connected to the selected outdoor unit.<br>**Action:**<br>OA Processing unit (GUF) is connected to the noncompliant outdoor unit. Change OA Processing unit (GUF) to other type or change outdoor unit to OA Processing unit (GUF) compliant type. |
| | **Message:**<br>The selected header cannot be connected directly to the outdoor unit of size ** or larger.<br>**Action:**<br>You should use bigger header which has more branches than current one or the joint for the first branch of the selected outdoor unit. |
| | **Message:**<br>The selected component cannot be changed. Connection restrictions to BC controller differs.<br>**Action:**<br>You are trying to change to a unit with a different confluence condition.<br>The BC controller cannot be changed if there is a new section that requires a confluence due to unit change. |
| | **Message:**<br>CMB-P*V-GA cannot be connected to the outdoor unit of P700 or more.<br>**Action:**<br>The BC controller CMB-P*V-GA cannot be used for outdoor units that exceeds PURY-P700YSHM-A.<br>Therefore, please use CMB-P1016V-HA. |

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| | **Message:**<br>CMB-P1016V-HA cannot be connected to the outdoor unit of P650 or less.<br>**Action:**<br>The BC controller CMB-P1016V-HA cannot be used for outdoor units that are less than PURY-P650YSHM-A. Therefore, please use CMB-P*V-GA. |
| | **Message:**<br>The indoor unit capacity connected to the sub BC controller exceeds the limit.<br>**Action:**<br>The capacity of the indoor units connected with a sub BC controller exceeds the limited value. |
| | **Message:**<br>With Air to water series, Booster unit and HEX. unit cannot be grouped.<br>**Action:**<br>You can't set Air to water unit and non-Air to water unit in the same group.<br>The grouping limitation is also applicable to Hot water supply unit. |
| | **Message:**<br>ATW HEX. unit cannot be connected to the selected outdoor unit.<br>**Action:**<br>The selected outdoor unit model is non-compliant to ATW HEX.<br>Change outdoor unit to ATW HEX. compliant type. |
| | **Message:**<br>ATW Booster unit cannot be connected to the selected outdoor unit.<br>**Action:**<br>The selected outdoor unit model is non-compliant to ATW Booster.<br>Change outdoor unit to ATW Booster compliant type. |
| | **Message:**<br>BC controller of CMB-P-V-HB cannot be connected to outdoor unit of PURY-P-Y(S)GM .<br>**Action:**<br>The BC controller CMB-P V-HB cannot be used for WR2 Series, Y(S)GM outdoor units. Change the BC controller to appropriate type. |

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| | **Message:**<br>Select either "1-port" or "2-port" connection for indoor units sized P100-P140.<br>**Action:**<br>One BC controller cannot have both confluence ports and non-confluence ports that are connected to indoor units sized P100-P140 simultaneously. The connections must be all "1-port" or all "2-port" on a BC controller. |
| | **Message:**<br>Select both or either of CN105 and CN2A.<br>**Action:**<br>When setting VAV, select both or either of CN105 and CN2A. |
| | **Message:**<br>The selected outdoor unit cannot be connected to the WCB.<br>**Action:**<br>The selected outdoor unit cannot be connected to the WCB. Change the outdoor unit model, or delete the WCB. |
| | **Message:**<br>Some parts cannot be connected because of the reasons below.<br>#6: Not connectable<br>#3: Refrigerant charge amount limits<br>#4: Piping length limits<br>Please review the input piping diameter.<br>**Action:**<br>Some parts are evaluated as Not connectable. Check the piping size. |
| | **Message:**<br>CITY MULTI Connection KIT cannot be connected to the selected outdoor unit.<br>**Action:**<br>Wall-mounted type (RAC) or Compact floor type (RAC) indoor units cannot be connected to the selected indoor unit. Select a different outdoor unit. |
| | **Message:**<br>CITY MULTI Connection KIT and CITY MULTI indoor units cannot be grouped.<br>**Action:**<br>Wall-mounted type (RAC) or Compact floor type (RAC) indoor units and CITY MULTI indoor units cannot be grouped together. |

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| Control Design Window | **Message:**<br>MA Remote controller and ME Remote controller cannot be used together.<br>**Action:**<br>MA Remote controller and M-NET Remote controller can't be used together in the same group |
| | **Message:**<br>Total quantity of indoor units and Lossnay must be 50 or less.<br>**Action:**<br>The total quantity of indoor unit and Lossnay can't exceed 50 units on this tool. Modify the quantity to be below 50 units. |
| | **Message:**<br>Please select one or more target group which System Controller controls.<br>**Action:**<br>There's System controller that doesn't specify any target group to manage. Please specify more than one target group for each System controller. |
| | **Message:**<br>Only one Lossnay can be interlocked with one Indoor unit.<br>**Action:**<br>Only one Lossnay can be interlocked with one Indoor unit. It can't specify more than 2 units. |
| | **Message:**<br>One Lossnay unit can intrelock with up to 16 indoor units.<br>**Action:**<br>Only 16 Indoor units can be interlocked with one Lossnay. It can't specify more than 16 units. |
| | **Message:**<br>Specify just one group to which Stand-Alone Lossnay is connected.<br>**Action:**<br>It needs to specify one group for M-NET wiring connection of Stand-alone Lossnay on this tool. Specify the connection group for all of Stand-Alone Lossnay. |

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| | **Message:**<br>All the groups must have at least one local remote controllers.<br>**Action:**<br>Each group needs more than one controller.<br>Place more than one local remote controller, or specify it as the target group of System controller. |
| | **Message:**<br>MA Remote controller cannot be used in the Group over multiple refrigerant systems in this tool.<br>**Action:**<br>MA Remote controller cannot be used in the Group over multiple refrigerant systems on this tool. Use M-NET Remote Controller. |
| | **Message:**<br>A group of Lossnay units cannot be controlled by the group remote controller.<br>**Action:**<br>Group remote controller cannot operate Lossnay group. |
| | **Message:**<br>Simple remote controllers must be used with MA/ME remote controllers or centralized controllres.<br>**Action:**<br>Simple controller can't be placed in a group by itself without system controller. Use it together with MA or ME remote controller. |
| | **Message:**<br>Only 3 System controllers can be used in one group.<br>**Action:**<br>System controller can be set up to 3 controllers for one group. |
| | **Message:**<br>The number of selected groups exceed that of controllable groups by the system controller.<br>**Action:**<br>The number of operable target group by System controller exceeds the limit.<br>The operable group number is limited for each System controller, so it can't be set over the limited quantity. |

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| | **Message:**<br>The number of selected indoor units exceed that of controllable units by the system controller.<br>**Action:**<br>The number of operable indoor unit by System controller exceeds the limit. The operable unit quantity is limited for each System controller, so it can't be set over the limited quantity. |
| | **Message:**<br>Select one or more indoor units to be interlocked with Lossnay unit.<br>**Action:**<br>Any indoor unit is specified as the target of interlocked Lossnay.<br>It must specify more than one indoor unit for each interlocked Lossnay. |
| | **Message:**<br>When there are both MA and ME remote controllers in a system, MA remote controller must be connected to the group of indoor units that is connected to BC controller (Main).<br>**Action:**<br>On this tool, MA remote controller cannot be set for the Group which has Indoor unit connected to BC controller (Sub) if MA and ME remote controller are set in a refrigerant system. Change to M-NET remote controller. |
| | **Message:**<br>When there is no System controller, ME remote controller and MA remote controller cannot be used together in a system.<br>**Action:**<br>ME remote controller and MA remote controller cannot be used together in a system if System controller isn't placed. |
| | **Message:**<br>Four or more system remote cannot be controllers connected to Indoor-Outdoor transmission line(TB3).<br>**Action:**<br>More than 4 system controllers are specified to connect to indoor/outdoor transmission line in one refrigerant system.<br>The system controller specified to connect to indoor/outdoor transmission line is placed to the refrigerant system where the smallest address indoor unit in the specified groups is connected. Modify the quantity of System Controller to 3 or less units for one refrigerant system, or change to connect to Centralized control transmission line. |

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| | **Message:**<br>The quantity of system controllers connected to centralized control transmission line exceeds the limit. The power suppply is not enough.<br>**Action:**<br>The number of system controller connected to Centralized control transmission line exceeds the limit. The quantity of the system controller to be able to connect to Centralized control transmission line is limited concerning the feeding electricity. It can't be placed over the limited value. |
| | **Message:**<br>Total quantity of outdoor units and BC controller must be 50 or less.<br>**Action:**<br>A total of Outdoor unit and BC controller must be below 50 sets. |
| | **Message:**<br>The address of the indoor unit connected to the BC controller (Main) must be smaller than that of the indoor unit connected to the BC controller (Sub).<br>Perform "Reset Address".<br>**Action:**<br>The address of indoor unit connected with BC controller (Main) should be smaller than the address of indoor unit connected with BC controller (Sub). This message is shown when the fixed address for each unit went against this rule. Perform [Reset Address] from the menu, and reset the address. |
| | **Message:**<br>The address of the indoor unit connected to the BC controller (Sub1) must be smaller than that of the indoor unit connected to the BC controller (Sub2).<br>Perform "Reset Address".<br>**Action:**<br>The address of indoor unit connected with BC controller (Sub1) should be smaller than the address of Indoor unit connected with BC controller (Sub2). This message is shown when the fixed address for each unit went against this rule. Perform [Reset Address] from the menu, and reset the address. |

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| | **Message:**<br>The address of the indoor unit connected to the MA remote controller must be smaller than that of the indoor unit connected to the ME remote controller.<br>Perform "Reset Address".<br>**Action:**<br>The address of Indoor unit connected with MA remote controller should be smaller than the address of Indoor unit connected with ME remote controller. This message is shown when the fixed address for each unit went against this rule. Perform [Reset Address] from the menu, and reset the address. |
| | **Message:**<br>There is no Remote controller and System controller in the system.<br>**Action:**<br>More than one local or system controller must be placed. |
| | **Message:**<br>Group name is duplicated.<br>**Action:**<br>The selected group name for Lossnay has already used as the group name for the indoor unit. It can't include indoor unit and Lossnay in a same group. |
| | **Message:**<br>Select a group to which Stand-Alone Lossnay is connected.<br>**Action:**<br>The group to connect Stand-Alone Lossnay Is not specified. |
| | **Message:**<br>Please select the path of AutoCAD<br>**Action:**<br>The path of AutoCAD isn't specified. Please select it. |

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| | **Message:**<br>Previously set addresses are against the M-NET address rule. Perform "Reset Address".<br>**Action:**<br>The message is shown when the fixed address went against the address setting rule. Perform “Reset Address” from Menu and reset the address. |
| | **Message:**<br>The address of the group remote controller is against the M-NET address rule. Perform "Reset Address".<br>If error still appears, please reexamine the configuration of system remote controllers.<br>**Action:**<br>The message is shown when it can’t set the address of Group remote controller based on the address setting rule. Perform “Reset Address” from Menu and reset the address. If it still have problem, check the structure of Remote controller. |
| | **Message:**<br>Connect one or more Indoor units to BC controller.<br>**Action:**<br>AutoCAD drawing can’t be output if no indoor unit is connected to BC controller. If it doesn’t need BC controller for the project, go back to Control Design Window and delete the unneeded BC controller. |
| | **Message:**<br>Error! The refrigerant address setting of unit is incorrect.<br>Please perform “Reset Address” Menu.<br>**Action:**<br>The refrigerant address setting of unit is incorrect. Please perform “Reset Address” Menu. |
| | **Message:**<br>Stand alone Lossnay cannot be connected to MU/SU, PU and MXZ group.<br>**Action:**<br>You can’t connect the stand alone lossnay to MUZ/SUZ, PU/PUH/PUHZ and MXZ group. |

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| | **Message:**<br>Lossnay cannot be connected to MU/SU and MXZ system.<br>**Action:**<br>You can't interlock the lossnay with MUZ/SUZ and MXZ indoor unit. |
| | **Message:**<br>To use system controllers, at least one system must be connected to M-NET.<br>**Action:**<br>You can't use the system controller in non M-NET system. |
| | **Message:**<br>M-NET address is duplicated in a project.<br>**Action:**<br>M-NET address is duplicated. Change duplicated address or choose [Reset Address] from the menu and reset address. |
| | **Message:**<br>The M-NET address must be between ** and **.<br>**Action:**<br>Input M-NET Address in the specified range by [** and **]. |
| | **Message:**<br>Failed to create Proposal file.<br>**Action:**<br>It appears in case of proposal file creation failure. The cause could be inadequate HDD or memory capacity. |
| | **Message:**<br>Centralized controller is necessary to use AI/PI controller.<br>**Action:**<br>The use of AI/PI controllers requires G/GB-50A, AG-150A, and AE-200E(A). |
| | **Message:**<br>System remote controller is necessary to use AI/PI/DIDO controller.<br>**Action:**<br>Prepare the system controller to use AI/PI/DIDO controller. |

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| | **Message:**<br>Maximum quantity of PI controller is below:<br>With G-50A/GB-50A: 5 units<br>With AE-200/AE-50/AG-150A/PAC-YG50ECA/GB-50ADA: 15 units<br>With AE-200+AE-50 system: 20 units<br>**Action:**<br>The maximum of five PI controllers can be used with each G/GB-50A, and the maximum of 15 PI controllers can be used with each AE-200(A), AE-50E(A), AG-150A, PAC-YG50ECA, and GB-50ADA. |
| | **Message:**<br>PI/AI/DIDO controller must be connected to Indoor/Outdoor transmission line on CITY MULTI system.<br>**Action:**<br>You can't connect PI/AI/DIDO controllers to indoor/outdoor transmission line for P, M, S and MXZ series. |
| | **Message:**<br>PI/AI/DIDO controller must be connected to Indoor/Outdoor transmission line on CITY MULTI system.<br>**Action:**<br>PI/AI/DIDO controller is connected to incompatible system. Connect it to the correct system. |
| | **Message:**<br>PAR-W21MAA must be used with Air to water Hex. unit and Air to water Booster unit group.<br>**Action:**<br>Change the remote controller to PAR-W21MAA to use it for Air to Water/Hot water supply group. |
| | **Message:**<br>PAR-W21MAA can only be used with Air to water Hex. unit and Air to water Booster unit group.<br>**Action:**<br>Change the remote controller to the one compatible with the group. |
| | **Message:**<br>PAR-W21MAA is necessary for Air to water Hex. unit and Air to water Booster unit group.<br>**Action:**<br>Install PAR-W21MAA as a local remote controller for Air to water/Hot water supply group. |

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| | **Message:**<br>Expansion controller (PAC-YG50ECA) and BM Adapter cannot be used together in one centralized control system.<br>**Action:**<br>Expansion controllers (PAC-YG50ECA) and BACnet Adapters cannot both be connected to the same centralized control system. Select one or the other. |
| | **Message:**<br>IP address is duplicated in a project.<br>**Action:**<br>Some IP addresses are duplicated in the system.<br>Assign a unique address to each unit not to overlap with others. |
| | **Message:**<br>LM Adapter and BM Adapter cannot be conncted to RAC and HAC system.<br>**Action:**<br>You can't connect RAC or HAC to LM Adapter or BM Adapter. |
| | **Message:**<br>Expansion controllers (AE-50/PAC-YG50ECA) must be used with AE-200/AG-150A. Locate AE-200/AG-150A in the EC assignment view.<br>**Action:**<br>Expansion controllers must be used with AG-150A or AE-200E(A).<br>Locate AG-150A or AE-200E(A) in the EC assignment view. |
| | **Message:**<br>Quantity of Lossnay in one group exceed. PZ-52SF-E:max 16. PZ-60DR:max 15.<br>**Action:**<br>When PZ-52SF-E is used, up to 16 Lossnay units can be connected to a group. When PZ-60DR is used, up to 15 Lossnay units can be connected to a group. |
| | **Message:**<br>PZ-52SF-E and PZ-60DR cannot be used together.<br>**Action:**<br>PZ-52SF-E and PZ-60DR cannot be used together in a group. |

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| | **Message:**<br>PZ-60DR cannot be connected to LOSSNAY of RX4 or before.<br>**Action:**<br>PZ-60DR cannot be connected to LOSSNAY of RX4 or before.<br>Use another local remote controller. |
| | **Message:**<br>The selected controller cannot control ATW.<br>**Action:**<br>Some system controllers cannot control ATW. Remove the ATW group from the target groups or change the selected controller. |
| | **Message:**<br>The selected controller cannot control DOAS.<br>**Action:**<br>Some system controllers cannot control DOAS. Remove the DOAS group from the target groups or change the selected controller. |
| | **Message:**<br>In case of interlock to Mr.Slim, Lossnay can not be interlocked to other indoor units.<br>**Action:**<br>In this Design Tool, when Mr. Slim is interlocked, Lossnay can be interlocked to only one indoor unit with Slim-Lossnay connection cable. |
| | **Message:**<br>Please return to the MainView. Error is present.<br>**Action:**<br>The input in Piping Design screen is an error. Go back to the Piping Design screen, and re-enter the input. |
| | **Message:**<br>When PAR-30MA is used, two remote controllers cannot be used within a group.<br>**Action:**<br>When PAR-30MAA is used, two remote controllers cannot be used within a group unless P series units are used. To use two remote controllers within a group, use other local remote controllers. |
| | **Message:**<br>There is no Lossnay system.<br>**Action:**<br>In this Design Tool, a centralized control system needs one or more refrigerant system or Lossnay. |

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| | **Message:**<br>Honeywell remote controller cannot be used in the selected group.<br>**Action:**<br>The group to which the Honeywell remote controller is assigned contains units which do not support use of the Honeywell remote controller. Change either the remote controller or the indoor unit. |
| | **Message:**<br>The selected controller cannot be used in the selected group (RAC/HAC/MXZ).<br>**Action:**<br>Restrictions apply to the remote controllers that can be used with the M, S, P, and MXZ Series indoor units. The assigned remote controller cannot be used. Select another model. |
| | **Message:**<br>Honeywell remote controller and other remote controller cannot be used together in a system.<br>**Action:**<br>A Honeywell remote controller cannot be used together with the other remote controller in the same refrigerant system. |
| | **Message:**<br>PZ-41SLB-E is connected with connection disabled Lossnay.<br>**Action:**<br>PZ-41SLB-E is assigned to a Lossnay that cannot use it. Change the remote controller. |
| | **Message:**<br>Please specify the main setting unit of each group.<br>**Action:**<br>With microcomputer control, one Lossnay must be set for the main settings of each group. |
| | **Message:**<br>Main setting must be set to the higher priority unit.<br>**Action:**<br>The main setting must be set for the highest priority unit in the group. |

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| | **Message:**<br>CITY MULTI Connection KIT cannot be grouped with MA remote controller.<br>**Action:**<br>MA remote controllers cannot be used in a system in which wall-mounted type (RAC) and Compact floor type (RAC) indoor units are grouped together. Use ME remote controllers. |
| | **Message:**<br>Wireless remote controller can not be connected to fresh air intake. If you'd like to use the wireless remote controller, please use the remote sensor.<br>**Action:**<br>Wireless remote controllers cannot be used with the Fresh Air Intake type indoor units. Use remote sensors instead. |
| | **Message:**<br>Cannot use over 70 sets of Indoor unit and Lossnay, AHC.<br>**Action:**<br>The total combined number of indoor units, LOSSNAY units, and AHCs exceeds 70 units. Disconnect some units so the total number of connected units is 70 or less. |
| | **Message:**<br>The controller except for EB-50/smart ME controller can not connect to AHC.<br>**Action:**<br>Only use EB-50 or Smart ME remote controller with AHC. |
| Expansion controller setting window | **Message:**<br>Assign all expansion controllers to centralized controllers.<br>**Action:**<br>Some controllers have not been assigned to any centralized controllers. Assign all expansion controllers to centralized controllers. |
| | **Message:**<br>No expansion controllers are assigned to some centralized controllers.<br>**Action:**<br>One or more AG-150A/AE-200E(A) controllers have no expansion controllers assigned to them. At least one expansion controller must be assigned to each AG-150A and AE-200E(A) controllers. |

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| | **Message:**<br>Maximum quantity of PI controller is below.<br>With G-50A/GB-50A: 5 units<br>With AE-200/AE-50/AG-150A/PAC-YG50ECA/GB-50ADA: 15 units<br>With AE-200+AE-50 system: 20 units<br>**Action:**<br>The maximum of 15 PI controllers can be used in a system in a combination of AG-150A and EC, and the maximum of 20 PI controllers can be used in a system with a combination of AE-200E(A) and AE-50E(A). |