

Hisense

Hisense Design Software Introduction



Hisense life reimagined

Contents



1. Brief Introduction

2. Main Function

3. Project Case

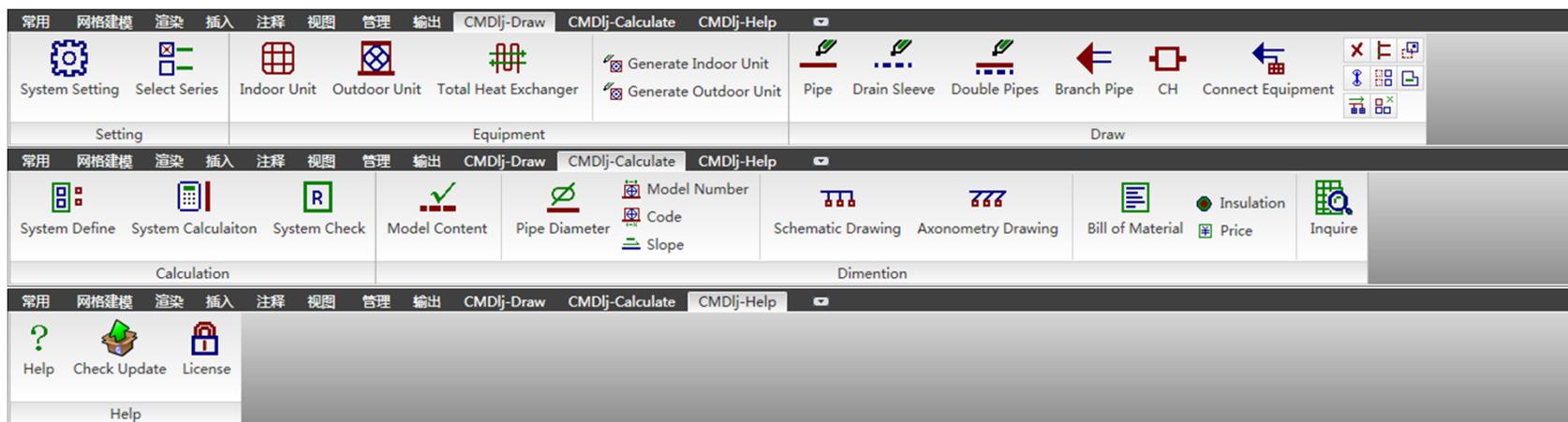
Developers	YNYC Software Technology Co.,Ltd
Latest version	Oct. 2016 V4.0
Operating system	32bit or 64 bit Windows XP/Win7/Win8
Language	English & Chinese
Software size	Main program 64M & update pack 30M
Type	Free trial

- By using CMDIj, we can complete the drawing of VRF system efficiently , including equipment and pipe design, pipe connecting , system define and calculation, generate the axonometric and stretch-out view drawing .
- We can generate the equipment chart , and refrigerant charge calculation, then export data as an Excel.
- Simple to operate, setting short-cut key for each function
- Check for update online and update automatically

Function Menu

Support AutoCAD Ribbon menu

3D Model



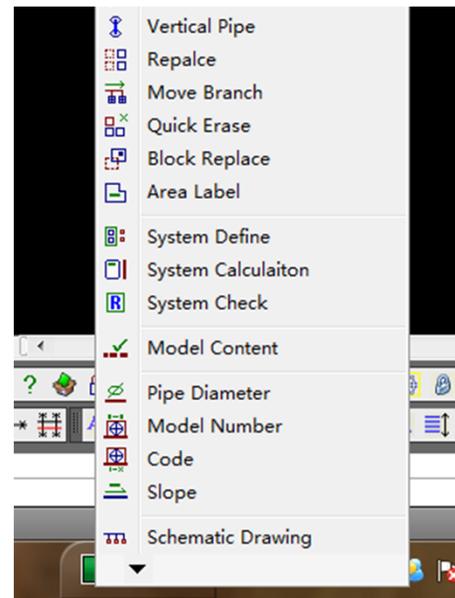
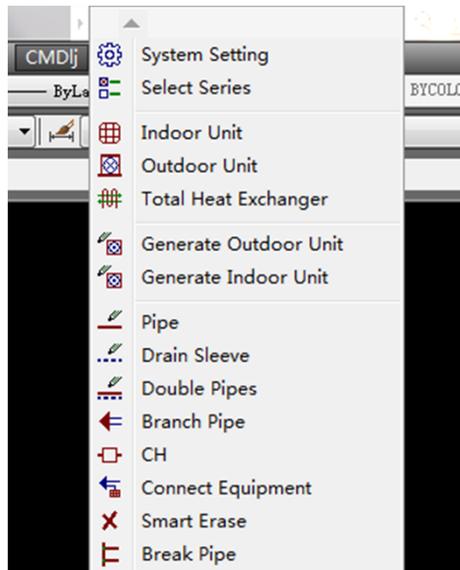
floating toolbars



Function Menu

Support AutoCAD Ribbon menu

2D Model

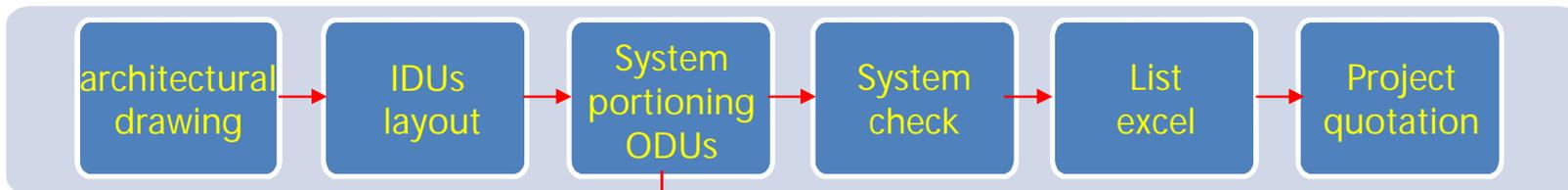


floating toolbars

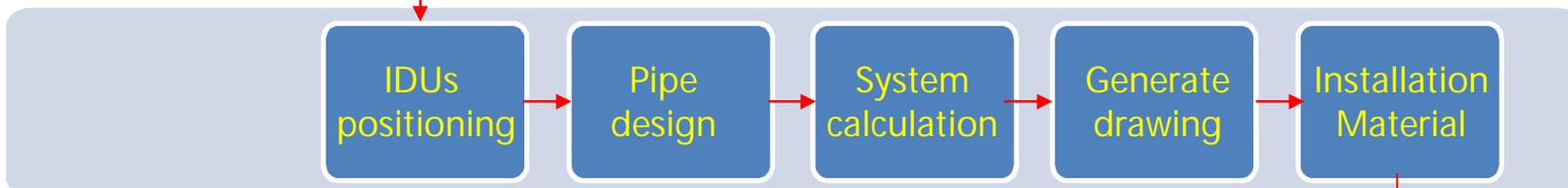


Design Process

Pre-sales



Deepen



Check



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PREPARE:

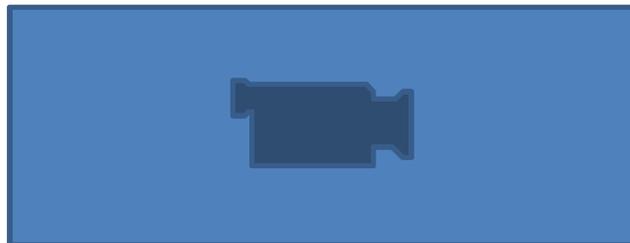
Installation

- Download address: <http://www.hvacapp.com.cn>
- Download the edition of AutoCAD and then select oversea edition.
- After finishing software installation, it can be Loaded into the AutoCAD platform automatically.

Register



License

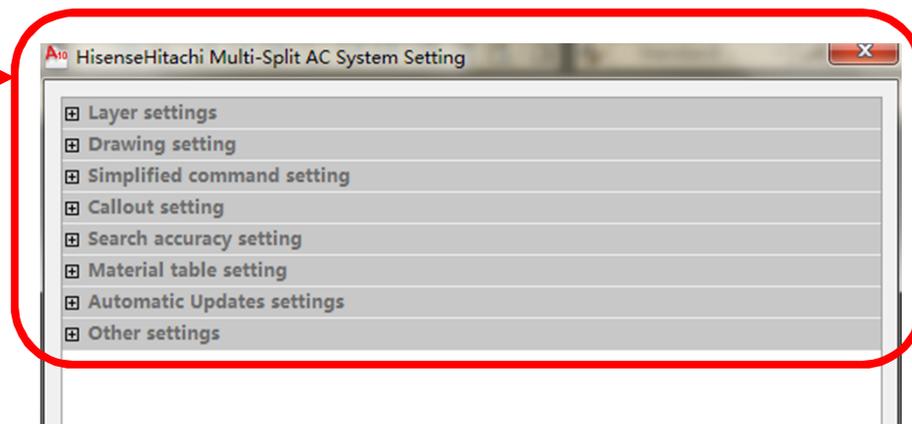


Function 1

System Setting



System setting



- System settings can set the layer , drawing , simplified command callout and other basic parameter during the use of CMdlj software . before drawing the VRF system ,you can check these settings according to your drawing requirements .

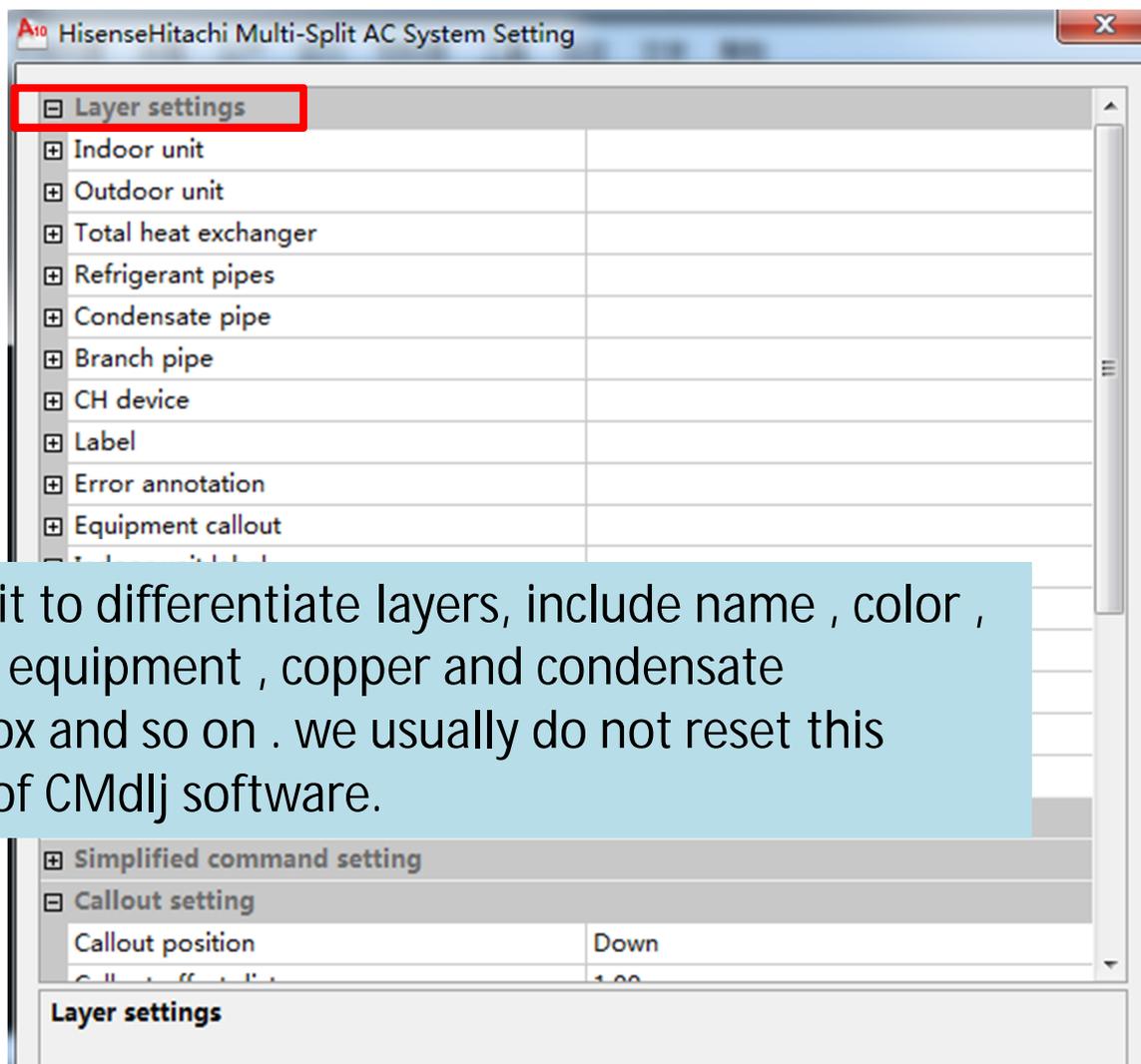


Function 1

System Setting



Layer setting



- Layer settings: we use it to differentiate layers, include name , color , linear and line width of equipment , copper and condensate pipe ,branch pipe, CH box and so on . we usually do not reset this settings during the use of CMdlj software.

Function 1

System Setting



Drawing setting

Layer settings		
Drawing setting		
Drawing scale	100.00	
Text height	2.50	▲
Branch pipe setting		
Branch pipe filling	Yes	
Branch pipe size	2.00	▲
Pipe connector tube length	1.00	
CH device settings		
CH device fills	Yes	
CH length	3.01	
CH width	1.91	
CH extension pipe length	0.20	
Vertical pipe setting		
Refrigerant vertical pipe diameter in drawing	1.00	
Condensate vertical pipe diameter in drawing	1.00	
Auto-connecting		
Indoor piping extended length (mm)	400.00	
Indoor condensate pipe extended length (mm)	250.00	
Min.length of straight line at branch pipe outlet (mm)	0.00	
Simplified command setting		
Callout setting		

- Drawing settings can reset basic settings such as fills ,scale , length of the branch pipe , CH device , vertical pipe diameter and auto-connecting , according to your drawing requirements.

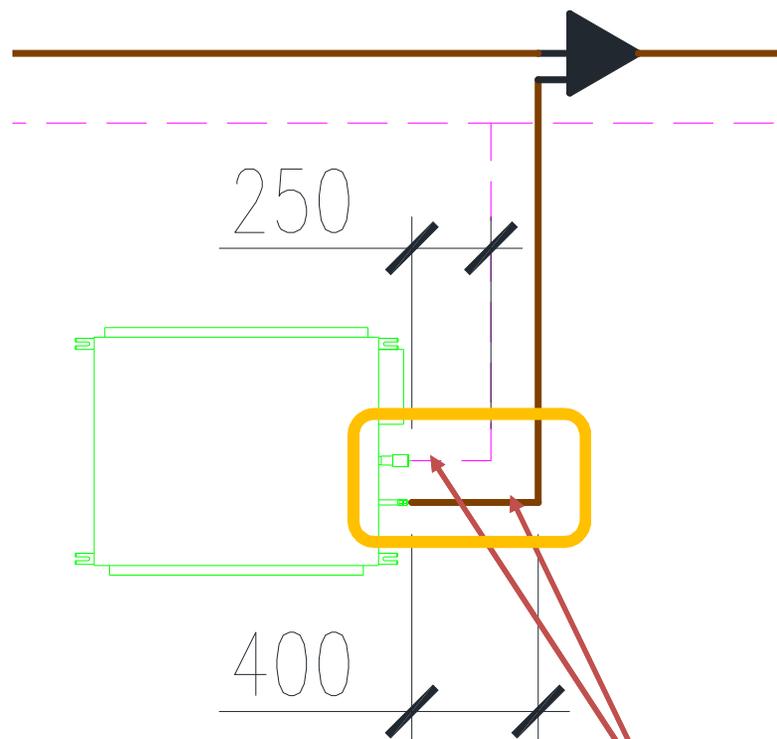
Function 1

System Setting



Drawing setting: Auto-connecting

Auto-connecting	
Indoor piping extended length (mm)	400.00
Indoor condensate pipe extended length (mm)	250.00
Min.length of straight line at branch pipe outlet (mm)	0.00



Indoor pipe extending

Function 1

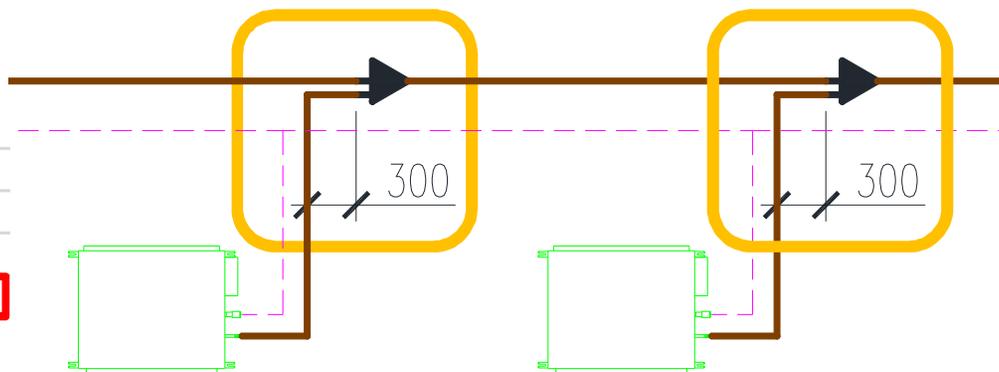
System Setting



Drawing setting: Auto-connecting

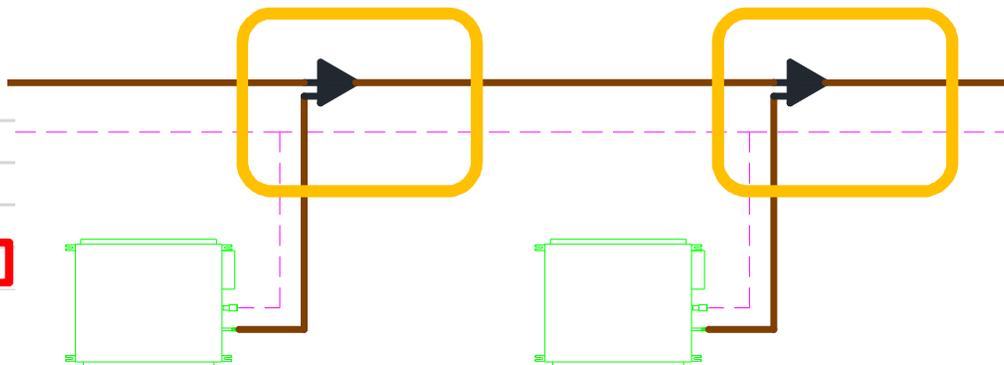
Default

Auto-connecting	
Indoor piping extended length (mm)	400.00
Indoor condensate pipe extended length (mm)	250.00
Min.length of straight line at branch pipe outlet (mm)	300.00



We suggest change the value to "0"

Auto-connecting	
Indoor piping extended length (mm)	400.00
Indoor condensate pipe extended length (mm)	250.00
Min.length of straight line at branch pipe outlet (mm)	0.00

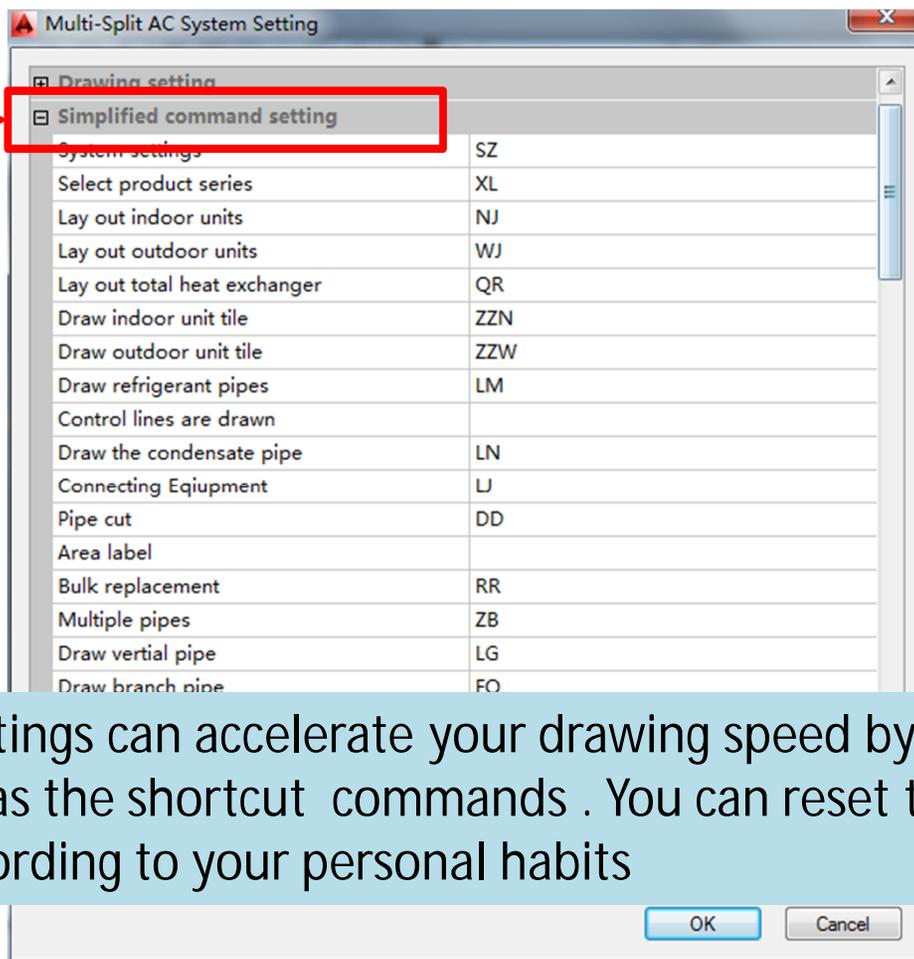


Function 1

System Setting



Short-cut



➤ Simplified command settings can accelerate your drawing speed by inputting simple letters as the shortcut commands. You can reset the shortcut commands according to your personal habits

Function 1

System Setting



Mark setting

Other settings

Multi-Split AC System Setting

- [-] Drawing setting
- [-] Simplified command setting
- [-] Callout setting

Callout position	Up
Callout offset distance	1.00
Callout rotate with the entity	No
Refrigerant pipe callout prefix	%%c
Condensate pipe callout prefix	De
- [-] Search accuracy setting
- [-] Material table setting
- [-] Automatic Updates settings

Automatic updates	Yes
Check interval (days)	7
- [-] Other settings

Interface language	English
Unit	GB
The current database	HisenseHitachi(En)
Approximate branch pipe length	200.00
- [-] The range of cooling match ratio

The min. of cooling match ratio	0.60
The max. of cooling match ratio	1.20

Drawing setting

OK Cancel

- Prefix
- Language
 - Chinese
 - English
- Unit
 - meter(GB)
 - feet(Imperial)

Function 2

Series and Content Setting



Select Series

Select product series

Manufacturer: Hisense

Product series:

- C 220v/60Hz
- C 220~240v/50Hz
- E 220v/60Hz
- E 220~240v/50Hz
- G 220v/60Hz
- G 220~240v/50Hz
- L 220v/60Hz
- L 220~240v/50Hz
- M 220v/60Hz
- M 220~240v/50Hz
- MultiFunction 220~240v/50Hz
- R 220v/60Hz
- R 220~240v/50Hz
- W 220v/60Hz
- W 220~240v/50Hz

Select all/Select none OK Cancel

Model content

HisenseHitachi Equipment Model Meaning

Optional content	Label content
<input checked="" type="checkbox"/> Equipment Model	RCI-125H1Q QL=12.2kW
<input type="checkbox"/> Outline dimension:	
<input checked="" type="checkbox"/> Equipment Cooling Capacit	<input type="checkbox"/> Device air flow
<input type="checkbox"/> Equipment Heating Capaci	<input type="checkbox"/> Rated power
<input type="checkbox"/> Refrigerant pipe takes ove	<input type="checkbox"/> Distribution power
<input type="checkbox"/> Condenser tube takes ove	<input type="checkbox"/> Weight

OK Cancel

TICK WHAT YOU NEED !

Function 3

Equipment layout



Indoor unit/outdoor unit

Equipment Parameters

Manufacturers	Hisense
Product series	M 220~240v/50Hz
Equipment Type	4-way Cassette Type
Equipment Model	AVC-09UXCSEB
Cooling capacity (kW)	2.8
Cooling capacity (kBtu)	9.55
Cooling capacity (TR)	0.80
Heating capacity (kW)	3.3
Heating capacity (kBtu)	11.26
Heating capacity (TR)	0.94
Heating capacity with a	0
Rated power (kW)	.04
Distribution of power (k	.048
Power with auxiliary hea	0

- click "indoor unit", choose product series and equipment type.

HisenseHitachi Multi-Split AC Equipment

Indoor unit | Outdoor unit | Total heat exchanger

Manufacturer: Hisense

Product series: M 220~240v/50Hz

Equipment Type: 4-way Cassette Type

Equipment list:

- AVC-09UXCSEB
- AVC-12UXCSEB
- AVC-14UXCSEB
- AVC-17UXCSEB
- AVC-18UXCSEB
- AVC-22UXCSEB
- AVC-24UXCSEB
- AVC-27UXCSFB
- AVC-30UXCSFB
- AVC-38UXCSFB
- AVC-48UXCSFB
- AVC-54UXCSFB

Equipment Parameters

基本参数

Entity descriptions	
Materials	
Elevation (m)	0
Manufacturers	Hisense
Product series	M 220~240v/50Hz
Equipment Type	4-way Cassette Type
Equipment Model	AVC-09UXCSEB
Cooling capacity (kW)	2.8
Cooling capacity (kBtu)	9.55
Cooling capacity (TR)	0.80
Heating capacity (kW)	3.3
Heating capacity (kBtu)	11.26
Heating capacity (TR)	0.94
Heating capacity with a	0

Segment Display

Object Display

Draw Level Elevation: 2.6

Callout model

Install | Add | Modify | Delete | Close

2. Main Function

Function 4

Pipelines design



Pipelines system

		Copper tube
		Drain pipe
		Double pipe
		Double pipe

Function 4

Pipelines design



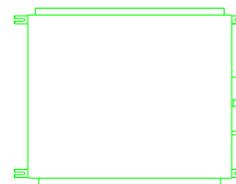
Drain pipe

Break drain pipe

Connect equipment

- 1.draw main drain pipe
- 2.draw branch drain pipe
- 3.break drain pipe

- 1.select copper tube (if only connect drain pipe, just click "space")
- 2.select drain pipe
- 3.select Indoor units
- 4.click "space" or "enter"
- done



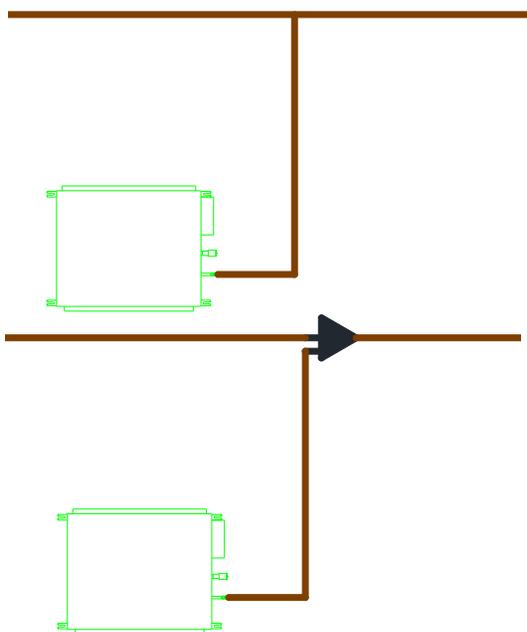
Function 4

Pipelines design



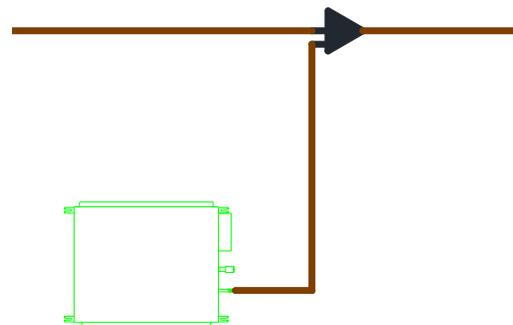
Branch pipe

- 1.select main pipe
- 2.select branch pipe



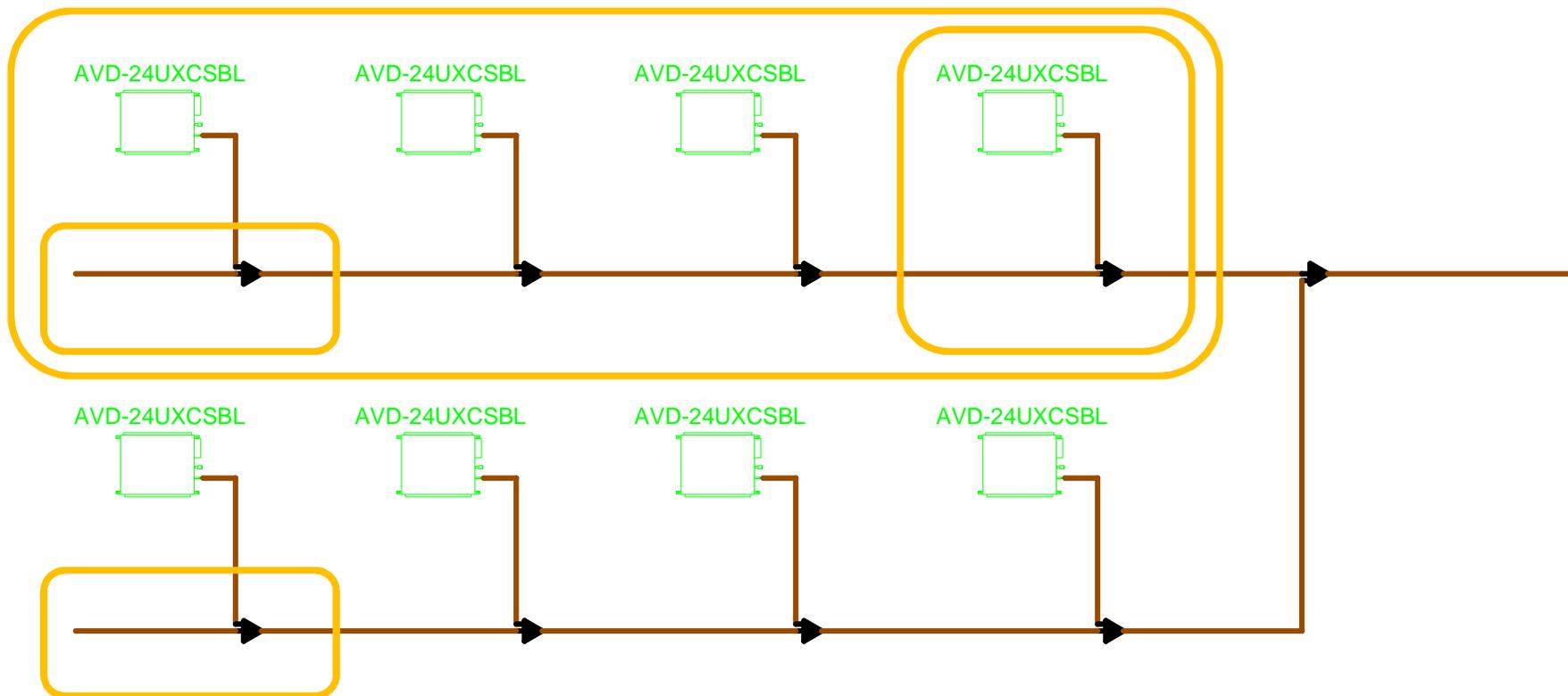
Connect equipment

- 1.select copper tube
- 2.select drain pipe(if only connect copper tube, just click "space")
- 3.select Indoor units
- 4.click "space" or "enter"
- done



Function 5

Smart Erase



➤ Smart erase:
use this key to erase indoor unit, branch pipe, or CH box, it can also clear up pipe system in the meanwhile.

2. Main Function

Function 6

Smart Label and IDUs replace



Bulk replace equipment

Equipment types in target model list

Manufacturer: Hisense

Product series: M 220~240v/50Hz

Equipment Type: Ceiling Ducted Type(Low St)

Serial ...	Source model	Target model
1	AVD-24UXCSBL	AVD-24UXCSBL
2	AVC-30UXCSFB	AVC-30UXCSFB
3	AVC-09UXCSEB	AVC-09UXCSEB

Note: After bulk replace, different equipment sizes may lead to connection error between equipment and pipe.

A key replacement

OK Cancel

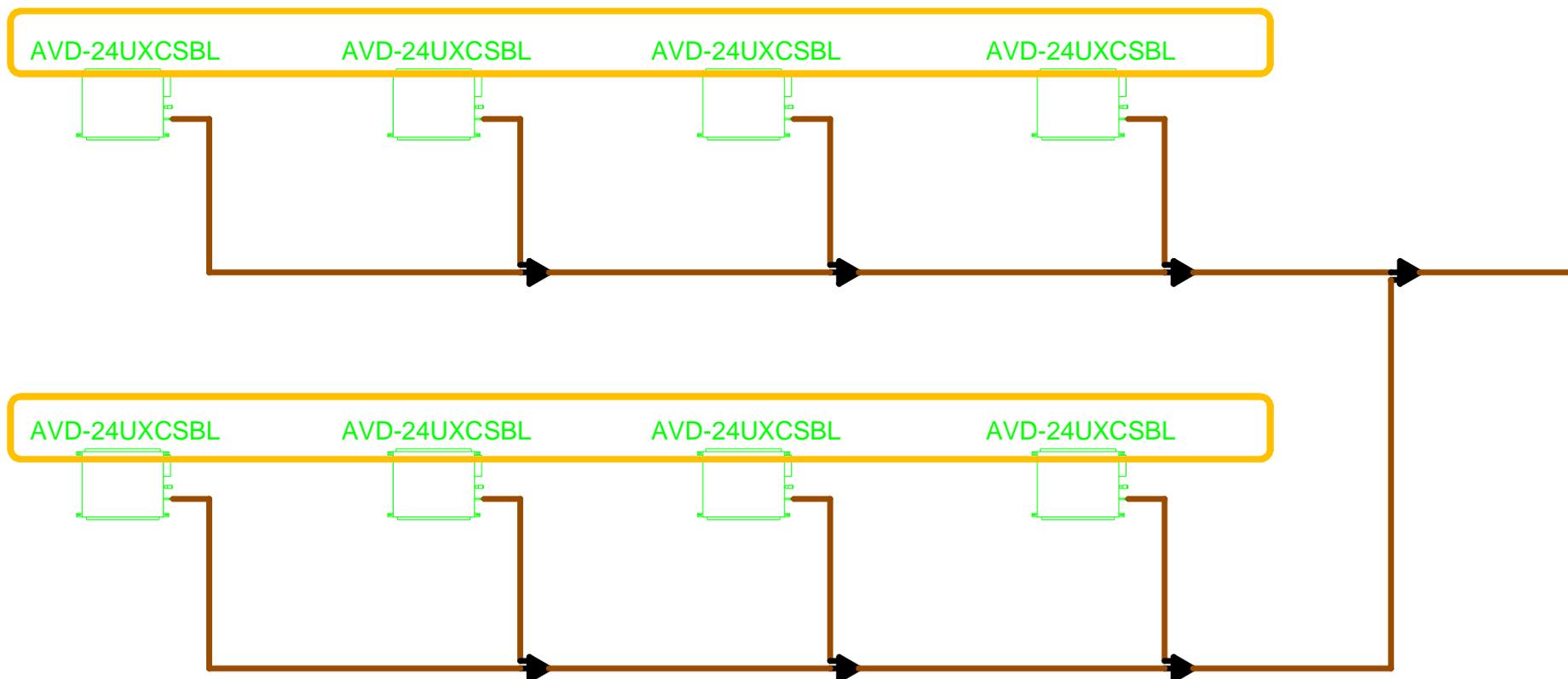
➤ Equipment replace
Select the equipment you want to replace , choose the product series and type.

➤ Quick erase: use it to delete, copy or move things which are in the same layer or type.

2. Main Function

Function 6

Smart Label and IDUs replace



2. Main Function

Function 7

Refrigerant system partition



System define

System Partitioning

System No.: * All * New Modify Delete

Indoor unit

Serial number	Equipment Model	Equipment Number	Cooling caps
1	AVD-24UXCSBL		7.10
2	AVD-24UXCSBL		7.10
3	AVC-30UXCSFB		9.00
4	AVC-30UXCSFB		9.00
5	AVC-09UXCSEB		2.80
6	AVC-09UXCSEB		2.80

Total cooling capacity: 37.80kW

Total heating capacity: 43.60kW

select indoor unit Add indoor unit < Removed < Remove all

Twinkle Auto numbering

Red indicates the conflict of system numbers
yellow indicates there is no system number
green indicates a successful system number

Outdoor unit

Serial number	Equipment Model	Ratio of cooling rate (%)	Coo
1	AVWT-114U6SR	112.84	33.5
2	AVWT-136U6SS	94.50	40.0
3	AVWT-154U6SS	84.00	45.0
4	AVWT-182U6SZ	71.05	53.0
5	AVWT-190U6SZ	67.50	56.0
6	AVWT-210U6SZ	61.46	61.0

Confirm System Define Close

Defining system name and equipment series No. , managing many different systems at the same time. Supporting dynamic twinkle and calculating the match ratio between IDU and ODU.

Function 8

System calculation



System calculates [current calculation rules:Hisense/M 220~240v/50Hz/Hi-FLEXi M Series]

- [-] Refrigerant pipes
 - [-] Branch pipe
 - [-] Refrigerant pipes
 - [-] Branch pipe
 - [-] Refrigerant pipes
 - [-] Branch pipe
 - [-] Refrigerant pipes
 - [-] Refrigerant pipes
 - [-] Refrigerant pipes
 - [-] Refrigerant pipes

System overview [-] Refrigerant pipes [-] Branch pipe [-] CH device [-] Conden

| Index | Item | Value |
|-------|--|-------|
| 1 | Max.piping length (m) | 18.41 |
| 2 | Distance between outdoor units and the 1st... | 5.78 |
| 3 | Max.pipe length between the 1st branch an... | 12.62 |
| 4 | Number of main branch pipes | 0 |
| 5 | Number of indoor units | 5 |
| 6 | Indoor unit rated total cooling capacity (kW) | 32.6 |
| 7 | Indoor unit rated total heating capacity (kW) | 36.6 |
| 8 | Outdoor unit rated cooling capacity (kW) | 33.5 |
| 9 | Outdoor unit rated heating capacity (kW) | 37.5 |
| 10 | Corrected cooling capacity (kW) | 0 |
| 11 | Corrected heating capacity (kW) | 0 |
| 12 | Ratio of cooling rate (%) | 97.31 |
| 13 | The total amount of refrigerant system (kg) | 9.9 |
| 14 | Additional system refrigerant injection amo... | 0 |

i

Maximum loop length that contains selected entity: 18.41 m.

The length between the 1st branch the farthest indoor unit in loop:

Select Matched Outdoor Unit:

M 220~240v/50Hz->AVWT-114U6SF

Search Size Calculation Update drawing System check Calculation rules Close

Function 8

Bill of material



Materials and equipment statistics

Single-layer equipment | Device table | All material | Insulation thickness | Refrigerant charge quantity

| Serial ... | Material name ▾ | Model specifi... | Unit | The numb... |
|------------|--------------------------------|------------------|-------|-------------|
| 1 | Outdoor unit | AVWT-114U6SR | Set | 1 |
| 2 | Indoor unit4-way Cassette Type | AVC-09UXCSEB | Set | 2 |
| 3 | Indoor unit4-way Cassette Type | AVC-30UXCSFB | Set | 3 |
| 4 | Copper Pipe | 12.7 | m | 12.07 |
| 5 | Copper Pipe | 15.88 | m | 10.77 |
| 6 | Copper Pipe | 19.05 | m | 2.56 |
| 7 | Copper Pipe | 25.4 | m | 5.78 |
| 8 | Copper Pipe | 6.35 | m | 6.29 |
| 9 | Copper Pipe | 9.53 | m | 13.33 |
| 10 | Branch pipe | HFQ-102F | Piece | 3 |
| 11 | Branch pipe | HFQ-162F | Piece | 1 |

Display prices

Gas and liquid pipe styles:
Combine gas and liqu ▾

Price library ...

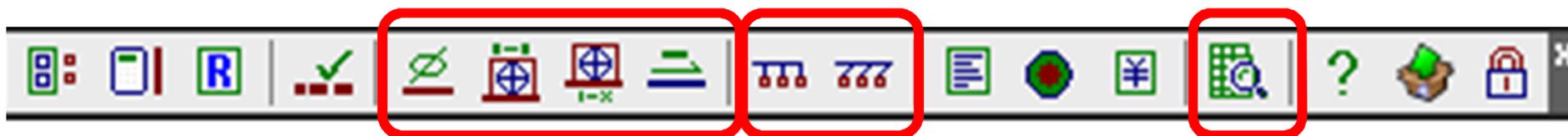
Refresh List

Select< | Draw | Excel table ... | Close

2. Main Function

Other Functions

Mark



System diagram

Inquire

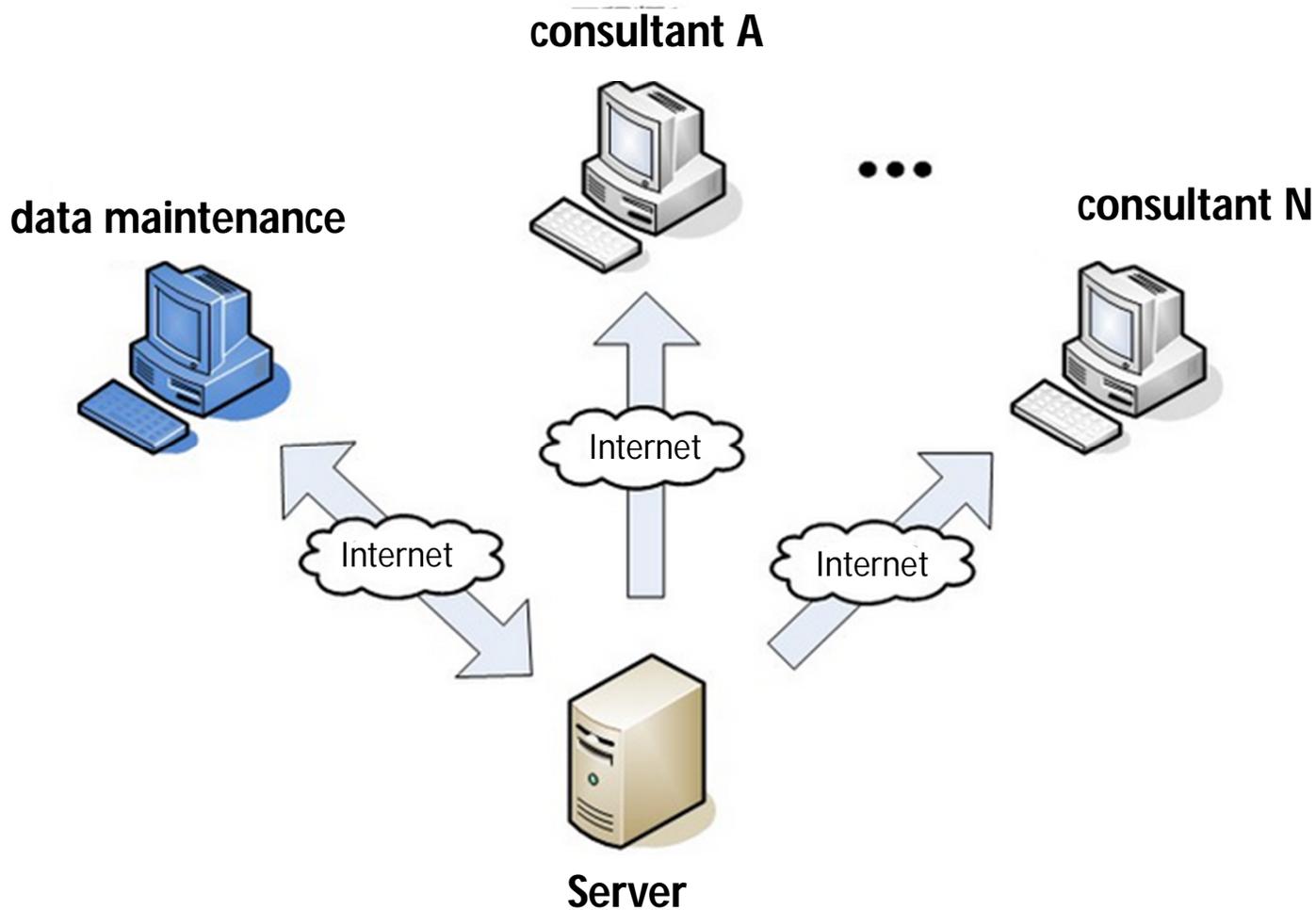
- Mark : Indoor unit , outdoor unit, branch pipe, and drain pipe slope
- System diagram: schematic and axonometric drawing
- Inquire : all information of indoor ,outdoor unit, pipe, branch pipe, and so on

2. Main Function



➤ Update Online and Automatically

Update check



Contents



1. Brief Introduction

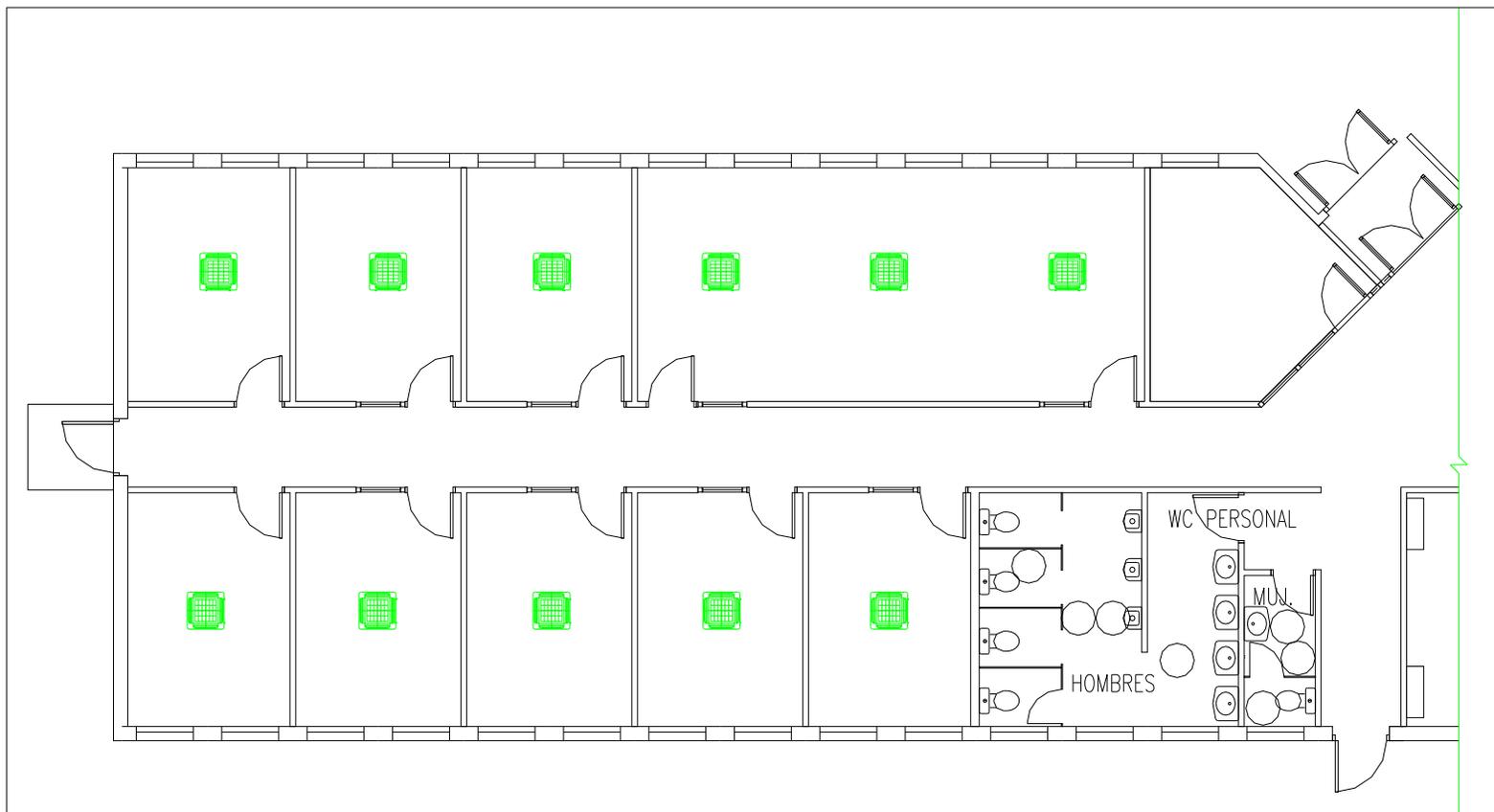
2. Main Function

3. Project Case

Design Steps

- 1 Area measure , IDUs layout
- 2 Refrigerant system define, select matched ODU. Confirm shaft position.
- 3 Draw refrigerant pipe, condensate pipe, branch pipe and connect with IDUs.
- 4 Calculate the pipe diameter and branch pipe size.
- 5 Label the pipes' dimension and branch pipe (both diameter and type).
- 6 Count the material ,draw the chart in drawing or export to Excel.
- 7 Inquiry the equipment or pipe in the drawing.

1.IDUs layout , like Duct type , 4-way cassette



3. Project Case

2.Refrigerant system partition , select matched ODU.

System Partitioning

System No.: * All * [New] [Modify] [Delete]

Indoor unit

| Serial number | Equipment Model | Equipment Number | Cooling capa |
|---------------|-----------------|------------------|--------------|
| 1 | AVC-12URCSAB | | 3.60 |
| 2 | AVC-12URCSAB | | 3.60 |
| 3 | AVC-09URCSAB | | 2.80 |
| 4 | AVC-09URCSAB | | 2.80 |
| 5 | AVC-09URCSAB | | 2.80 |
| 6 | AVC-09URCSAB | | 2.80 |
| 7 | AVC-09URCSAB | | 2.80 |
| 8 | AVC-09URCSAB | | 2.80 |
| 9 | AVC-09URCSAB | | 2.80 |
| 10 | AVC-09URCSAB | | 2.80 |
| 11 | AVC-09URCSAB | | 2.80 |

Total cooling capacity: 32.40kW

Total heating capacity: 38.10kW

[select indoor unit] [Add indoor unit<] [Removed <] [Remove all]

[Twinkle] [Auto numbering]

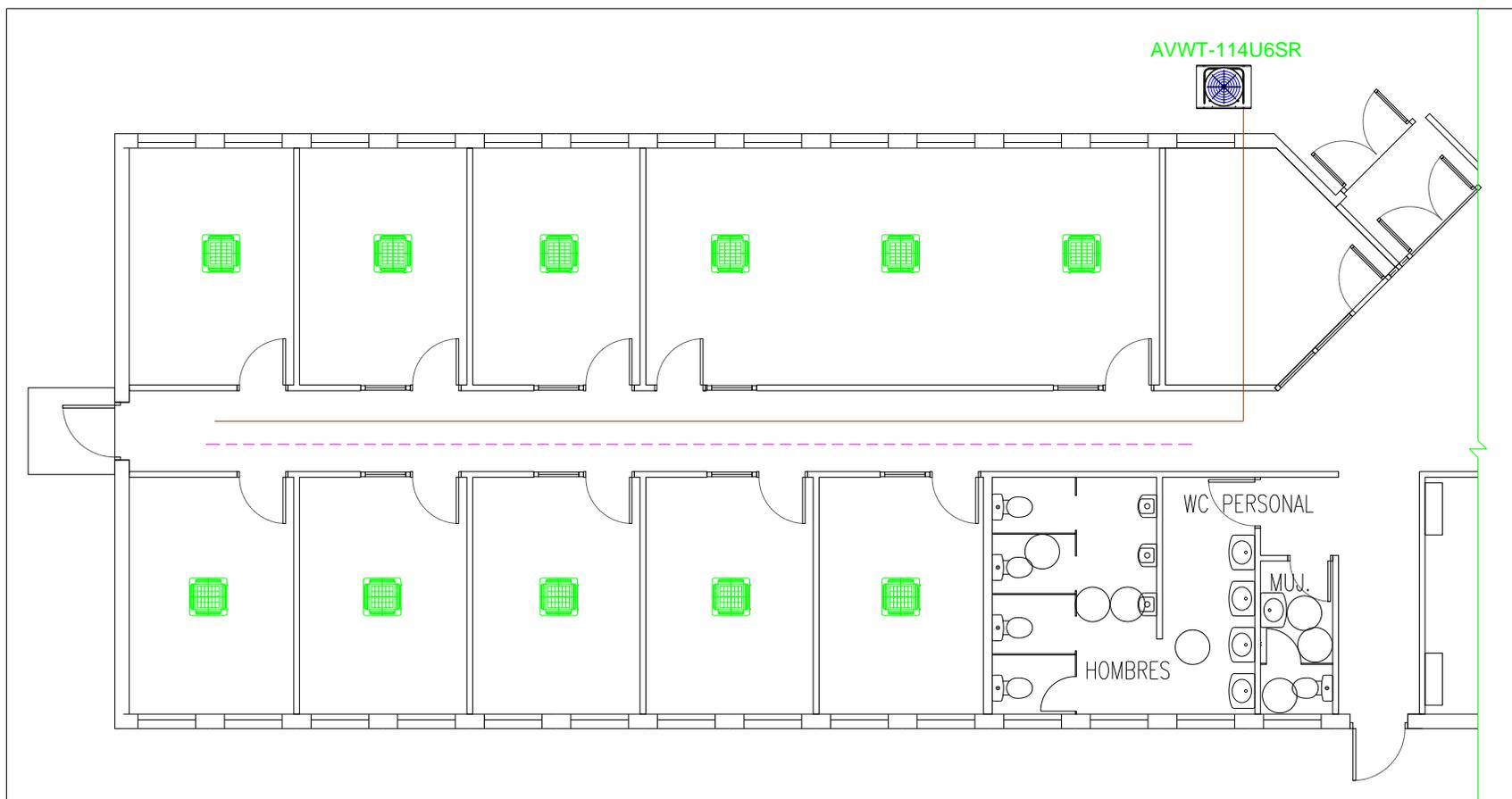
Outdoor unit

| Serial number | Equipment Model | Ratio of cooling rate (%) | Coo |
|---------------|-----------------|---------------------------|------|
| 1 | AWWT-114U6SR | 96.72 | 33.3 |
| 2 | AWWT-136U6SS | 81.00 | 40.0 |
| 3 | AWWT-154U6SS | 72.00 | 45.0 |
| 4 | AWWT-182U6SZ | 60.90 | 53.0 |
| 5 | AWWT-96U6SR | 115.71 | 28.0 |

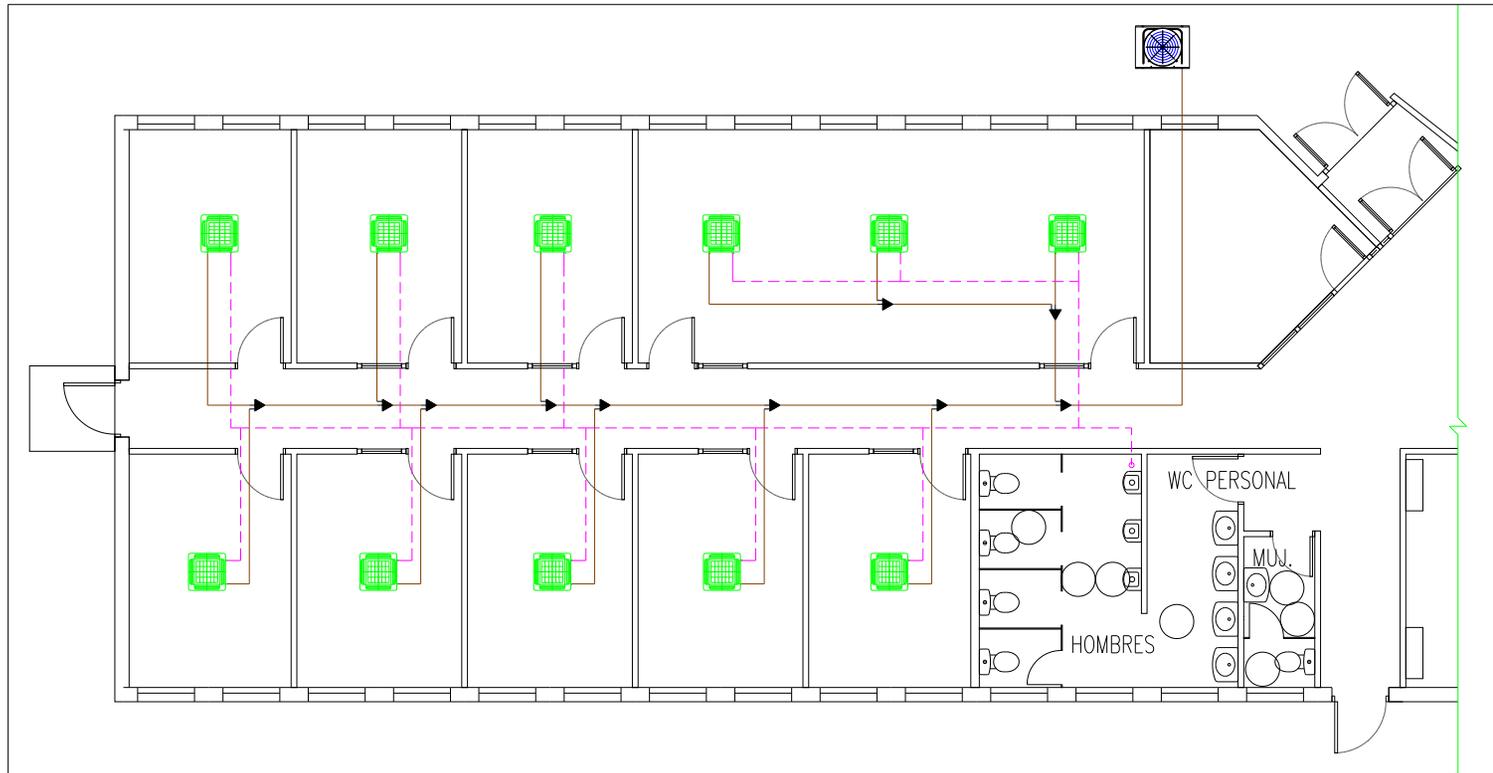
Legend: Red indicates the system number already exists
yellow indicates that there is no number

[Confirm System Define] [Close]

3.1 Drawing the refrigerant pipe and condensate pipe



3.2 Drawing the branch pipe and connecting equipment.



- Auto-connecting all the equipment with pipes and branch pipes:
Select terminal refrigerant pipe—condensate pipe—all the equipment.
- Auto-connecting a single equipment with the pipe:
Inputting "mm" + "space " + "s " + "space " .

3. Project Case

4. System calculation , calculate the pipe diameter and branch pipe .

| Index | Item | Value |
|-------|--|-------|
| 1 | Max.piping length (m) | 25.18 |
| 2 | Distance between outdoor units and the 1st... | 7.85 |
| 3 | Max.pipe length between the 1st branch an... | 17.33 |
| 4 | Number of main branch pipes | 1 |
| 5 | Number of indoor units | 11 |
| 6 | Indoor unit rated total cooling capacity (kW) | 32.4 |
| 7 | Indoor unit rated total heating capacity (kW) | 38.1 |
| 8 | Outdoor unit rated cooling capacity (kW) | 33.5 |
| 9 | Outdoor unit rated heating capacity (kW) | 37.5 |
| 10 | Corrected cooling capacity (kW) | 0 |
| 11 | Corrected heating capacity (kW) | 0 |
| 12 | Ratio of cooling rate (%) | 96.72 |
| 13 | The total amount of refrigerant system (kg) | 12.31 |
| 14 | Additional system refrigerant injection amo... | 2.41 |

Maximum loop length that contains selected entity: 25.18 m.
The length between the 1st branch the farthest indoor unit in loop:

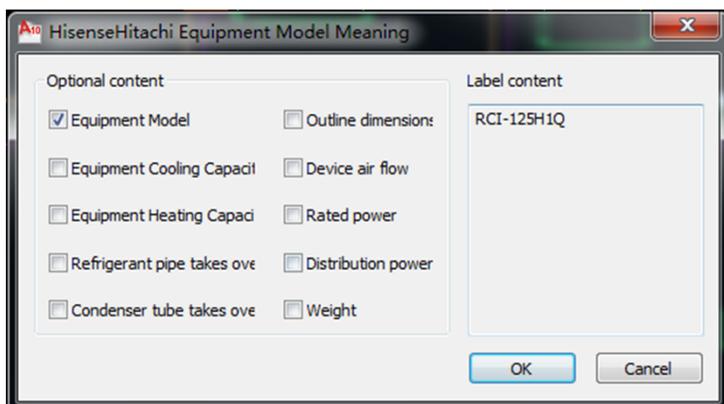
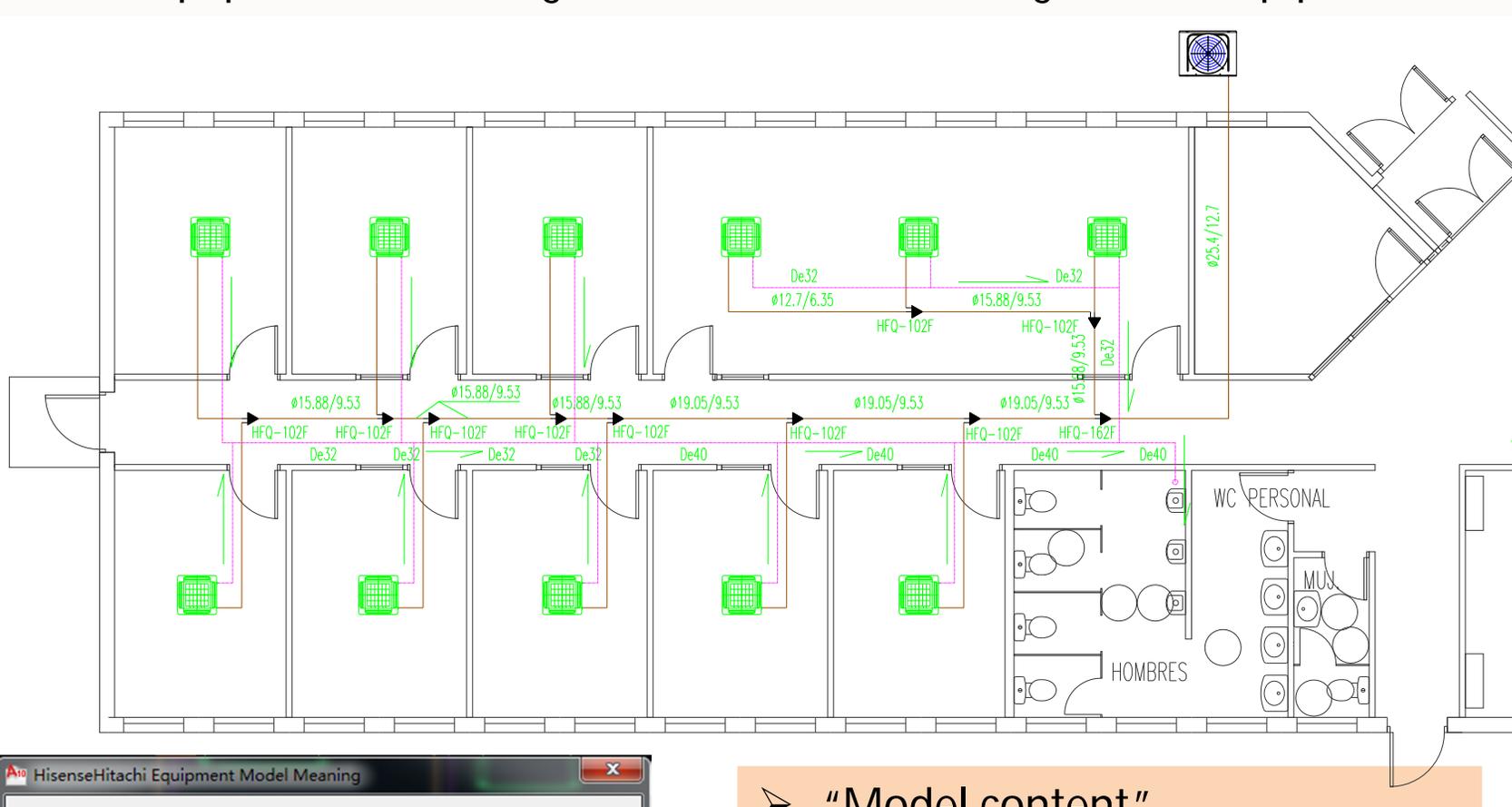
Select Matched Outdoor Unit:
M 220~240v/50Hz->AVWT-114U6SF

Calculation steps:

1. Click "search" to select the terminal refrigerant pipe or condensate pipe, check that all the equipment twinkling in the system.
2. Click "calculation rules" and check product series and current rule template.
3. Select matched outdoor unit.
4. Click "size calculation" and "close", calculation complete.

3. Project Case

5.1 Label Equipment , including IDU ,ODU , heat exchanger, branch pipe ,CH device.



➤ “Model content”

Before labelling the model of equipment or generating material list in CAD or EXCELL form . The equipment parameters in the optional content can be checked to add in the list.

3. Project Case

6. Generate the bill of material, Classified as the size of the copper and condensate pipe, generate material list in CAD or EXCELL form.



Materials and equipment statistics

Single-layer equipment | Device table | All material | Insulation thickness | Refrigerant charge quantity

| S... | Material name ^ | Model specifi... | Unit | The numb... |
|------|--|------------------|-------|-------------|
| 1 | Branch pipe | HFQ-102F | Piece | 9 |
| 2 | Branch pipe | HFQ-162F | Piece | 1 |
| 3 | Copper Pipe | 12.7 | m | 39.18 |
| 4 | Copper Pipe | 15.88 | m | 9.20 |
| 5 | Copper Pipe | 19.05 | m | 7.28 |
| 6 | Copper Pipe | 25.4 | m | 7.63 |
| 7 | Copper Pipe | 6.35 | m | 31.55 |
| 8 | Copper Pipe | 9.53 | m | 16.48 |
| 9 | Indoor unitCompact 4-way Cassette Type | AVC-09URCSAB | Set | 9 |
| 10 | Indoor unitCompact 4-way Cassette Type | AVC-12URCSAB | Set | 2 |
| 11 | Outdoor unit | AVWT-114U6SR | Set | 1 |
| 12 | PVC plastic pipe | De32 | m | 38.53 |
| 13 | PVC plastic pipe | De40 | m | 10.24 |

Display prices

Gas and liquid pipe styles:
Combine gas and liqu

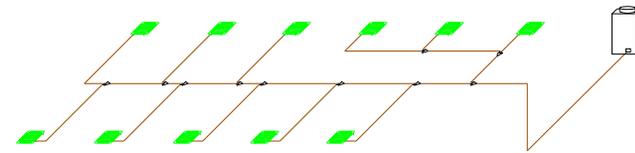
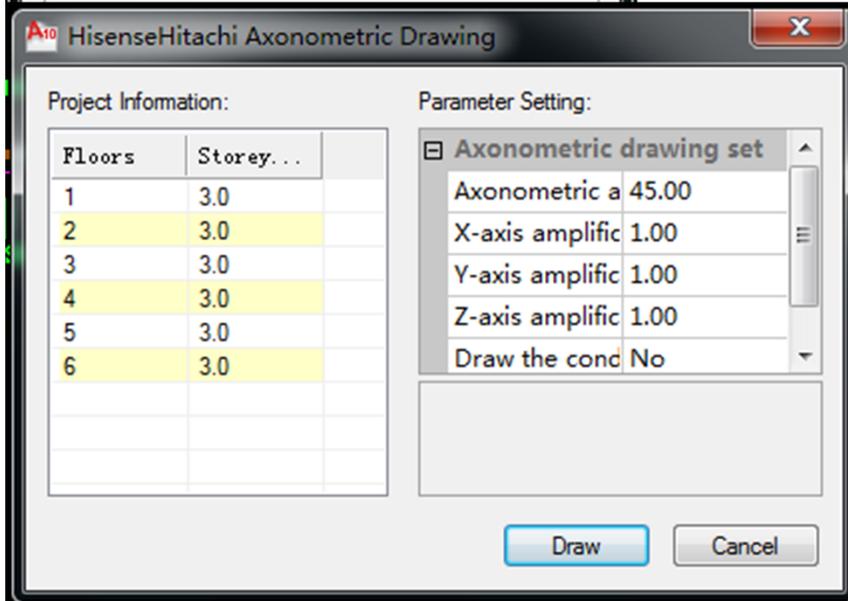
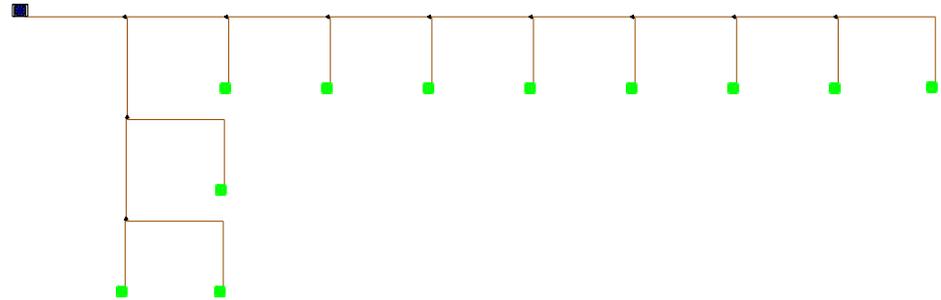
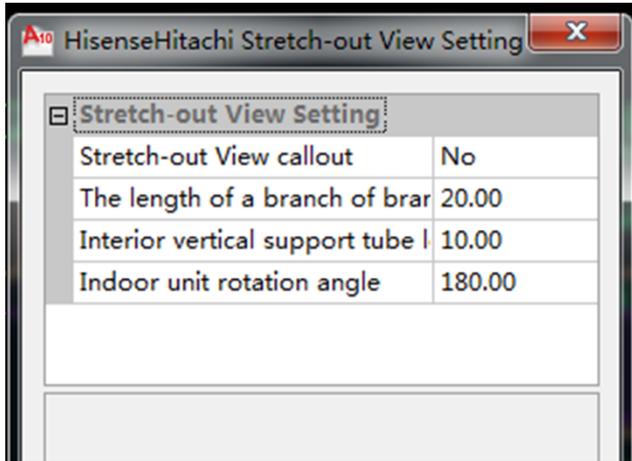
Price library ...

Refresh List

Select < Draw Excel table ... Close

3. Project Case

7. Generate the axonometric drawing, stretch-out view drawing.



➤ Generate the refrigerant system axonometric drawing, expanded view drawing from the floor plans, clearly shows the connection between ODU and IDUs, label the equipment model and pipe diameter.

*Thank
You!*



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