

Piping settings

Design Simulator

Outdoor unit data

Name: Otdr1
Comments:
Refrigerant: R410A
Model:
Type: VR-1 Heat Recovery space saving combination
Model: AJY144GALH
PS: 3N, 400V, 50Hz

Combination	Actual	94.4%	Max.	100%
Capacity	Cooling	45.0 kW	Heating	50.0 kW
Actual capacity	Cooling	42.5 kW	Heating	47.5 kW
Indoor connect count		10		
Total indoor capa	Cooling	42.5 kW	Heating	47.5 kW
Outdoor temp.	Cooling	35.0C	Heating	7.0C

Piping
Actual piping length: 7.5m
Height difference between outdoor and indoor units: 0.0m
Position of outdoor unit relative to indoor unit: Same Floor

Capacity	TC	SC	HC
Required	7.0	5.0	0.0
Actual	7.1	5.0	8.0

Select "Piping"

Piping system diagram creation

Piping

Same Floor

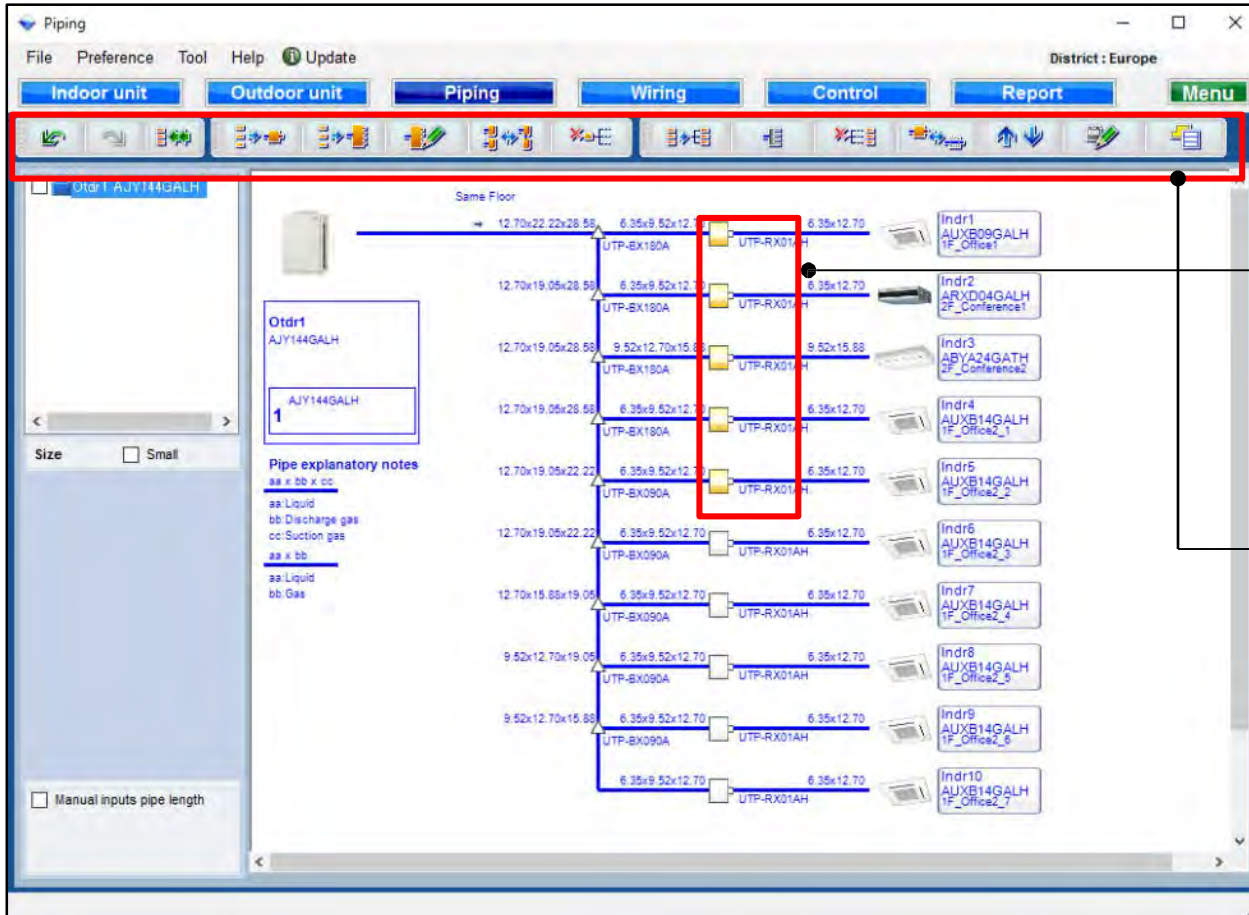
Indr1 AUXB09GALH (F_Office1)
Indr2 ARXD04GALH (F_Conference1)
Indr3 ABYA24GATH (F_Conference2)
Indr4 AUXB14GALH (F_Office2_1)
Indr5 AUXB14GALH (F_Office2_2)
Indr6 AUXB14GALH (F_Office2_3)
Indr7 AUXB14GALH (F_Office2_4)
Indr8 AUXB14GALH (F_Office2_5)
Indr9 AUXB14GALH (F_Office2_6)
Indr10 AUXB14GALH (F_Office2_7)

Pipe explanatory notes
aa x bb x cc
aa: Liquid
bb: Discharge gas
cc: Suction gas
aa x bb
aa: Liquid
bb: Gas

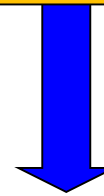
Manual inputs pipe length

Pipe diameter, model names of outdoor unit, indoor units and connection units are displayed.

For Heat Recovery

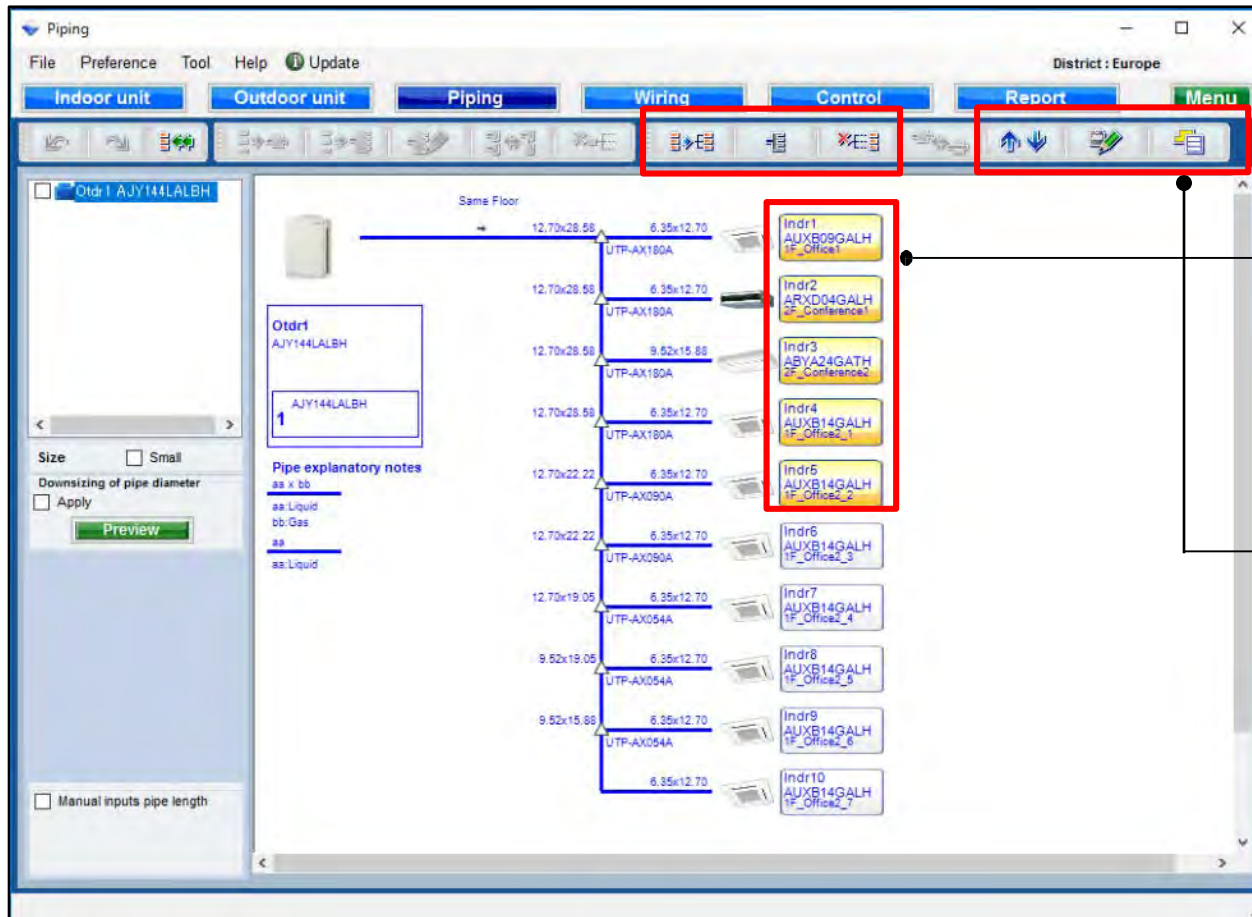


For Heat Recovery, select RB Unit.

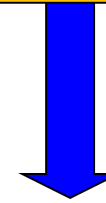


Press each button to edit.

For Heat Pump



For Heat pump, select indoor unit.

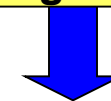


Press each button to edit. For Heat pump, functions are limited.

Refrigerant system confirmation function



Check the refrigerant system.



Checked refrigerant system cannot be edited at each screen.

Indoor unit details:

Indoor unit	Model
Indr1	1F_Office1
Indr2	2F_Conference1
Indr3	2F_Conference2
Indr4	1F_Office2_1
Indr5	1F_Office2_2
Indr6	1F_Office2_3
Indr7	1F_Office2_4
Indr8	1F_Office2_5
Indr9	1F_Office2_6
Indr10	1F_Office2_7

Outdoor unit data:

Parameter	Actual	Max.
Combination	94.4%	100%
Capacity Cooling	45.0 kW	50.0 kW
Actual capacity Cooling	42.5 kW	47.5 kW
Indoor connect count	10	
Total indoor capa Cooling	42.5 kW	47.5 kW
Outdoor temp. Cooling	35.0C	7.0C

Piping explanatory note:

aa x bb x cc
aa Liquid
bb Discharge gas
cc Suction gas
aa x bb
aa Liquid
bb Gas

Piping settings

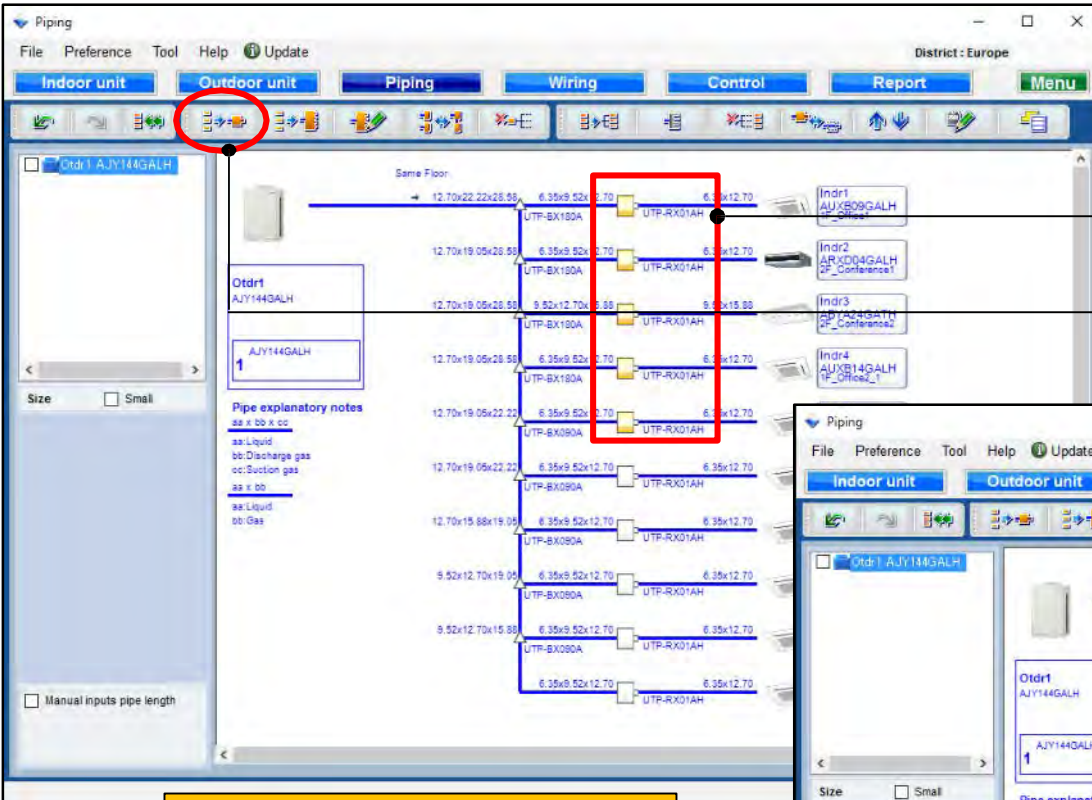
Design Simulator

RB Single function

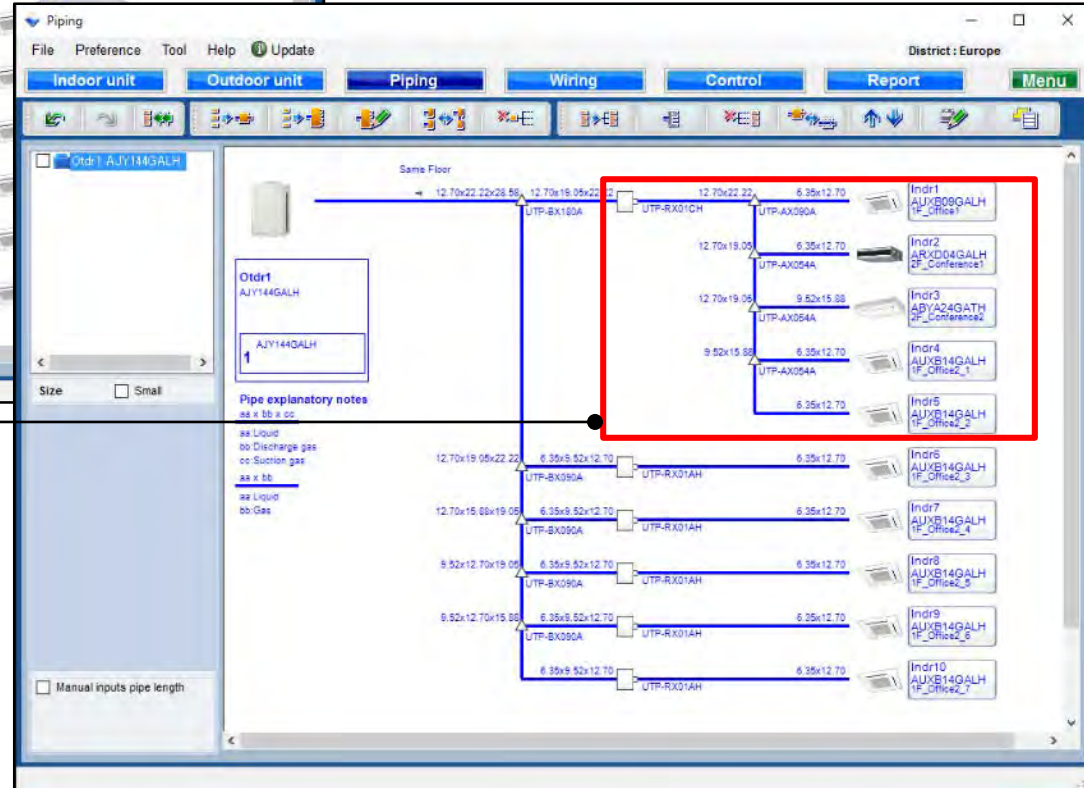
Select RB units



Select "RB Single"



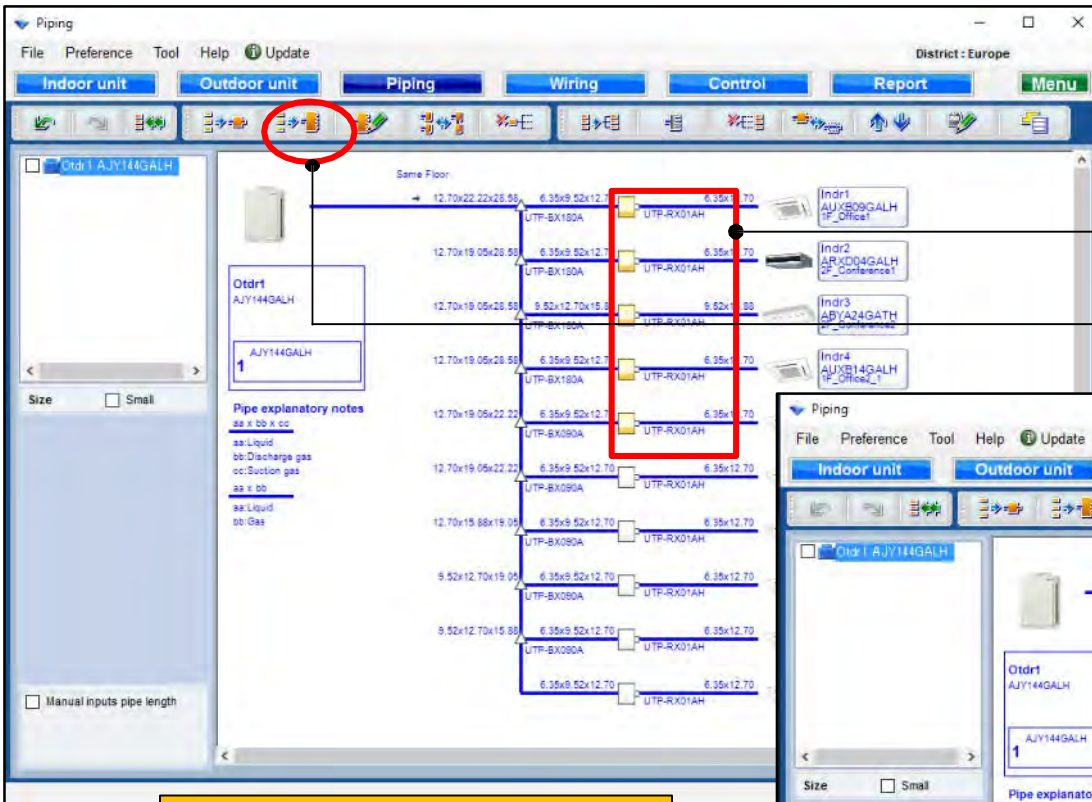
Combine indoor



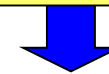
Piping settings

Design Simulator

RB multi function

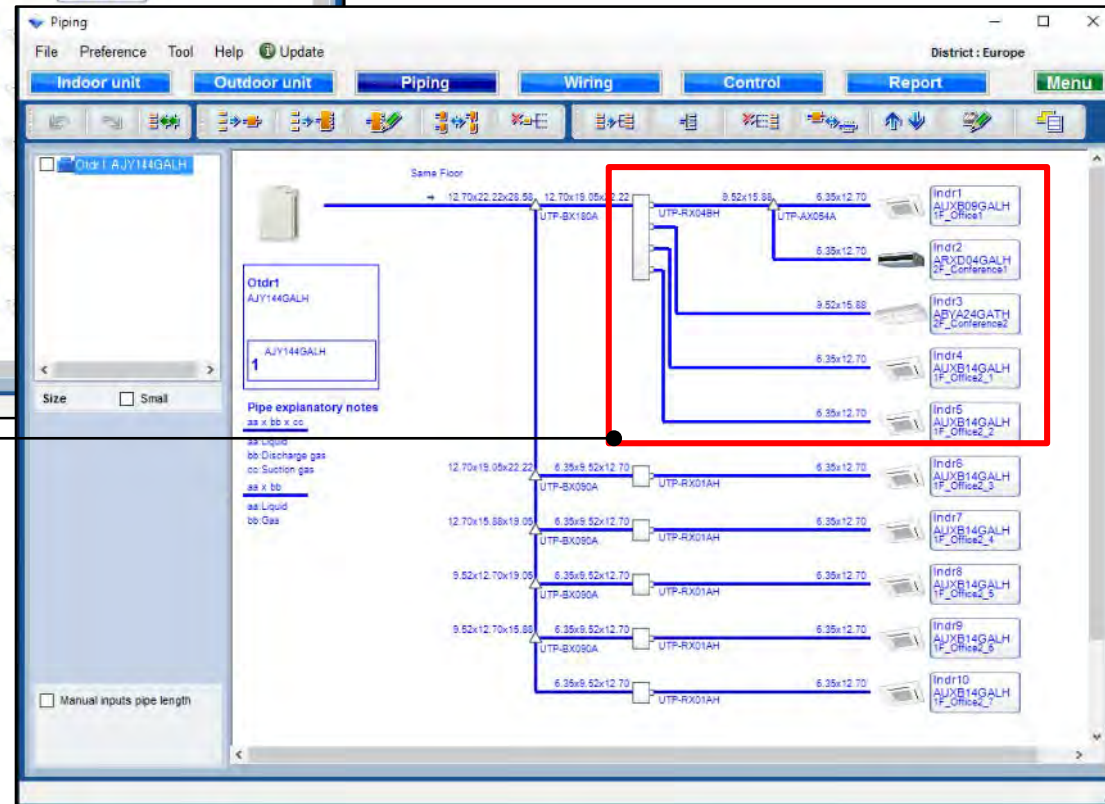


Select RB units

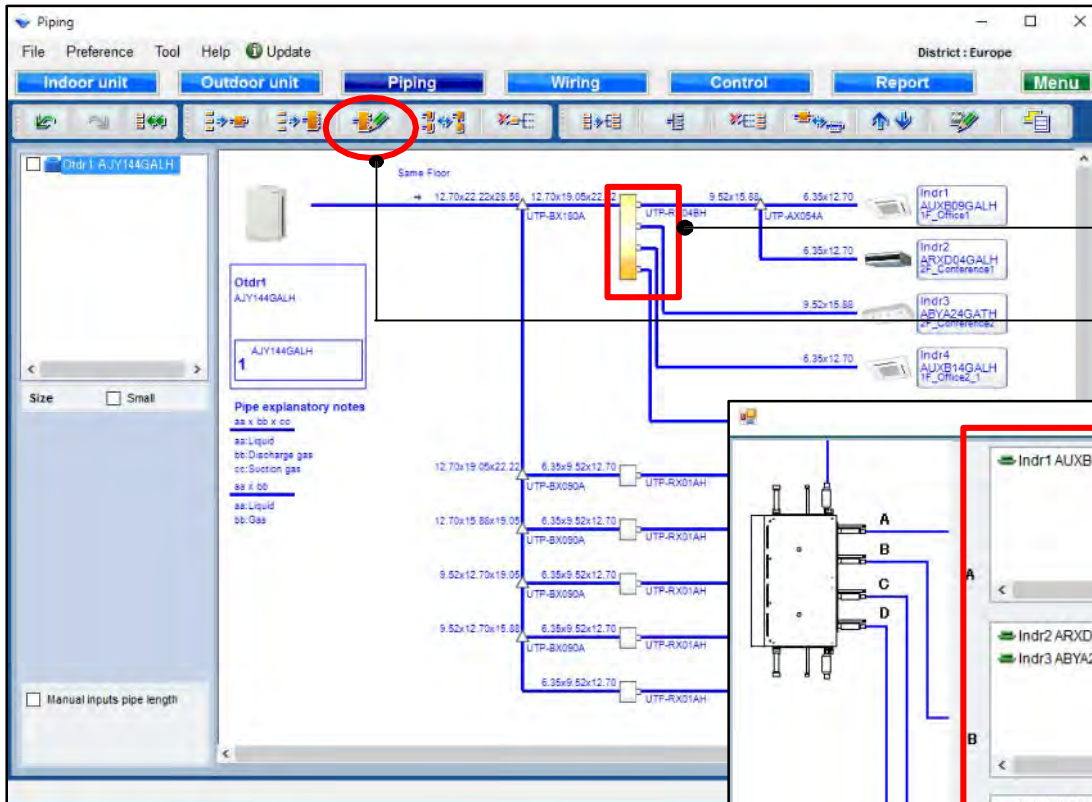


Select "RB multi"

Combine indoor



RB multi composition function

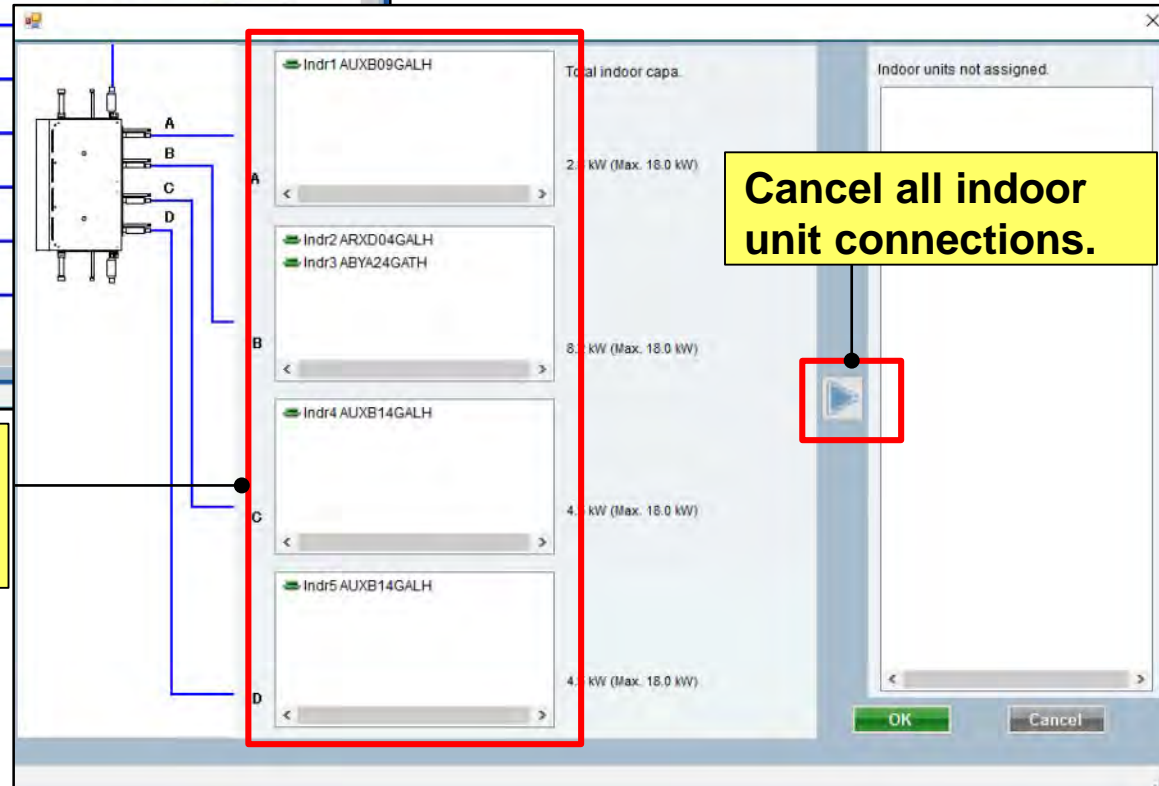


Select RB multi units



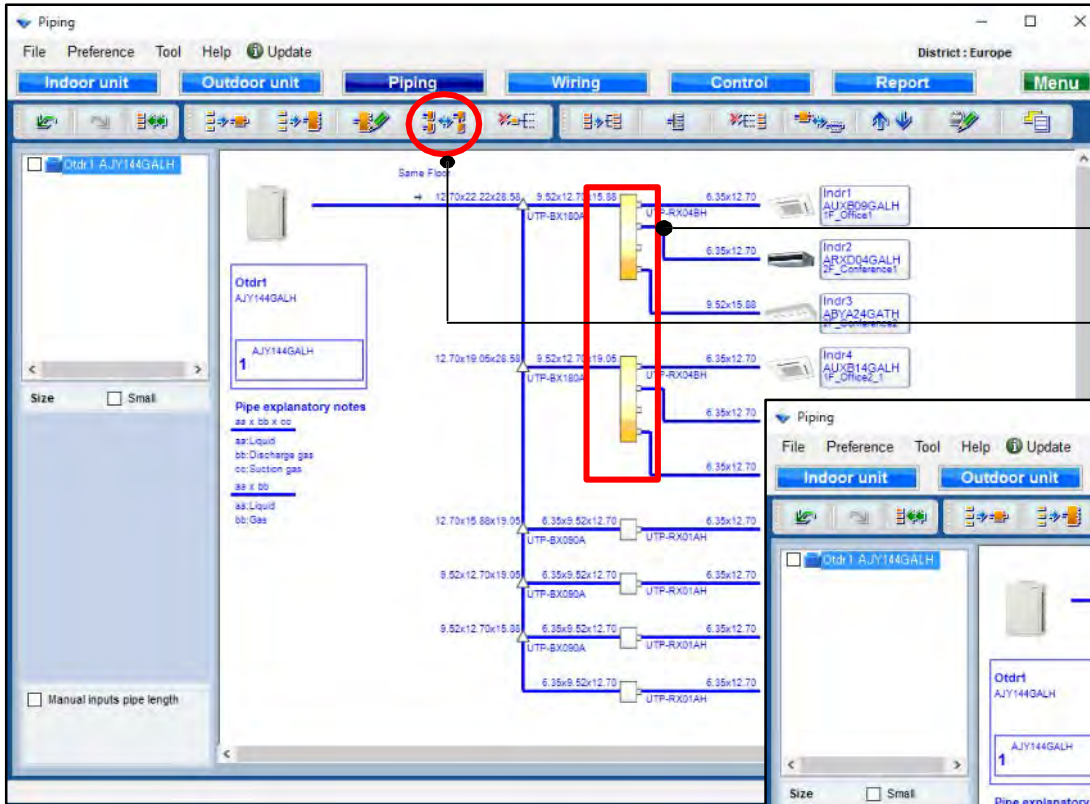
Select
"RB multi composition"

Indoor unit connection method
when RB multi is used can be
changed.



Cancel all indoor
unit connections.

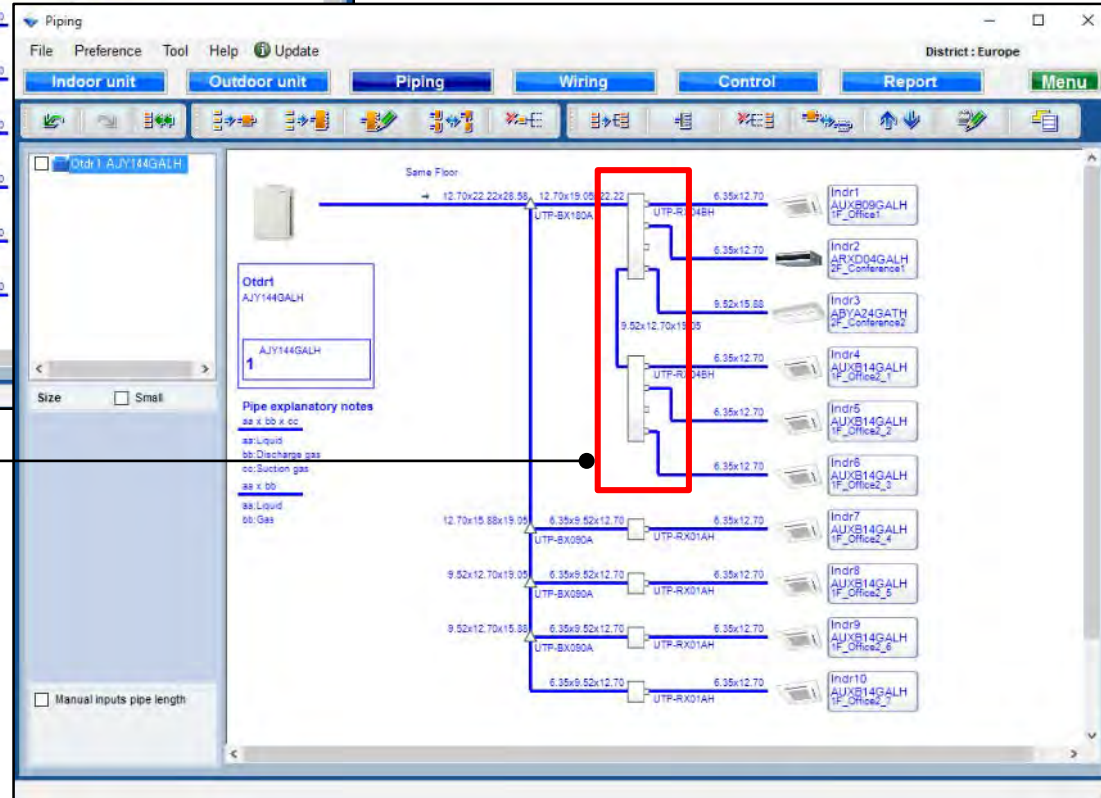
Combine RB multi function



Select RB multi units

Select
"Combine RB multi"

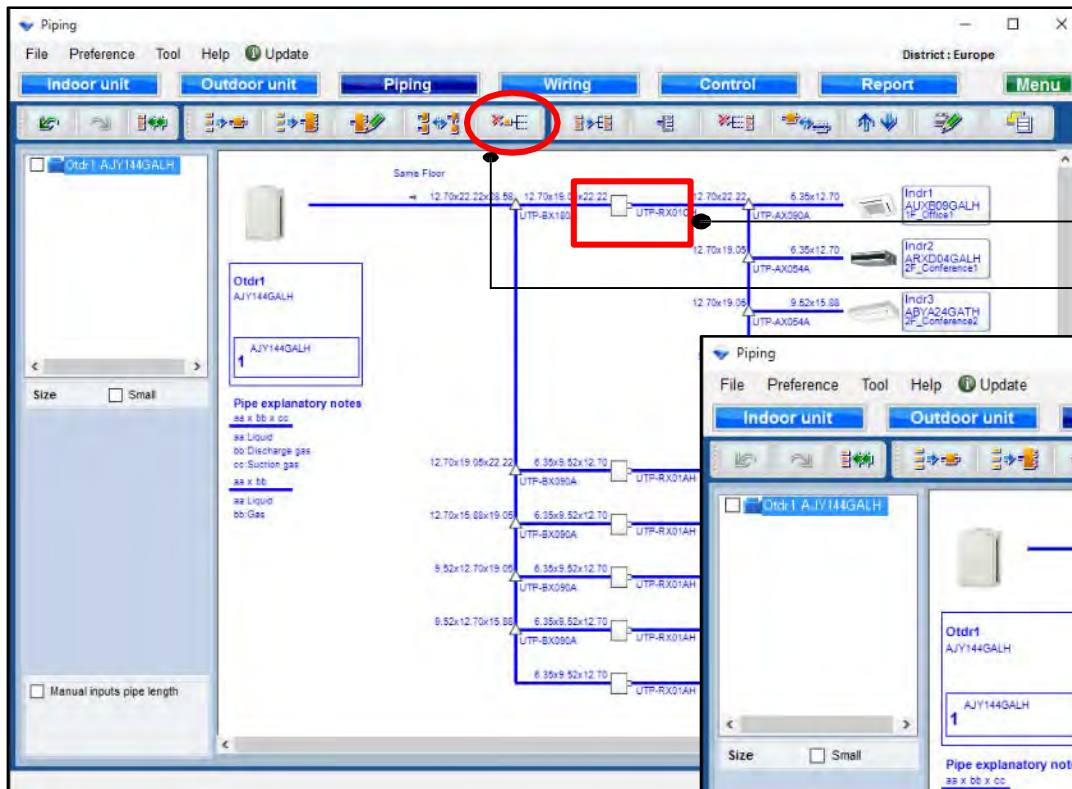
Combine 2 RB multi groups
into 1 group.



Piping settings

Design Simulator

Release combine function

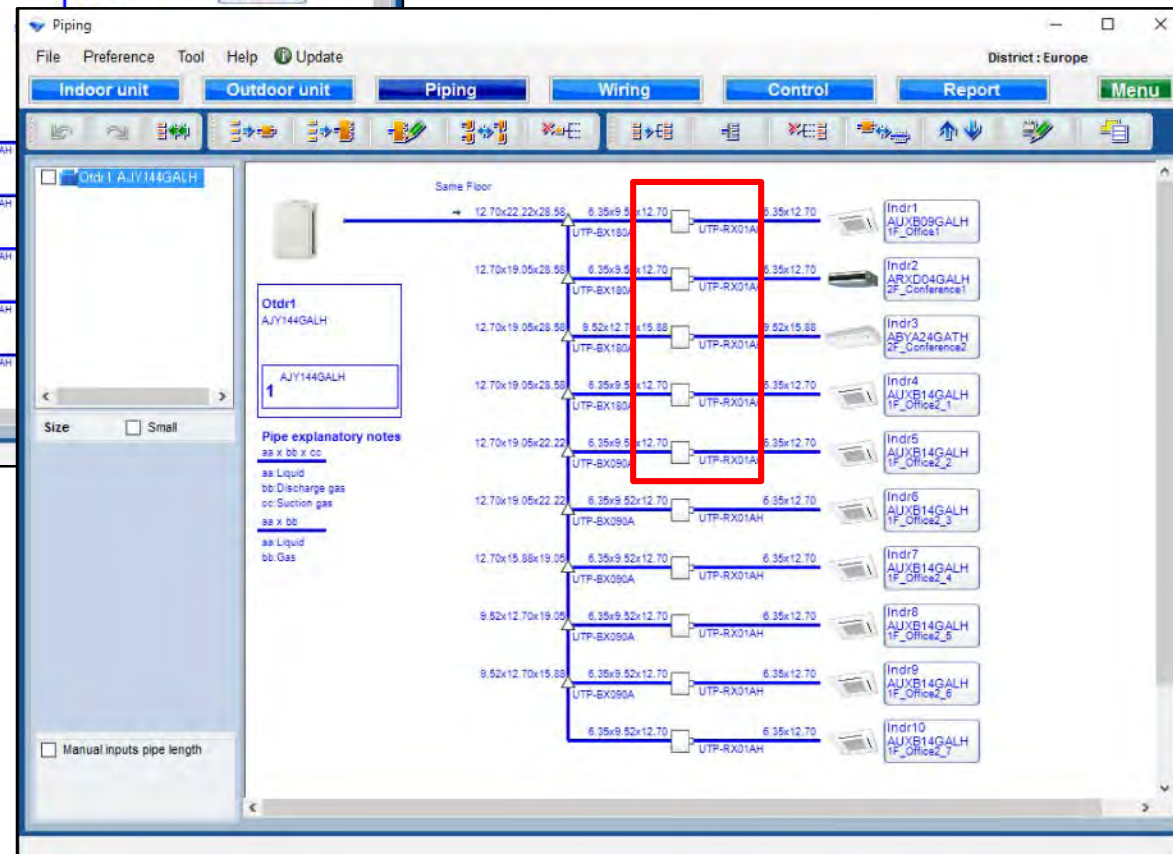


Select RB units

Select "Release combine"

Release combine

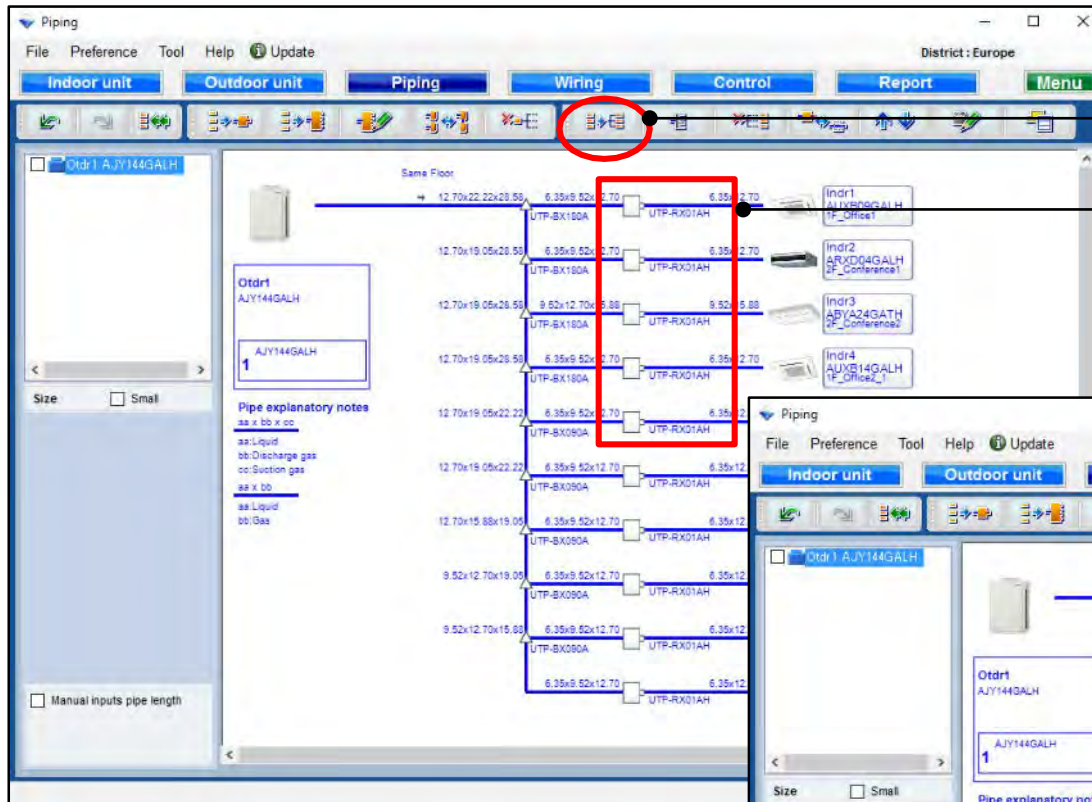
*Selected RB multi or all units combined by single can be released.



Piping settings

Design Simulator

Combine indoor function

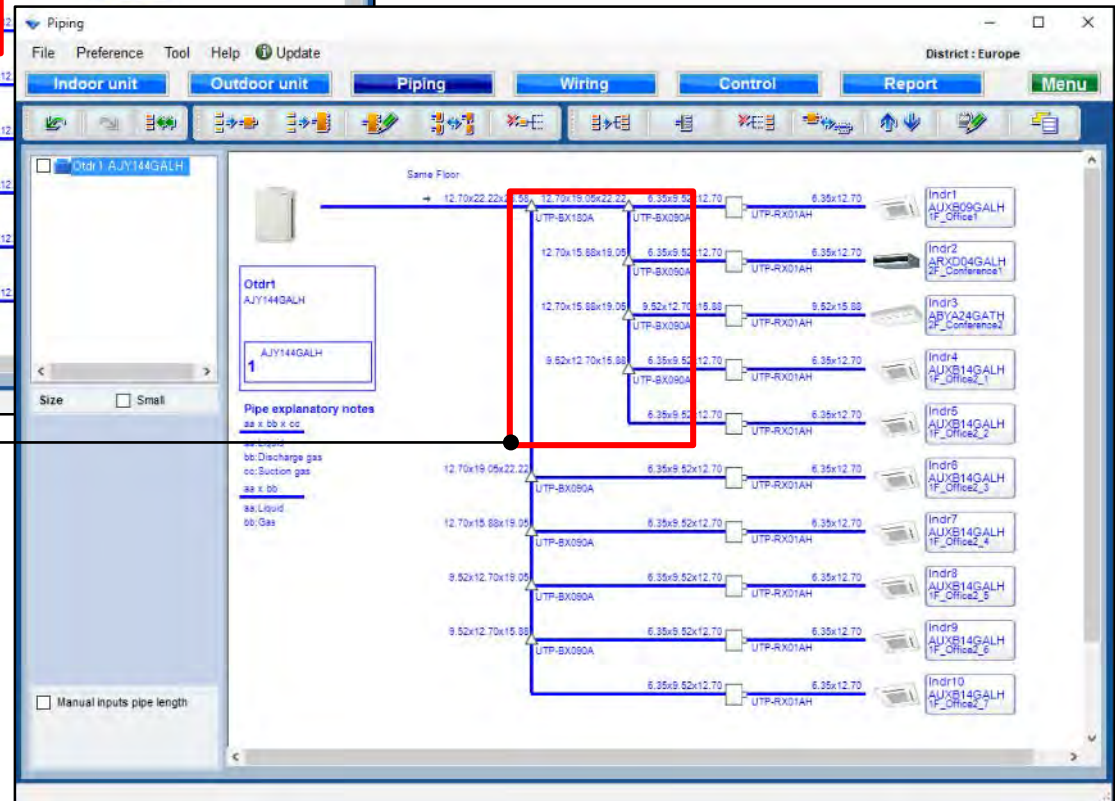


Select RB units

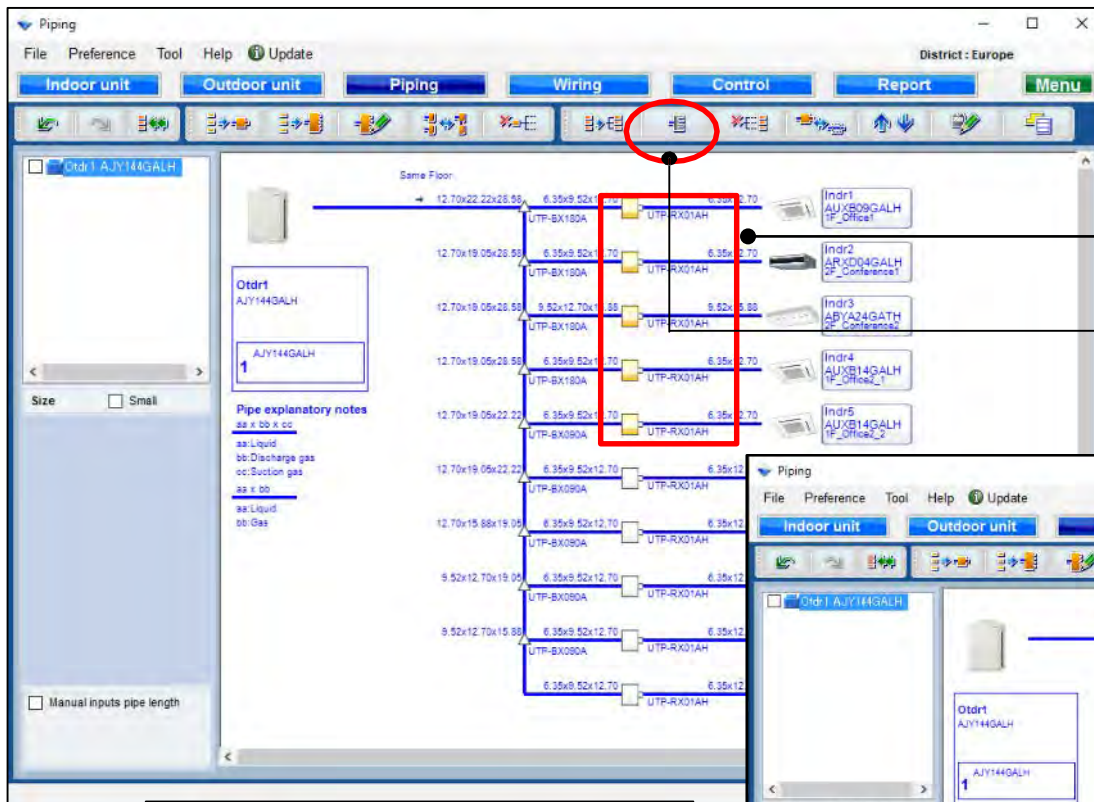


Select "Combine indoor"

This part can be separated.



Add header function

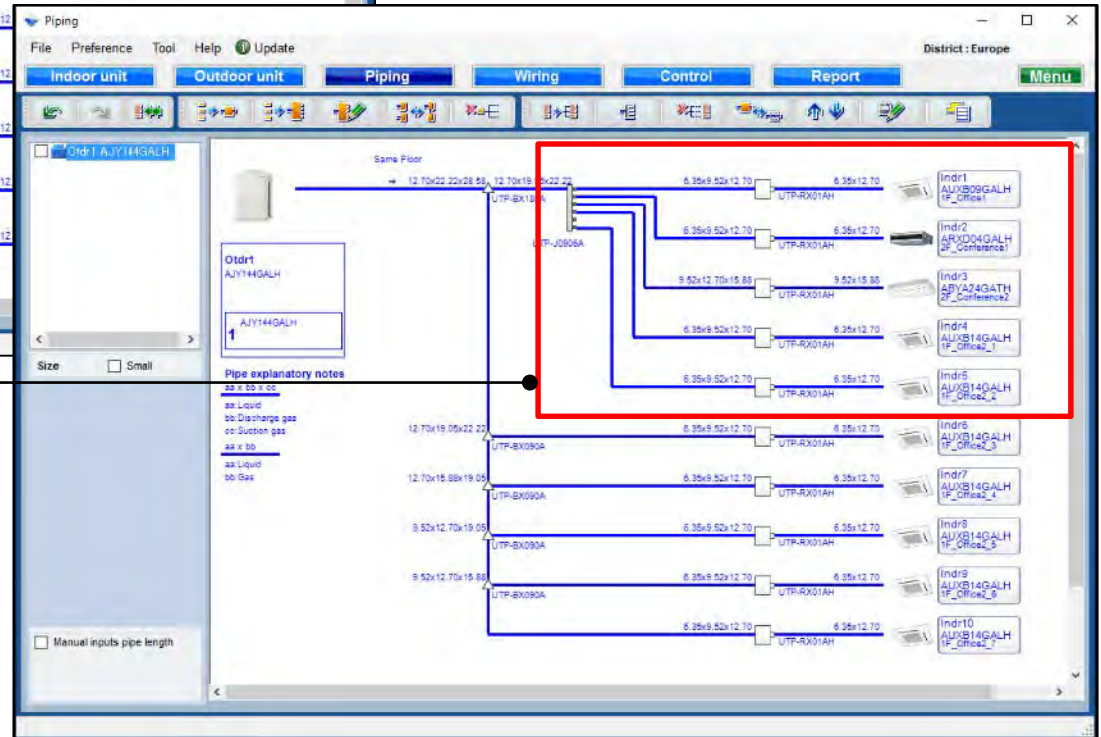


Select RB units



Select "Add header"

Create header combine

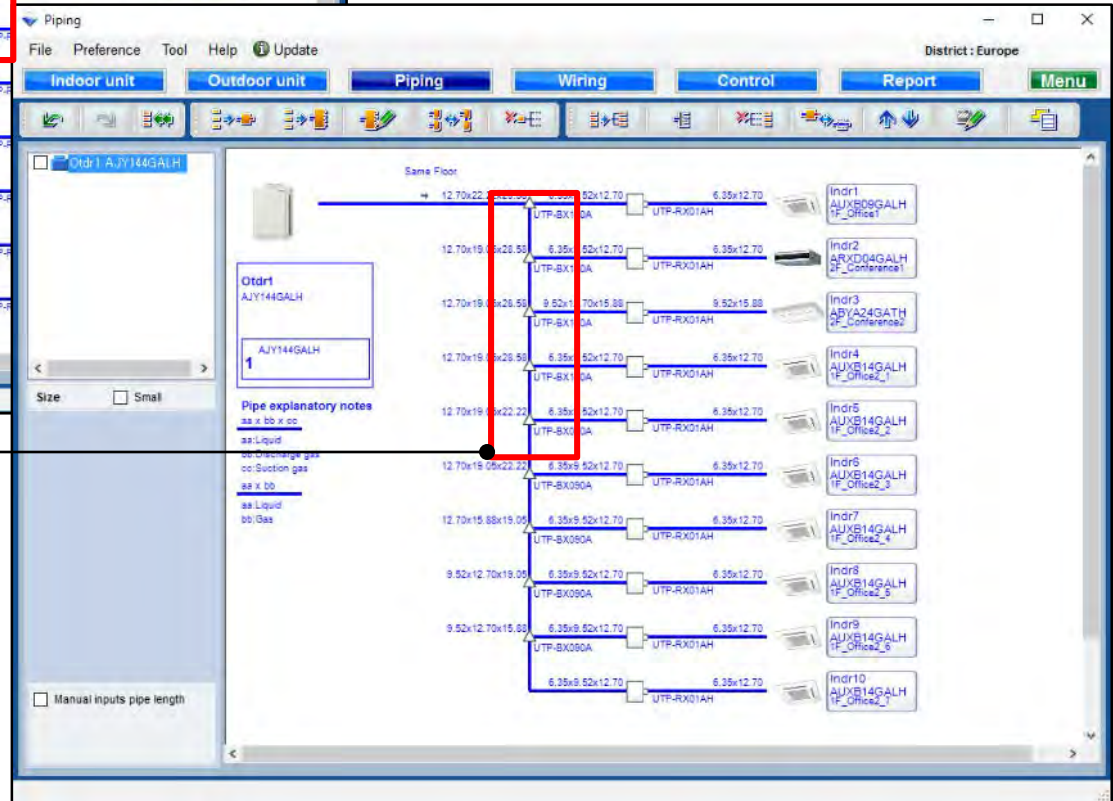
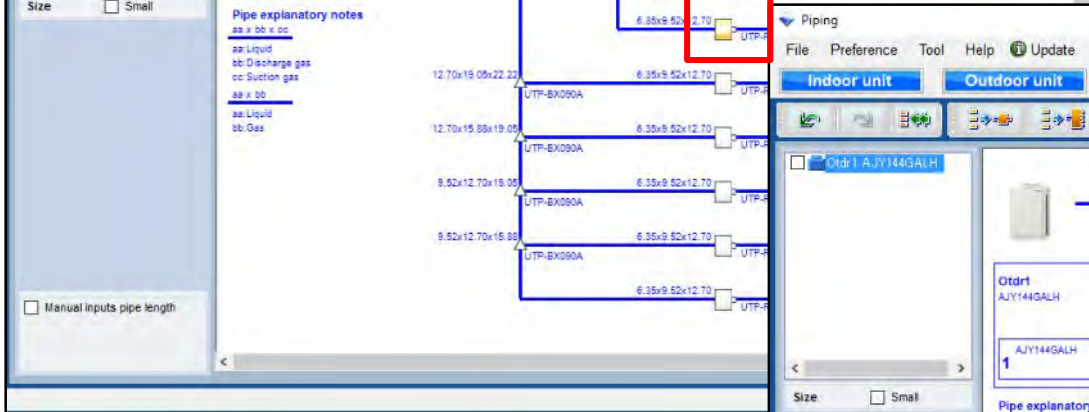
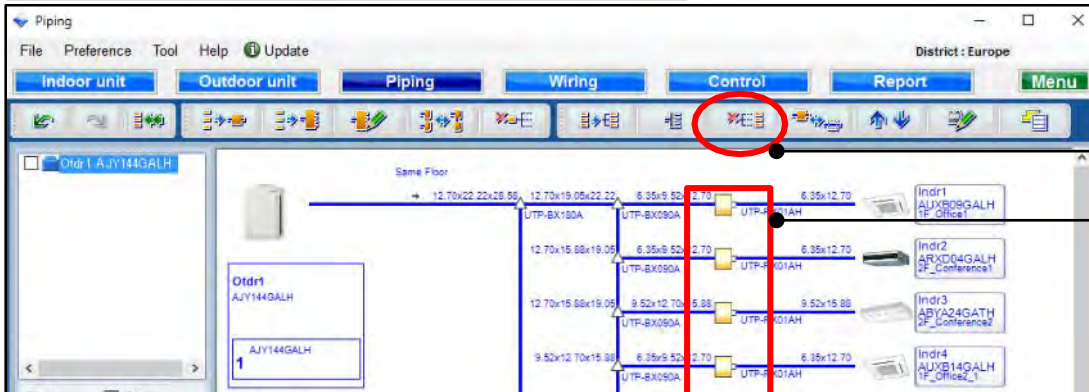


Release combine function

Select RB units

Select "Release combine"

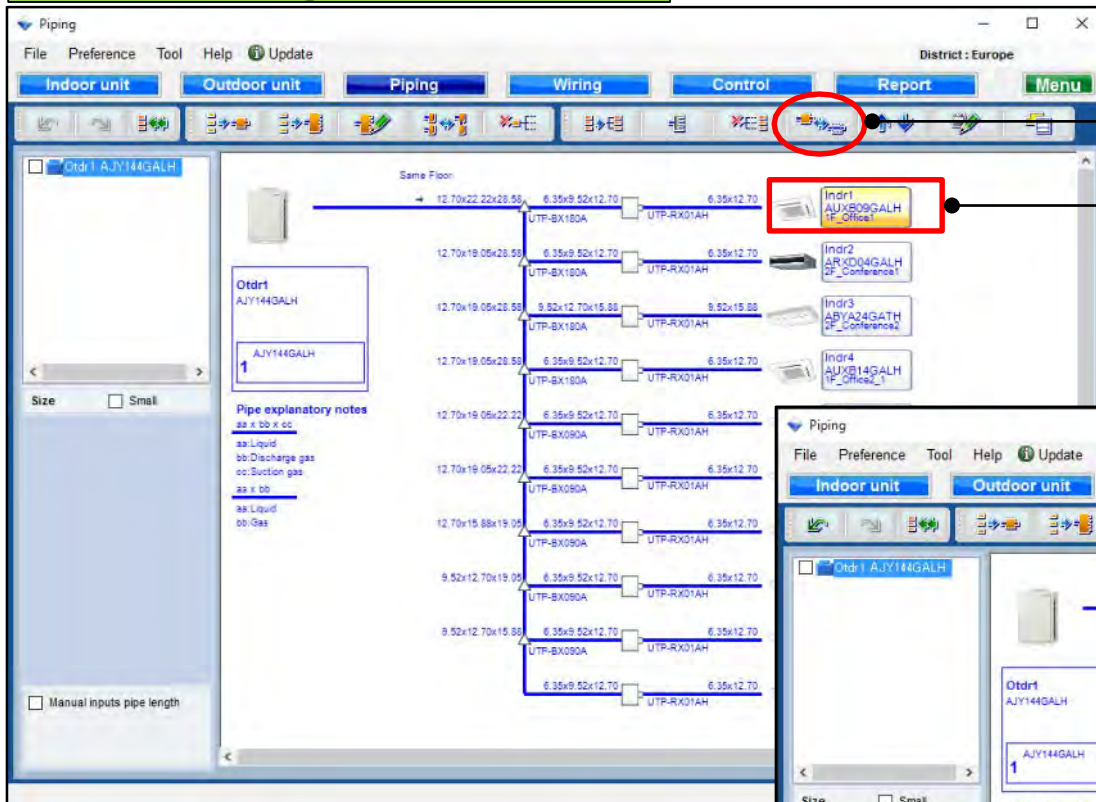
Release combine



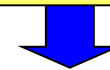
Piping settings

Design Simulator

Release Single RB function

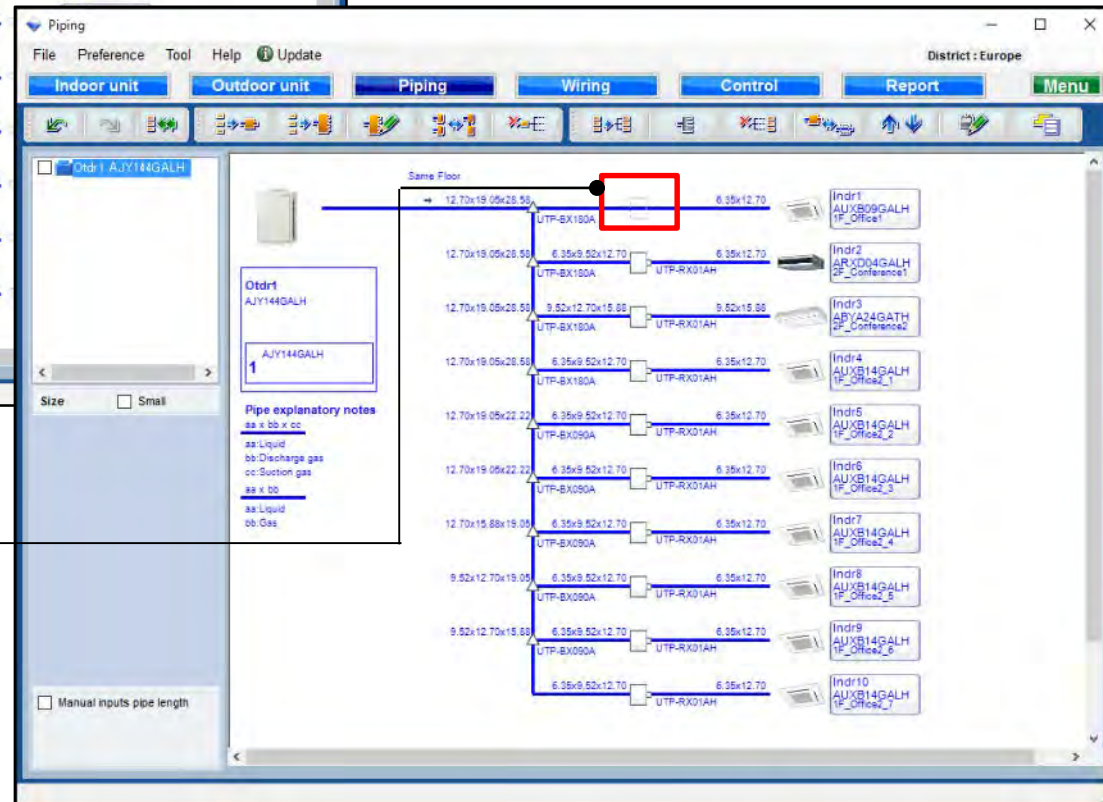


Select indoor unit

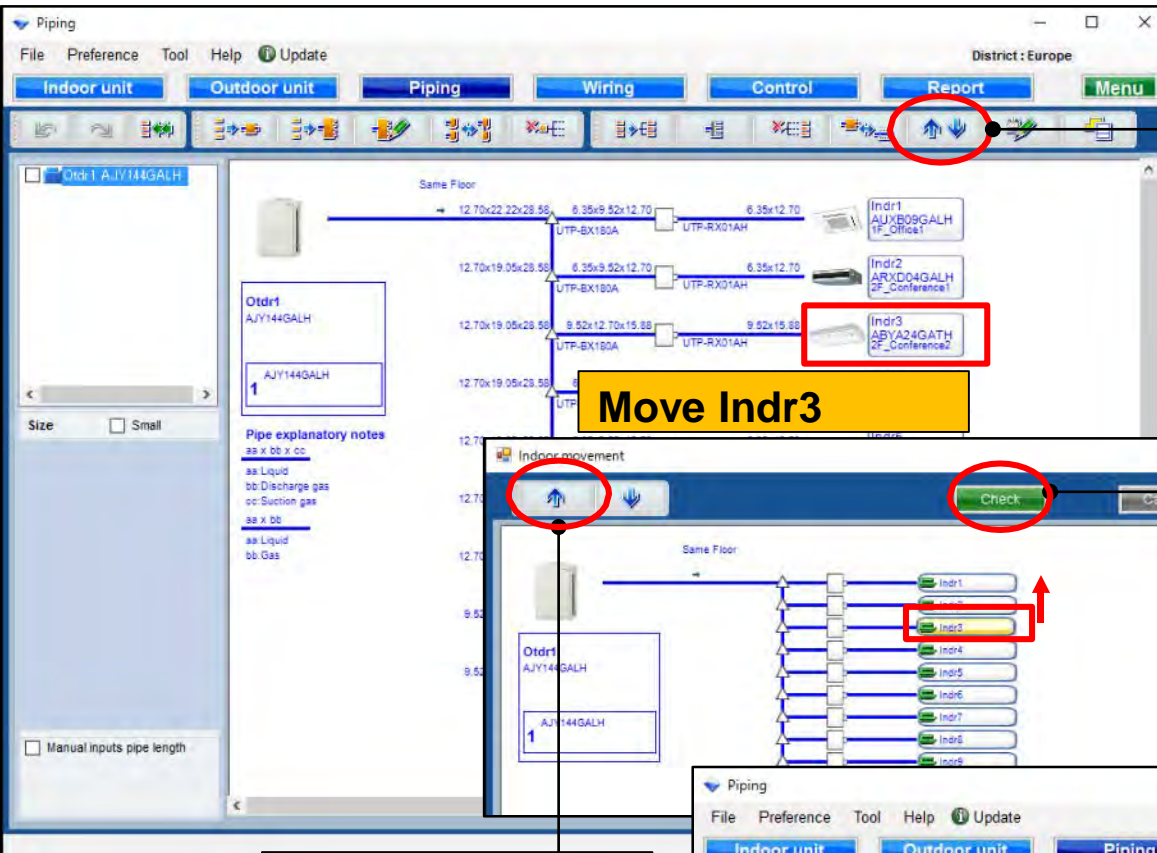


Select
"Release Single RB
(make cooling only IU)"

Less than 50% of all capacities in all indoor units can be changed to Cooling only.



Move up the indoor combine order function

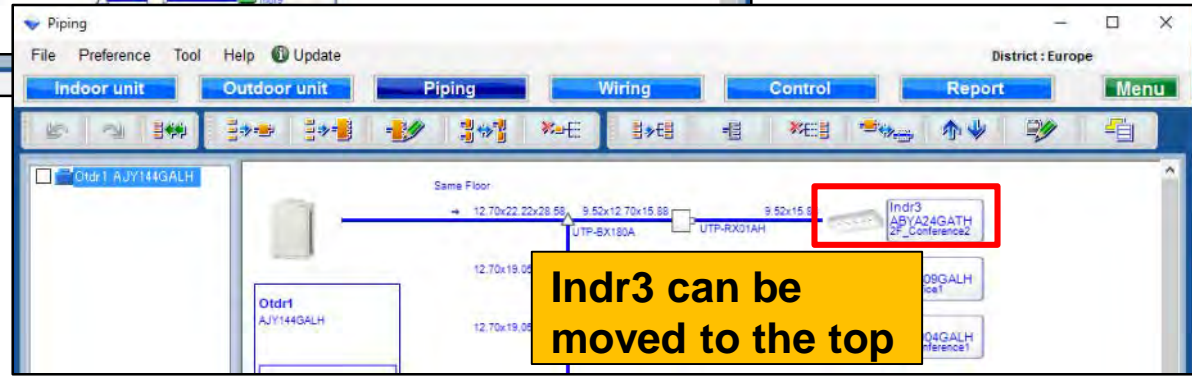


Select "Move up the indoor combine order"

Open Indoor movement

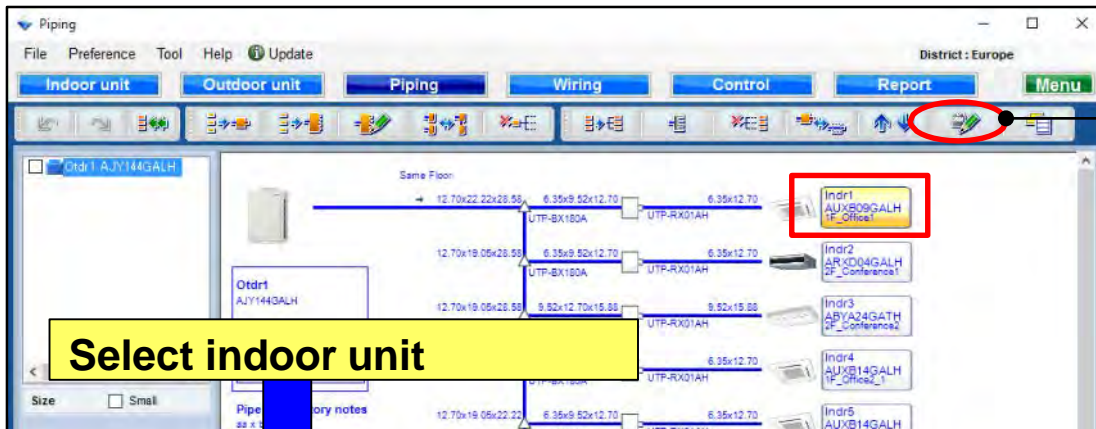
Press Check and then press OK

Move upward

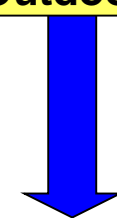


Indr3 can be moved to the top

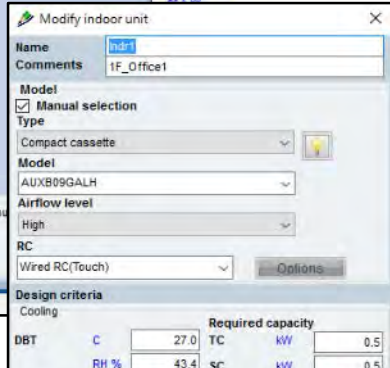
Modify Outdoor or indoor function



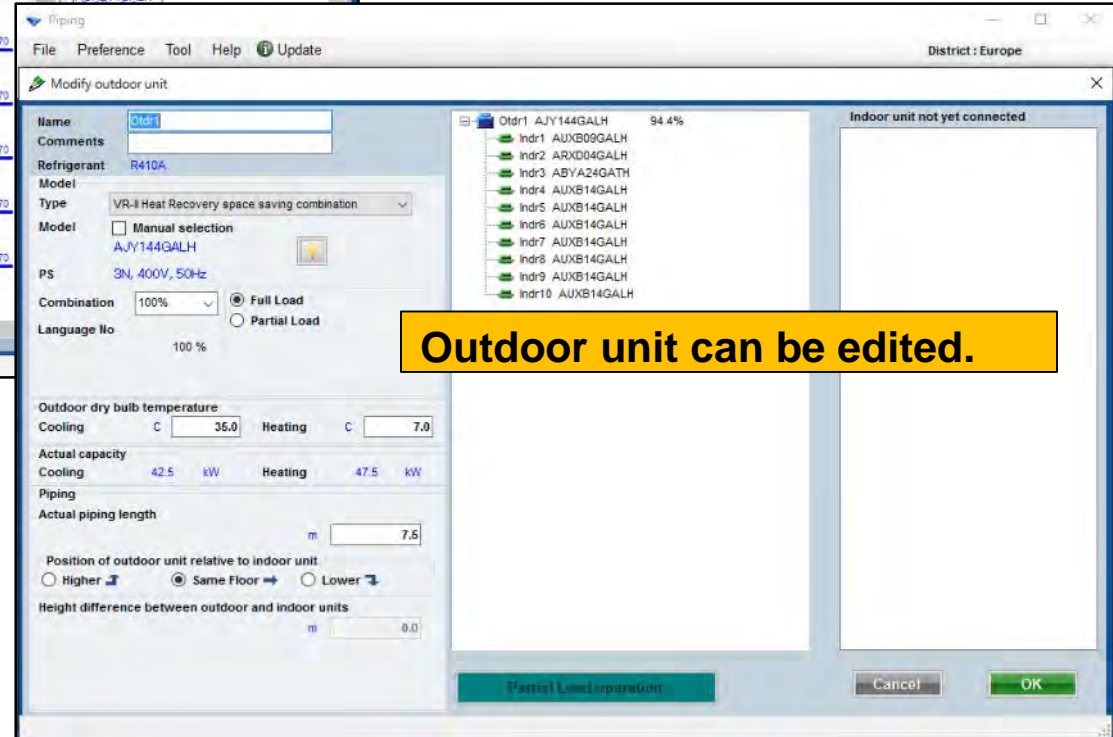
Select
"Modify Outdoor or indoor"



Select indoor unit

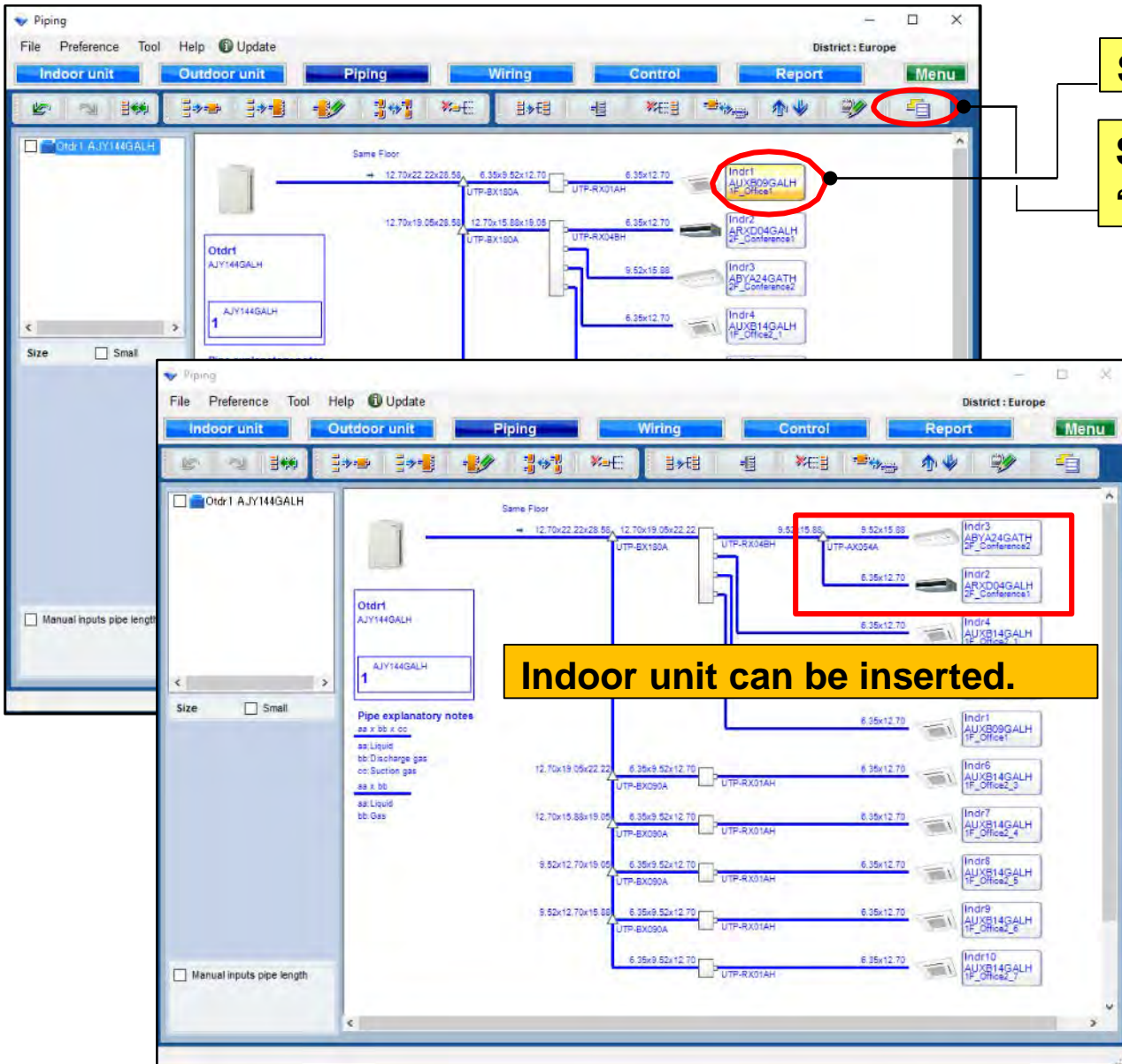


When selecting indoor unit to press "Modify Outdoor or indoor", indoor unit can be edited.



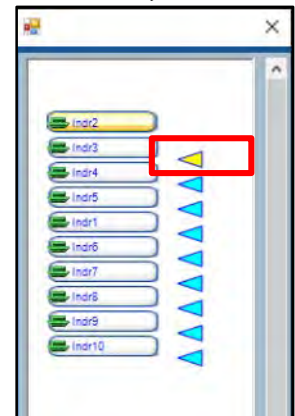
Outdoor unit can be edited.

Insert function



Select indoor unit

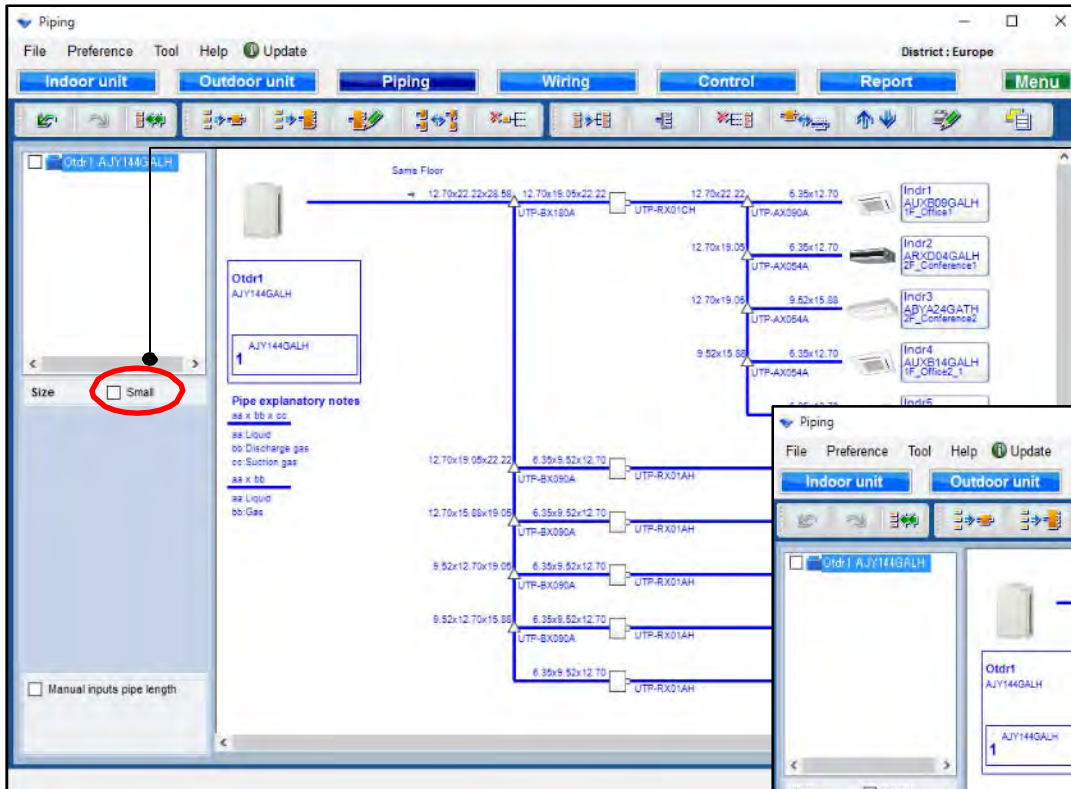
Select
"Remove, Insert or undo"



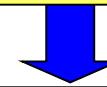
Specify the
insertion position
of the selected
indoor unit.



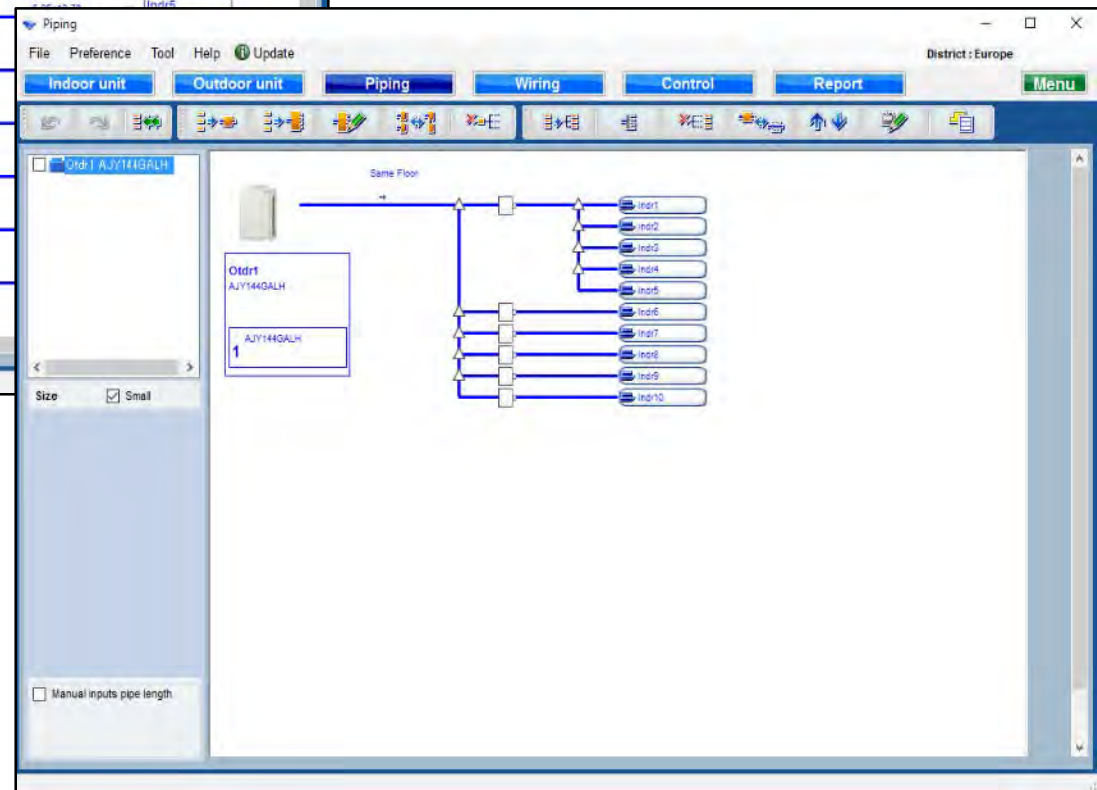
Small view function



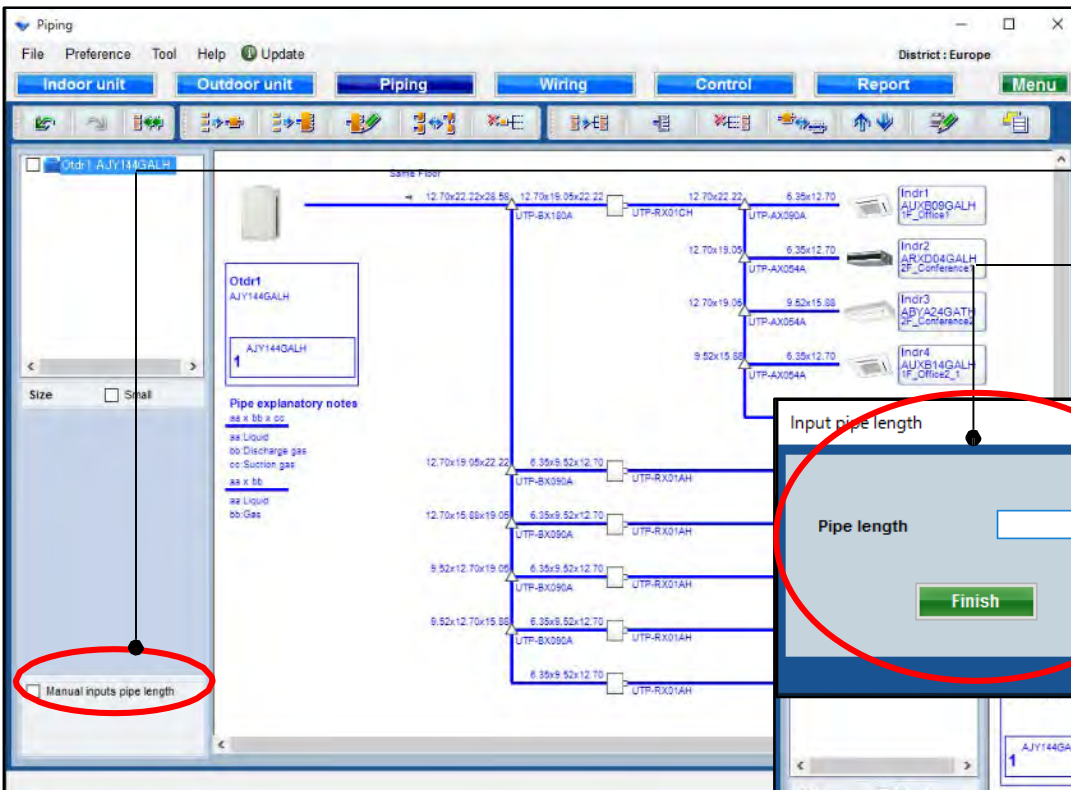
Select "Small"



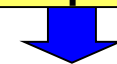
It changed to the small view.



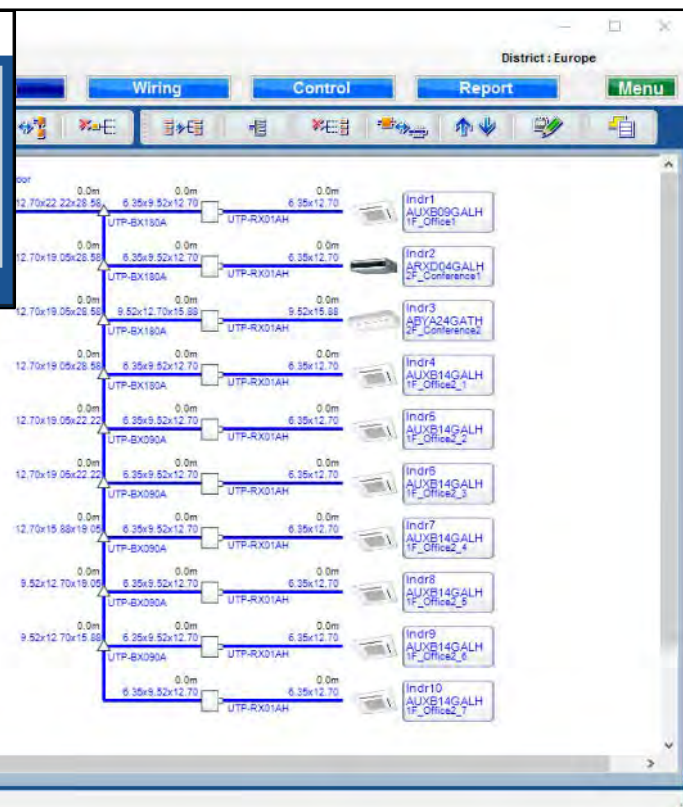
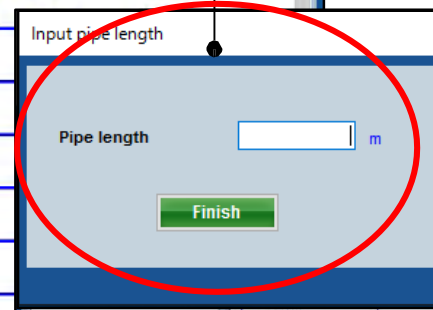
Pipe length set function (1/4)



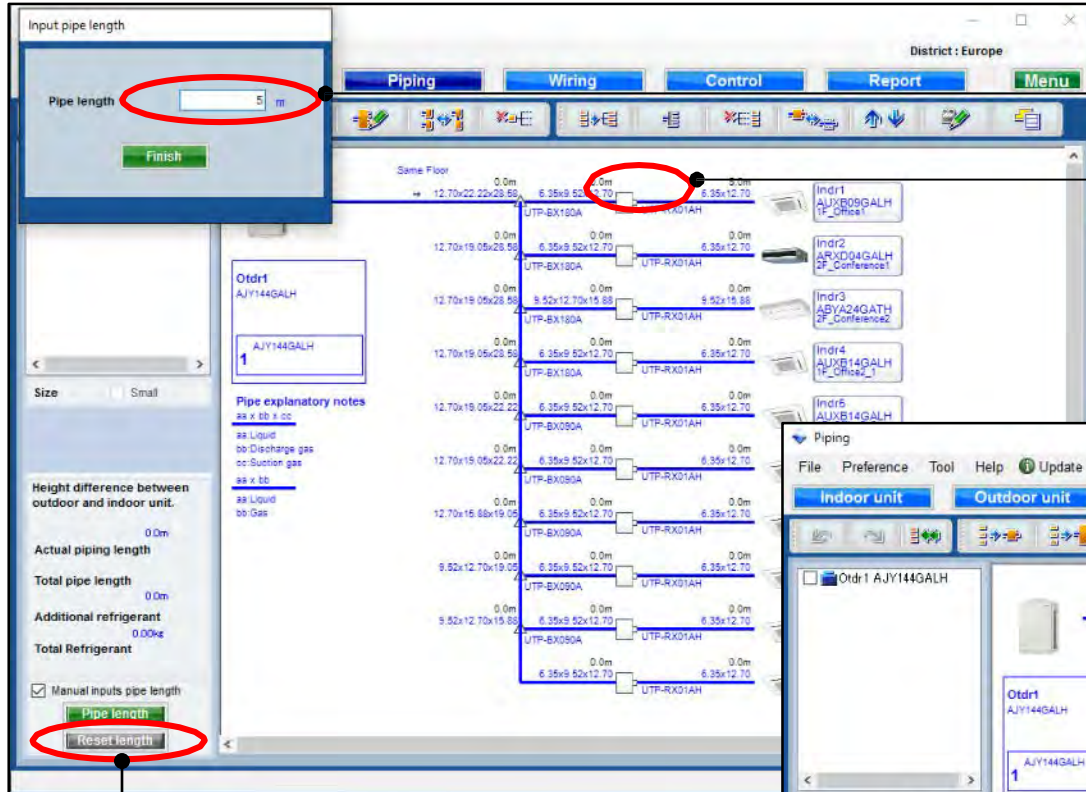
Select "Manual input pipe length"



Open pipe length selection screen



Pipe length set function (2/4)

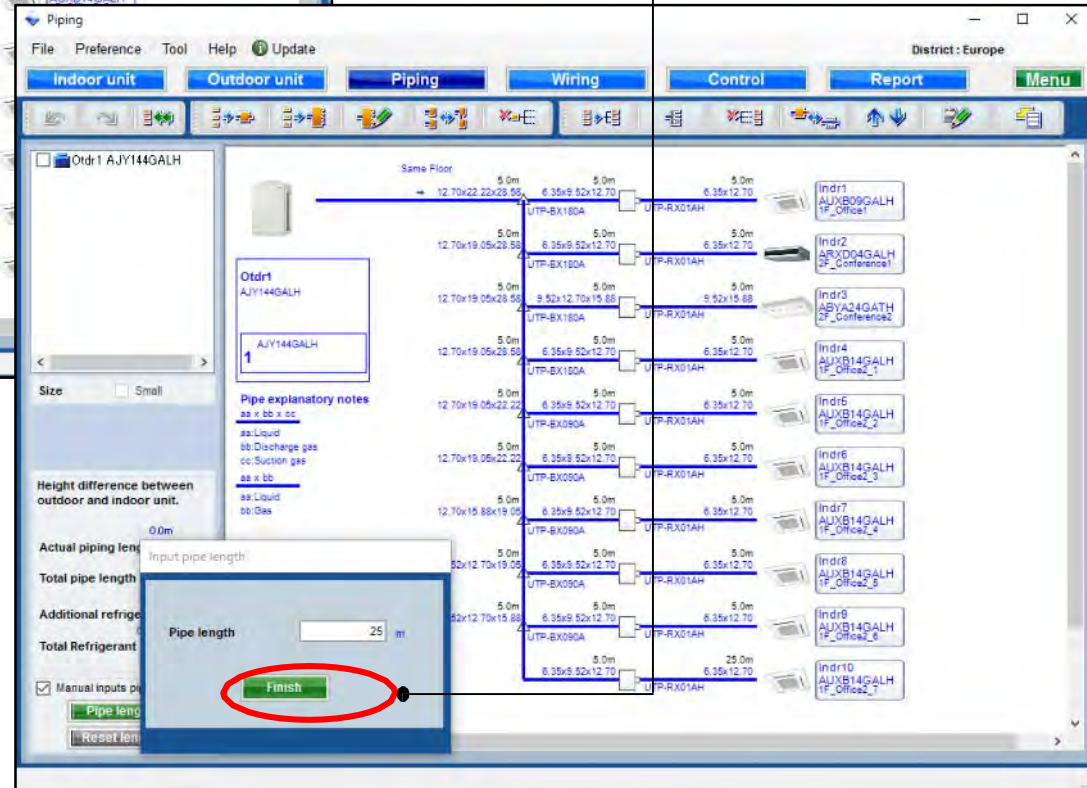


Input the pipe length

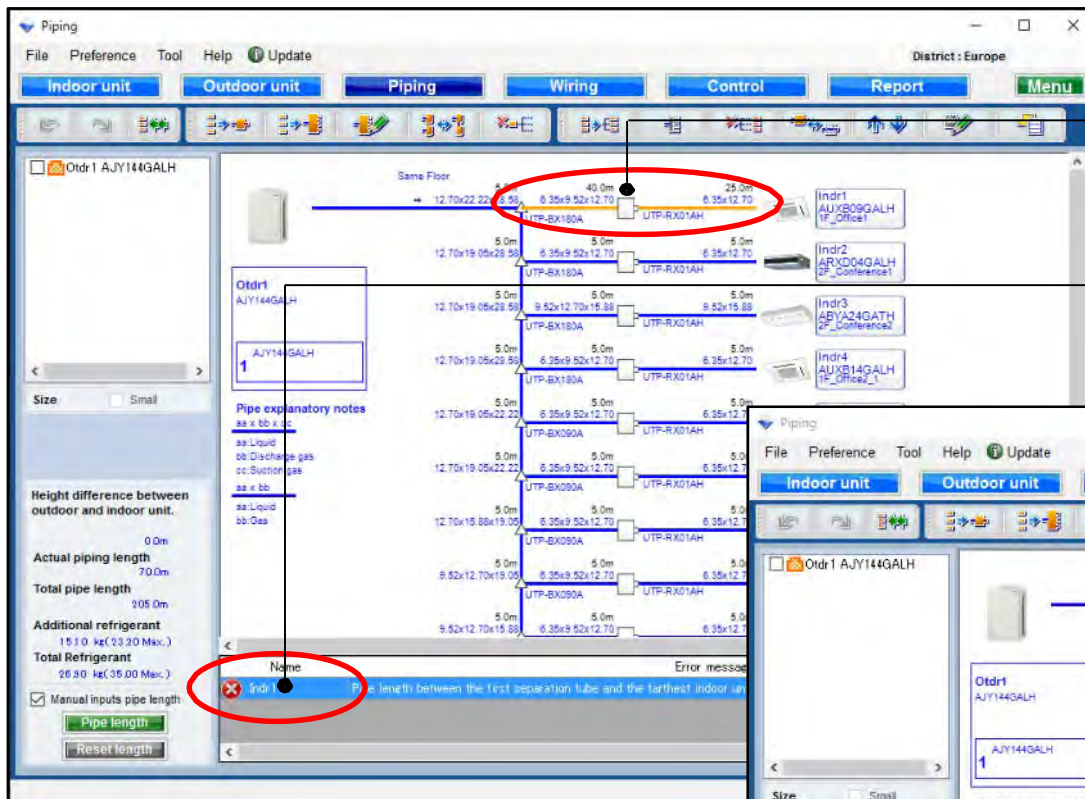
Select each pipe

After all lengths are registered ,
select "Finish"

Reset all input pipe lengths
to initial value

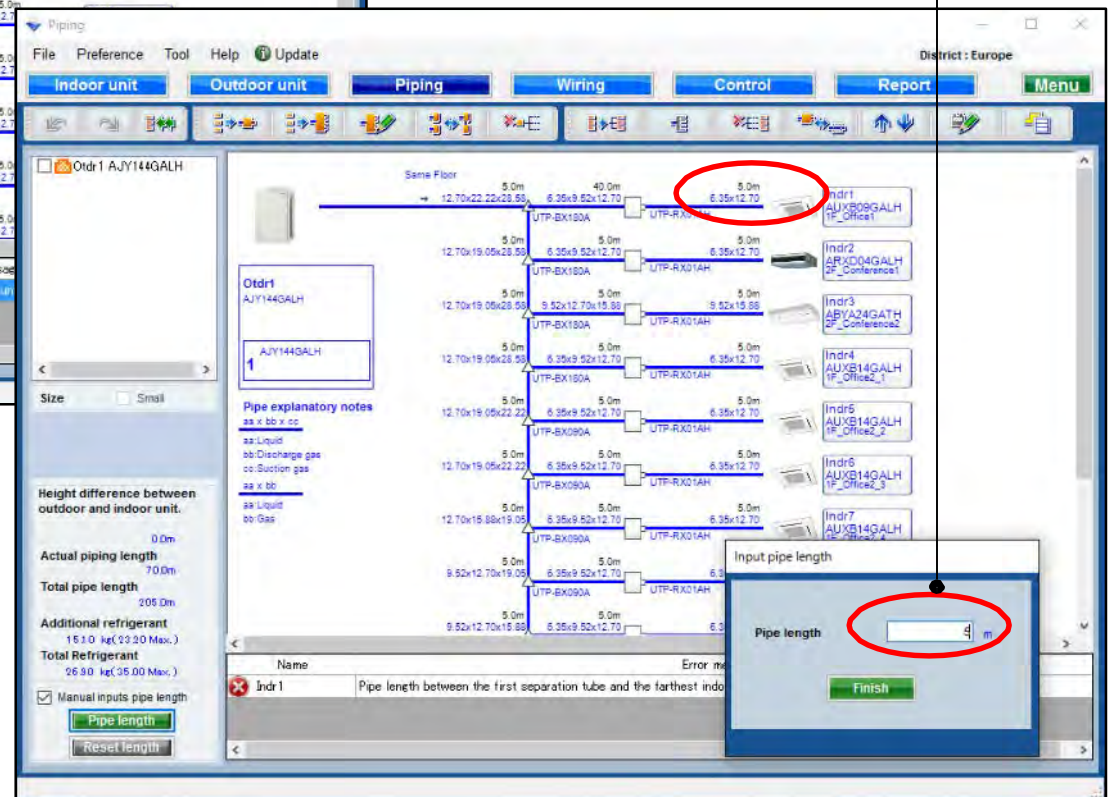


Pipe length set function (3/4)



A warning provides error information when information has not been entered or exceeds the restrictions.

Repeat again, then select "Finish"



Pipe length set function (4/4)

**Actual piping length display :
declared and registered length**

**Additional charge refrigerant amount are
automatically calculated and displayed.**

Actual piping length 60.0m

Additional refrigerant 14.68 kg(23.20 Max.)

Total Refrigerant 26.48 kg(59.00 Max.)

Manual inputs pipe length

Pipe length

Reset length

Height difference between outdoor and indoor unit. 0.0m

Pipe explanatory notes
aa x bb x cc
aa:Liquid
bb:Discharge gas
cc:Suction gas
aa x bb
aa:Liquid
bb:Gas

Indr1 AUXB09GALH 1F_Office1
Indr2 ARXD04GALH 2F_Conference1
Indr3 ABYA24GATH 2F_Conference2
Indr4 AUXB14GALH 1F_Office2_1
Indr5 AUXB14GALH 1F_Office2_2
Indr6 AUXB14GALH 1F_Office2_3
Indr7
Indr9

Same Floor

5.0m 40.0m 5.0m
12.70x22.22x28.58 6.35x9.52x12.70 6.35x12.70
UTP-BX180A UTP-RX01AH

5.0m 5.0m 5.0m
12.70x19.05x28.58 6.35x9.52x12.70 6.35x12.70
UTP-BX180A UTP-RX01AH

5.0m 5.0m 5.0m
12.70x19.05x28.58 9.52x12.70x15.88 9.52x15.88
UTP-BX180A UTP-RX01AH

5.0m 5.0m 5.0m
12.70x19.05x28.58 6.35x9.52x12.70 6.35x12.70
UTP-BX180A UTP-RX01AH

5.0m 5.0m 5.0m
12.70x19.05x22.22 6.35x9.52x12.70 6.35x12.70
UTP-BX090A UTP-RX01AH

5.0m 5.0m 5.0m
12.70x19.05x22.22 6.35x9.52x12.70 6.35x12.70
UTP-BX090A UTP-RX01AH

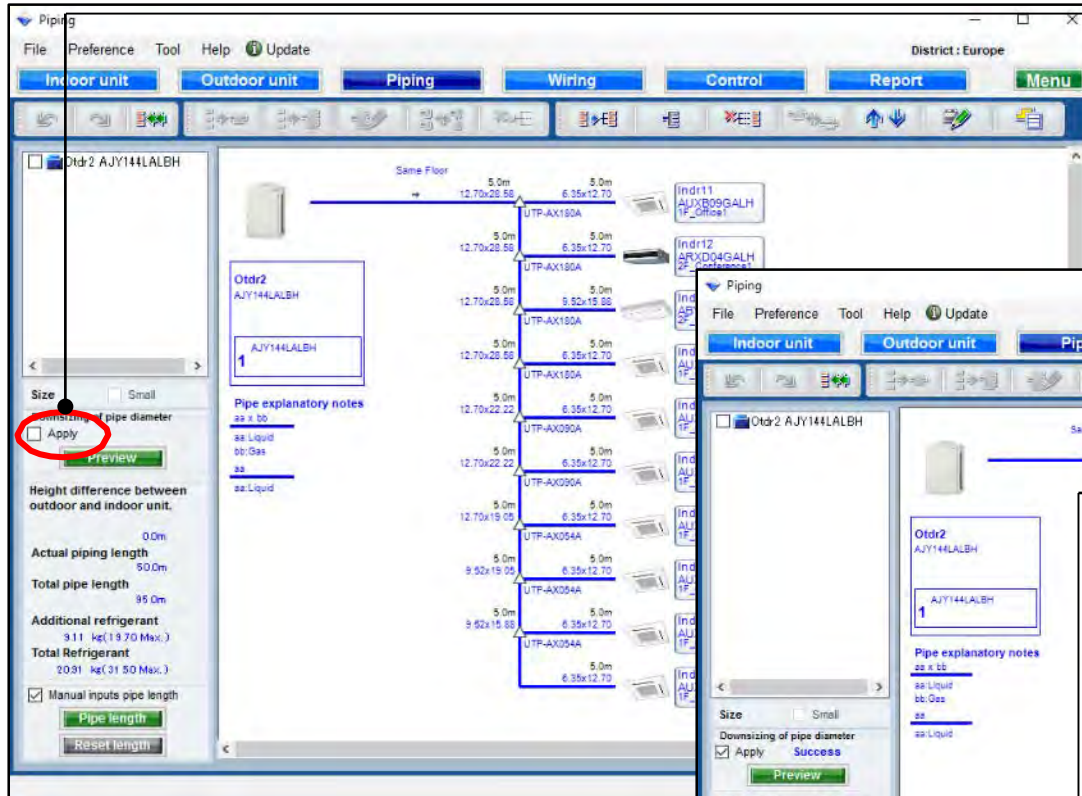
5.0m 5.0m 5.0m
9.52x12.70x15.88 6.35x9.52x12.70 6.35x12.70
UTP-BX090A UTP-RX01AH

Piping settings

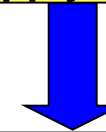
Design Simulator

Downsizing of pipe diameter function (1/2)

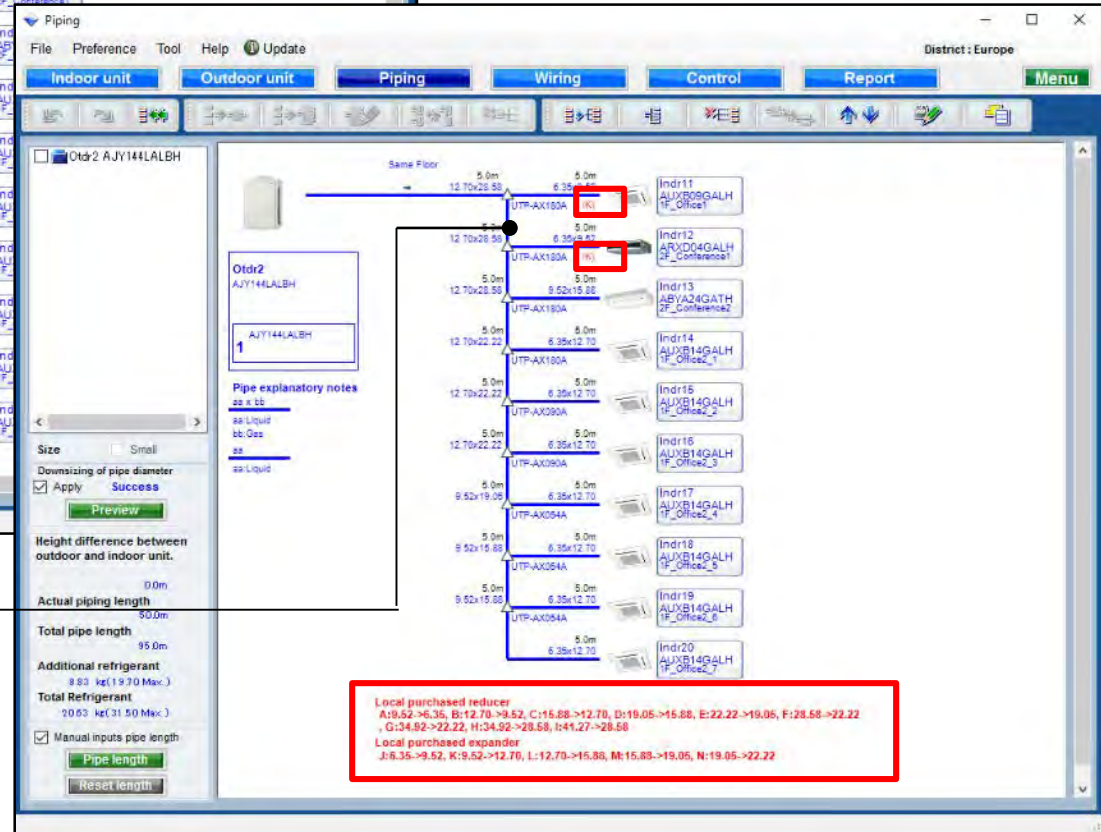
*V-III series only at target area



Select "Apply"



Downsize pipe diameter



When Reducer is necessary,
message is displayed.

Downsizing of pipe diameter function (2/2)

The screenshot shows the 'Piping' software interface. On the left, there is a sidebar with a 'Preview' button highlighted by a red circle. The main area displays a piping diagram with various units and pipes. Below the diagram, there are 'Pipe explanatory notes' and 'Local purchased reducer' and 'Local purchased expander' information.

Select "Preview"

Display "Downsizing of pipe diameter"

The dialog box titled 'Downsizing of pipe diameter' contains a table with the following data:

Pipe Size (mm)	Normal (m)	Downsizing (m)	Difference (m)
6.35	45.0	45.0	0.0
9.52	15.0	30.0	15.0
12.70	80.0	65.0	-15.0
15.88	10.0	15.0	5.0
19.05	10.0	5.0	-5.0
22.22	10.0	15.0	5.0
28.58	20.0	15.0	-5.0
Downsized pipe length			25.0
Refrigerant (kg)	9.11	8.83	0.28

Below the table, there is a text box with the following text:

If you input the lengths of the pipes and their length are based on the following condition, you can downsize the pipe size.

- Between outdoor unit to outdoor unit branch kit :
Between outdoor unit branch kits or outdoor unit branch kit to first separation tube :
The length between master out door unit and the farthest indoor unit should be 70.0m or less.
- Between separation tubes :
The length between master out door unit and the farthest indoor unit should be 120.0m or less,
and the length between the first separation tube and the farthest indoor unit should be 60.0m or less.
- Between separation tube to indoor unit :

Display the difference before and after the downsizing of pipe and refrigerant amount.