DAIKIN

technical data

air conditioning systems

Air-cooled selection procedure

VRV III-S
VRV III
VRV II

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1 Air-cooled selection procedure

1 Selection procedure VRVII system based on cooling load

1 - 1 Indoor unit selection

Enter indoor unit capacity tables at given indoor and outdoor temperature.

Select the unit that the capacity is the nearest to and higher than the given load.

1

NOTE

1 Individual indoor unit capacity is subject to change by the combination. Actual capacity has to be calculated according to the combination by using outdoor units capacity table.

1 - 2 Outdoor unit selection

Allowable combinations are indicated in indoor unit combination total capacity index table.

In general, oudoor units can be selected as follows though the location of the unit, zoning and usage of the rooms should be considered.

The indoor and outdoor unit combination is determined that the sum of indoor unit capacity index is nearest to and smaller than the capacity index at 100 % combination ratio of each outdoor unit. Up to 16 indoor units can be connected to one outdoor unit. It is recommended to choose a larger outdoor unit if the installation space is large enough.

If the combination ratio is higher than 100 %, the indoor unit selection will have to be reviewed by using actual capacity of each indoor unit.

Indoor unit combination total capacity index table

Outdoor unit	Indoor unit combination ratio								
	130 %	120 %	110 %	100 %	90 %	80 %	70%	60 %	50 %
RXYSQ4PV	130	120	110	100	90	80	70	60	50
RXYSQ5PV	162.5	150	137.5	125	112.5	100	87.5	75	62.5
RXYSQ6PV	182	168	154	140	126	112	98	84	70

Outdoor unit	Indoor unit combination ratio								
	130 %	120 %	110 %	100 %	90 %	80 %	70%	60 %	50 %
RX(Y)Q5P	162.5	150	137.5	125	112.5	100	87.5	75	62.5
RX(Y)Q8P/REYQ8M	260	240	220	200	180	160	140	120	100
RX(Y)Q10P/REYQ10M	325	300	275	250	225	200	175	150	125
RX(Y)Q12P/REYQ12M	390	360	330	300	270	240	210	180	150
RX(Y)Q14P/REYQ14M	455	420	385	350	315	280	245	210	175
RX(Y)Q16P/REYQ16M	520	480	440	400	360	320	280	240	200
RX(Y)Q18P/REYQ18M	585	540	495	450	405	360	315	270	225
RXYQ20P/REYQ20M	650	600	550	500	450	400	350	300	250
RXYQ22P/REYQ22M	715	660	605	550	495	440	385	330	275
RXYQ24P/REYQ24M	780	720	660	600	540	480	420	360	300
RXYQ26P/REYQ26M	845	780	715	650	585	520	455	390	325
RXYQ28P/REYQ28M	910	840	770	700	630	560	490	420	350
RXYQ30P/REYQ30M	975	900	825	750	675	600	525	450	375
RXYQ32P/REYQ32M	1,040	960	880	800	720	640	560	480	400
RXYQ34P/REYQ34M	1,105	1,020	935	850	765	680	595	510	425
RXYQ36P/REYQ36M	1,170	1,080	990	900	810	720	630	540	450
RXYQ38P/REYQ38M	1,235	1,140	1,045	950	855	760	665	570	475
RXYQ40P/REYQ40M	1,300	1,200	1,100	1,000	900	800	700	600	500
RXYQ42P/REYQ42M	1,365	1,260	1,155	1,050	945	840	735	630	525
RXYQ44P/REYQ44M	1,430	1,320	1,210	1,100	990	880	770	660	550
RXYQ46P/REYQ46M	1,495	1,380	1,265	1,150	1,035	920	805	690	575
RXYQ48P/REYQ48M	1,560	1,440	1,320	1,200	1,080	960	840	720	600
RXYQ50P	1,625	1,500	1,375	1,250	1,125	1,000	875	750	625
RXYQ52P	1,690	1,560	1,430	1,300	1,170	1,040	910	780	650
RXYQ54P	1,755	1,620	1,485	1,350	1,215	1,080	945	810	675

Indoor unit capacity index

Model	20	25	32	40	50	63	71	80	100	125	200	250
Capacity index	20	25	31.25	40	50	62.5	71	80	100	125	200	250

1 Selection procedure VRVII system based on cooling load

1 - 3 Actual performance data

Use outdoor unit capacity tables

Determine the correct table according to the outdoor unit model and combination ratio.

Enter the table at given indoor and outdoor temperature and find the outdoor capacity and power input. The individual indoor unit capacity (power input) can be calculated as follows:

$$ICA = \frac{OCA \times INX}{TNX}$$

ICA: Individual indoor unit capacity (power input)
OCA: Outdoor unit capacity (power input)
INX: Individual indoor unit capacity index
TNX: Total capacity index

Then, correct the indoor unit capacity according to the piping length.
If the corrected capacity is smaller than the load, the size of indoor unit has to be increased. Repeat the same selection procedure.

1 - 4 Selection example based on cooling load

1 Given

- Design condition
  Cooling: indoor 20°CWB, outdoor 33°CDB
- Cooling load

Room	A	B	C	D	E	F	G	H
Load (kW)	2.9	2.7	2.5	4.3	4.0	4.0	3.9	4.2

- Power supply: 3-phase 380V/50Hz

2 Indoor unit selection

Enter indoor unit capacity table at:
20°CWB indoor temperature
33°CDB outdoor air temperature.

Selection results are as follows:

Room	A	B	C	D	E	F	G	H
Load (kW)	2.9	2.7	2.5	4.3	4.0	4.0	3.9	4.2
Unit size	25	25	25	40	40	40	40	40
Capacity	3.0	3.0	3.0	4.8	4.8	4.8	4.8	4.8

3 Outdoor unit selection

- Assume that the indoor and outdoor unit combination is as follows.
  Outdoor unit: RXYQ10M
  Indoor unit: FXCQ25M7 x 3, FXCQ40M7 x 5
- Indoor unit combination total capacity index
  25 x 3 + 40 x 5 = 275 (110 %)

1 Selection procedure VRVII system based on cooling load

1 - 4 Selection example based on cooling load

4 Actual performance data (50Hz)

- Outdoor unit cooling capacity: 30.5kW (RXYQ10M, 110 %)
- Individual capacity

Capacity of FXCQ25M $= 30.5 \times \frac{25}{275} = 2.77\text{kW}$

Capacity of FXCQ40M $= 30.5 \times \frac{40}{275} = 4.44\text{kW}$

Actual combination capacity

Room	A	B	C	D	E	F	G	H
Load (kW)	2.9	2.7	2.5	4.3	4.0	4.0	3.9	4.2
Unit size	25	25	25	40	40	40	40	40
Capacity	2.77	2.77	2.77	4.44	4.44	4.44	4.44	4.44

The unit size for room A has to be increased from 25 to 32 because the capacity is less than the load. For new combination, actual capacity is calculated as follows.

- Indoor unit combination total capacity index
  (25 x 2) +31.25 + (40 x5) = 281.25 (112.5 %)
- Outdoor unit cooling capacity:
  27,610 kcal/h (direct interpolation between 110 % and 120 % in the table)
- Individual capacity

Capacity of FXCQ25M $= 30.0 \times \frac{25}{281.25} = 2.7\text{kW}$

Capacity of FXCQ32M $= 30.0 \times \frac{32}{281.25} = 3.4\text{kW}$

Capacity of FXCQ40M $= 30.0 \times \frac{40}{281.25} = 4.3\text{kW}$

Actual capacity of new combination

Room	A	B	C	D	E	F	G	H
Load (kW)	2.9	2.7	2.5	4.3	4.0	4.0	3.9	4.2
Unit size	32	25	25	40	40	40	40	40
Capacity	3.4	2.7	2.7	4.3	4.3	4.3	4.3	4.3

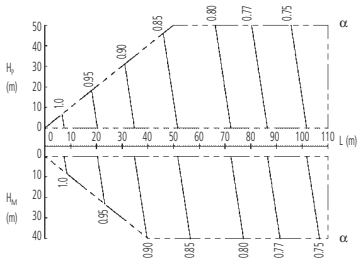
Then, the capacities have to be corrected for actual piping length according to the location of indoor and outdoor units and the distance between them.

2 Capacity correction ratio

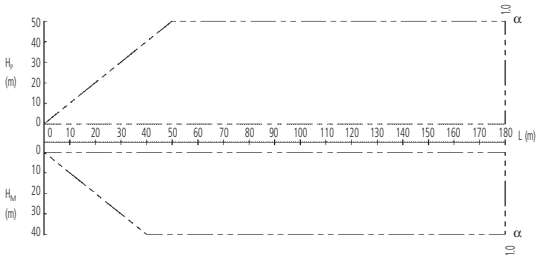
2 - 1 VRVIII-S

RXYSQ4,5PV

- Rate of change in cooling capacity



- Rate of change in heating capacity



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NOTES

1 These figures illustrate the rate of change of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the rate of change in capacity, shown in the above figures.

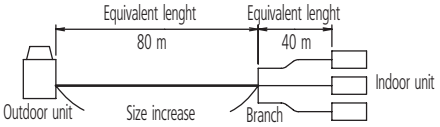
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

3 Method of calculating cooling/heating capacity (max. capacity for combination with standard indoor unit)
Cooling/heating capacity = cooling/heating capacity obtained from performance characteristics table x each capacity rate of change
In the case length of piping differs depending on the indoor unit, maximum capacity of eacht unit during simultaneous operation is:
Cooling/heating capacity = cooling/heating capacity obtained from performance characteristics table x each capacity rate of change

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased..
[Diameter of above case]

Model	gas pipe	liquid pipe
RXYSQ4,5P7V3B	ø 19.1	Not increased

5 When the main section of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when Hp=0m is thus approximately 0.78

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units where indoor unit in inferior position

H_M : Level difference (m) between indoor and outdoor units where indoor unit in superior position

L : Equivalent pipe length (m)

α : Capacity correction factor

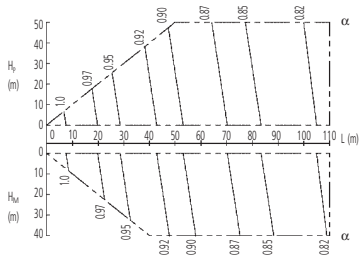
Model	gas pipe	liquid pipe
RXYSQ4,5P7V3B	ø 15.9	ø 9.5

2 Capacity correction ratio

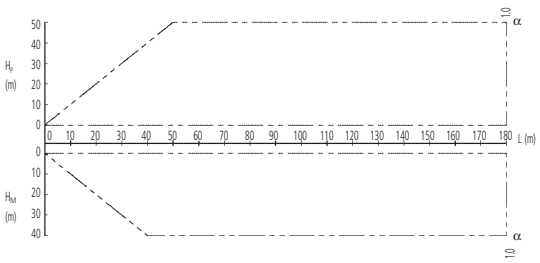
2 - 1 VRVIII-S

RXYSQ6PV

- Rate of change in cooling capacity



- Rate of change in heating capacity



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NOTES

1 These figures illustrate the rate of change of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the rate of change in capacity, shown in the above figures.

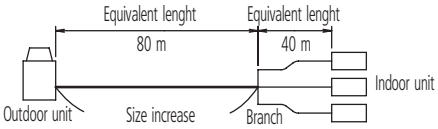
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

3 Method of calculating cooling/heating capacity (max. capacity for combination with standard indoor unit)
Cooling/heating capacity = cooling/heating capacity obtained from performance characteristics table x each capacity rate of change
In the case length of piping differs depending on the indoor unit, maximum capacity of eacht unit during simultaneous operation is:
Cooling/heating capacity = cooling/heating capacity obtained from performance characteristics table x each capacity rate of change

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased..
[Diameter of above case]

Model	gas pipe	liquid pipe
RXYSQ6P7V3B	ø 22.2	Not increased

5 When the main section of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when Hp=0m is thus approximately 0.86

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units where indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units where indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

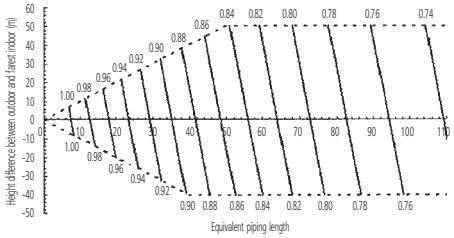
Model	gas pipe	liquid pipe
RXYSQ6P7V3B	ø 19.1	ø 9.5

2 Capacity correction ratio

2 - 2 VRVIII cooling only

RXQ5P

- Correction ratio for cooling capacity



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NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXQ5P	ø 19.1	ø 9.5

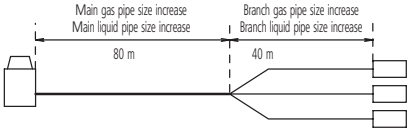
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXQ5P	ø 15.9	ø 9.5

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

7 Example



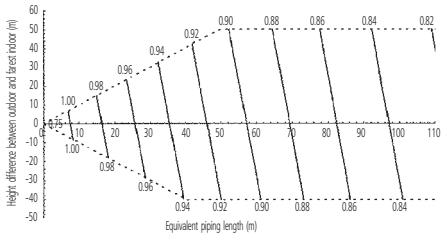
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.78

2 Capacity correction ratio

2 - 2 VRVIII cooling only

RXQ8P

- Correction ratio for cooling capacity



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NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.
- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXQ8P	ø 22.2	ø 12.7

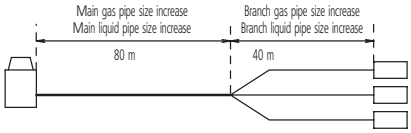
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXQ8P	ø 19.1	ø 9.5

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

7 Example



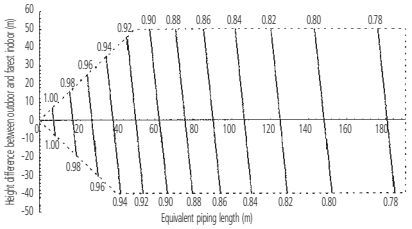
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.86

2 Capacity correction ratio

2 - 2 VRVIII cooling only

RXQ10P

- Correction ratio for cooling capacity



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NOTES

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Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXQ10P	ø 25.4*	ø 12.7

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

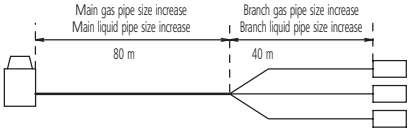
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXQ10P	ø 22.2	ø 9.5

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

7 Example



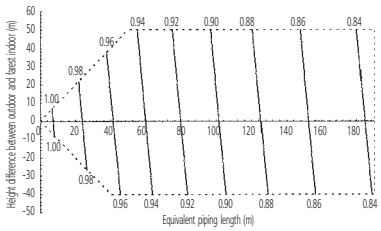
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.87

2 Capacity correction ratio

2 - 2 VRVIII cooling only

RXQ12,14P

- Correction ratio for cooling capacity



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NOTES

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Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.
- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXQ12-14P	ø 28.6	ø 15.9

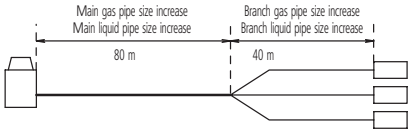
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXQ12-14P	ø 28.6	ø 12.7

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

7 Example



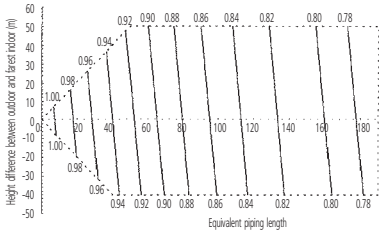
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.89

2 Capacity correction ratio

2 - 2 VRVIII cooling only

RXQ16P

- Correction ratio for cooling capacity



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NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

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- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXQ5P	ø 31.8*	ø 15.9

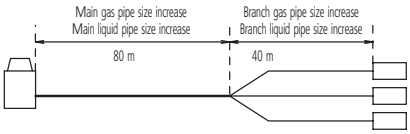
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXQ5P	ø 28.6	ø 12.7

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

7 Example



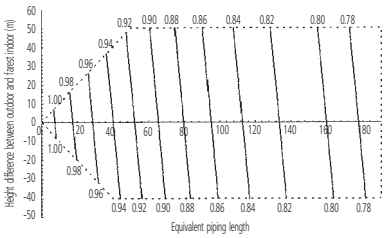
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.88

2 Capacity correction ratio

2 - 2 VRVIII cooling only

RXQ18P

- Correction ratio for cooling capacity



3TW27302-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.
- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXQ18P	ø 31.8*	ø 19.1

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

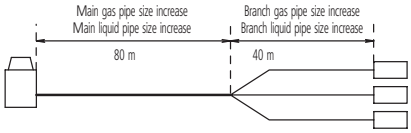
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXQ18P	ø 28.6	ø 15.9

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

7 Example



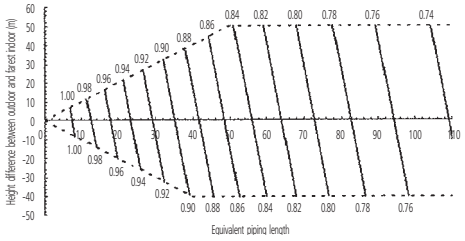
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83

2 Capacity correction ratio

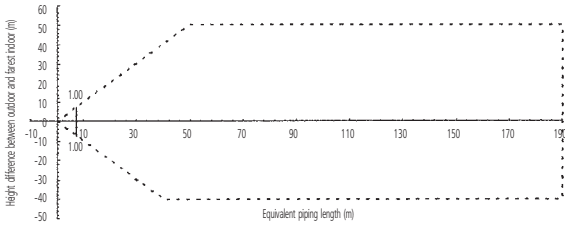
2 - 3 VRVIII heat pump

RXYQ5P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ5P	ø 19.1	ø 9.5

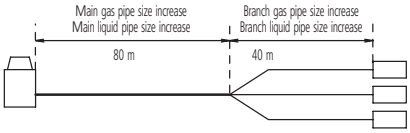
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ5P	ø 15.9	ø 9.5

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



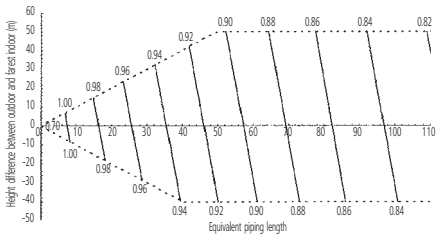
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 120m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.78
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

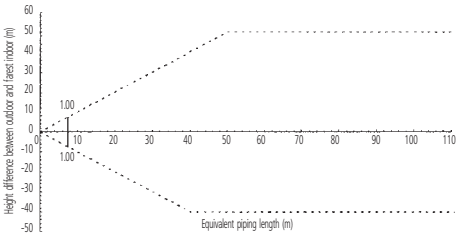
2 - 3 VRVIII heat pump

RXYQ8P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ8P	ø 22.2	ø 12.7

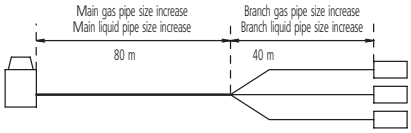
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ8P	ø 19.1	ø 9.5

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



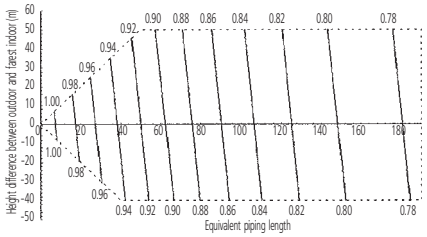
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.86
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

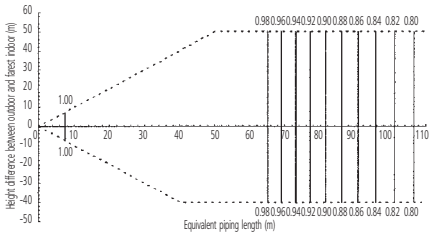
2 - 3 VRVIII heat pump

RXYQ10P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ10P	ø 25.4*	ø 12.7

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

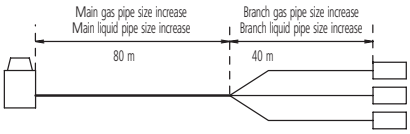
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ10P	ø 22.2	ø 9.5

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



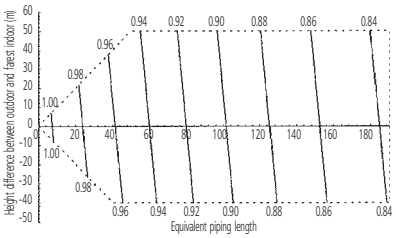
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.87
heating capacity when height difference = 0 is thus approximately 0.90

2 Capacity correction ratio

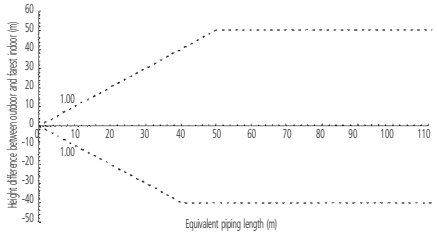
2 - 3 VRVIII heat pump

RXYQ12,14,24,36P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.
- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ12-14P	ø 28.6	ø 15.9
RXYQ24P	ø 34.9	ø 19.1
RXYQ36P	ø 41.3	ø 22.2

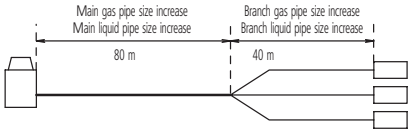
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ12-14P	ø 28.6	ø 12.7
RXYQ24P	ø 34.9	ø 15.9
RXYQ36P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



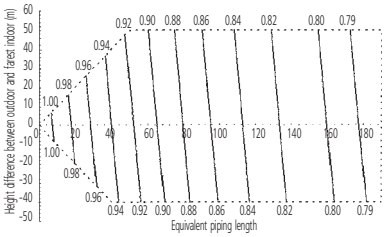
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.89
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

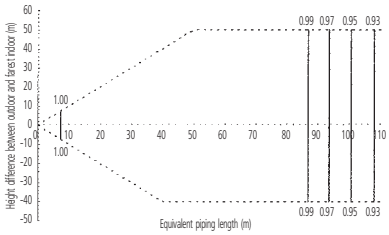
2 - 3 VRVIII heat pump

RXYQ16P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ16P	ø 31.8*	ø 15.9

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

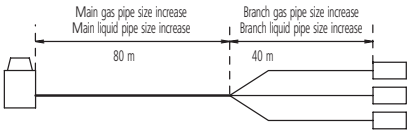
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ16P	ø 28.6	ø 12.7

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



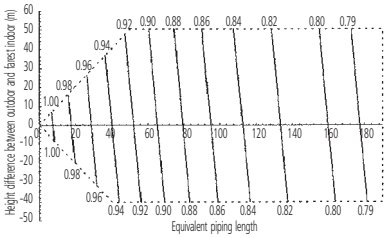
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.88
heating capacity when height difference = 0 is thus approximately 0.99

2 Capacity correction ratio

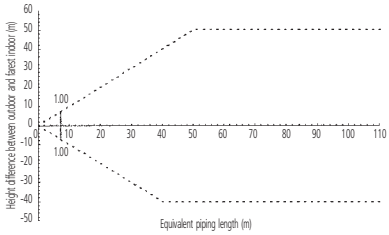
2 - 3 VRVIII heat pump

RXYQ18,26,30,38,44P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ18P	ø 31.8*	ø 19.1
RXYQ26-30P	ø 38.1*	ø 22.2
RXYQ38-44P	ø 41.3	ø 22.2

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

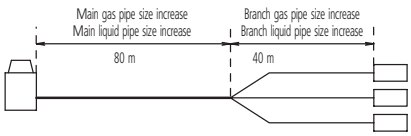
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ18P	ø 28.6	ø 15.9
RXYQ26-30P	ø 34.9	ø 19.1
RXYQ38-44P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



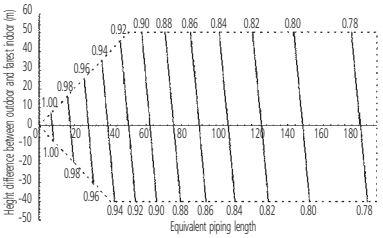
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

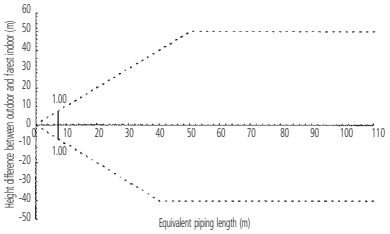
2 - 3 VRVIII heat pump

RXYQ20,32,34P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

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3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ20P	ø 31.8*	ø 19.1
RXYQ32-34P	ø 38.1*	ø 22.2

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

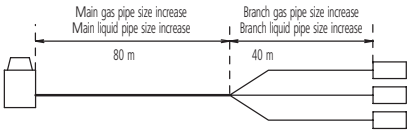
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ20P	ø 28.6	ø 15.9
RXYQ32-34P	ø 34.9	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



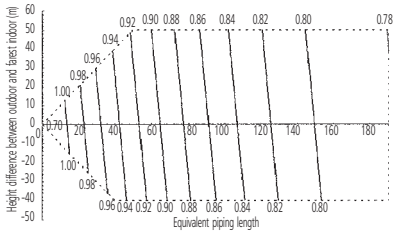
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.88
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

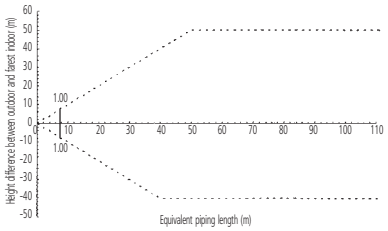
2 - 3 VRVIII heat pump

RXYQ22P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.
- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ22P	ø 31.8*	ø 19.1

* If not available on site, do not increase. If not increased, no correction factor should be applied to the equivalent length (see note 6).

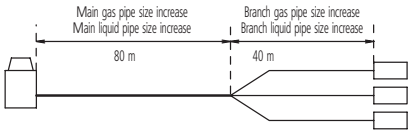
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ22P	ø 28.6	ø 15.9

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



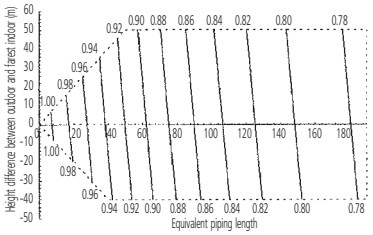
In the above case
(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.88
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

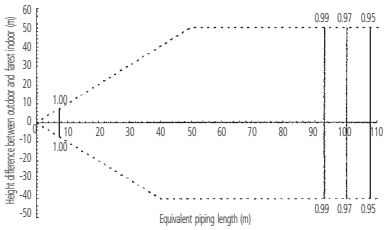
2 - 3 VRVIII heat pump

RXYQ46P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ46P	ø 41.3	ø 22.2

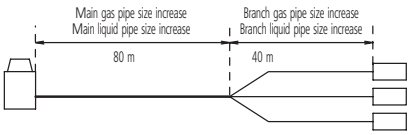
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ46P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



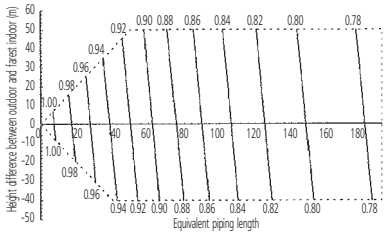
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83
heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

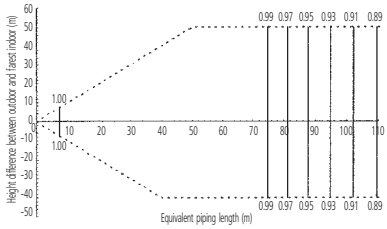
2 - 3 VRVIII heat pump

RXYQ48P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ48P	ø 41.3	ø 22.2

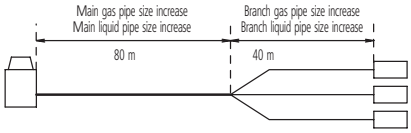
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ48P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



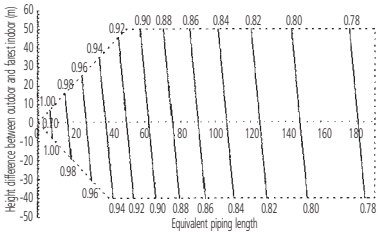
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83
heating capacity when height difference = 0 is thus approximately 0.97

2 Capacity correction ratio

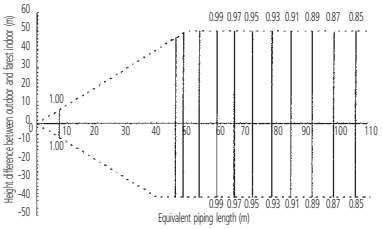
2 - 3 VRVIII heat pump

RXYQ50P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ50P	ø 41.3	ø 22.2

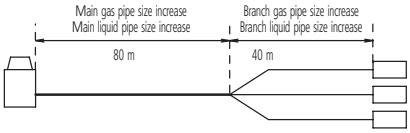
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ50P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



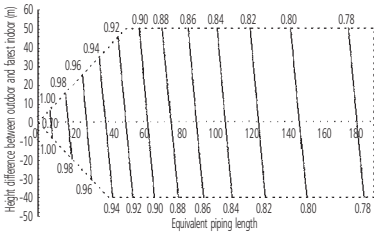
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83
heating capacity when height difference = 0 is thus approximately 0.92

2 Capacity correction ratio

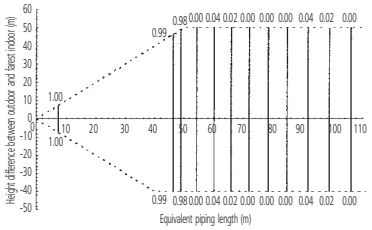
2 - 3 VRVIII heat pump

RXYQ52P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ52P	ø 41.3	ø 22.2

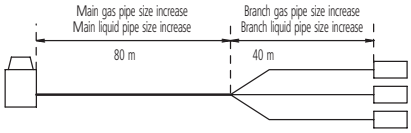
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ52P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



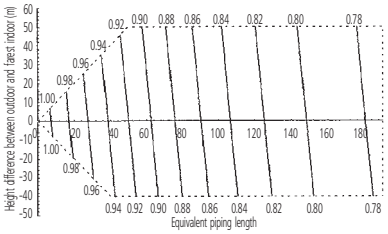
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83
heating capacity when height difference = 0 is thus approximately 0.88

2 Capacity correction ratio

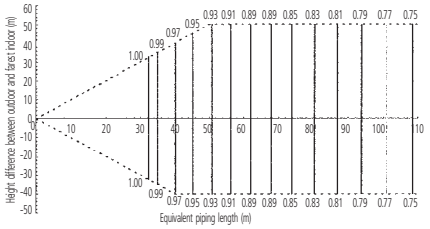
2 - 3 VRVIII heat pump

RXYQ54P

- Correction ratio for cooling capacity



- Correction ratio for heating capacity



3TW27232-6

NOTES

1 These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation from the capacity correction ratio, shown in the above figures.

2 With this outdoor unit, constant evaporating pressure control when cooling and constant condensing pressure control when heating is carried out.

3 Method of calculating the capacity of the outdoor units:
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

- Condition: Indoor connection ratio does not exceed 100%
  Maximum capacity of outdoor units = capacity of outdoor units from capacity table at 100% connection ratio x correction ratio of piping to farest indoor
- Condition: Indoor connection ratio exceeds 100%
  Maximum capacity of outdoor units = capacity of outdoor from capacity table at installed connection ratio x correction ratio of piping to farest indoor

4 When the overall equivalent pipe length is 90m or more, main gas and liquid pipe diameters must be increased..
For new diameters see below.

Model	gas pipe	liquid pipe
RXYQ54P	ø 41.3	ø 22.2

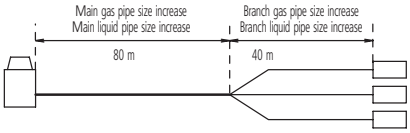
5 When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

Model	gas pipe	liquid pipe
RXYQ54P	ø 41.3	ø 19.1

6 Equivalent length used in the above figures is based upon the following equivalent length.
Equivalent piping length = Equivalent length of main pipe x Correction factor + Equivalent length of branch pipes x Correction factor
Choose a correction factor from the following table.
When cooling capacity is calculated: gas pipe size
When heating capacity is calculated: liquid pipe size.

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5
Heating (liquid pipe)	1.0	0.5

7 Example



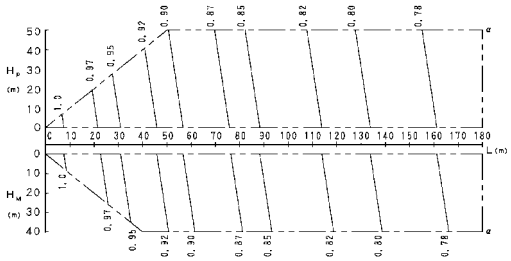
In the above case
(Cooling) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m
(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m
The rate of change in:
cooling capacity when height difference = 0 is thus approximately 0.83
heating capacity when height difference = 0 is thus approximately 0.83

2 Capacity correction ratio

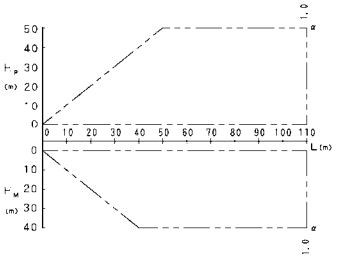
2 - 4 VRVII heat recovery

REYQ8,22M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042141

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.

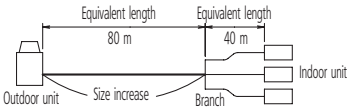
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

3 Method of calculating cooling / heating capacity (max. capacity for combination with standard indoor unit)
cooling / heating capacity = cooling / heating capacity obtained from performance characteristics table x each capacity rate of change
When piping length differs depending on the indoor unit, maximum capacity of each unit during simultaneous operation is:
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.

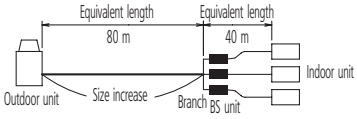
Model	Liquid
REYQ8M	ø 12.7
REYQ22M	ø 19.1

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 1.0

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.86

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

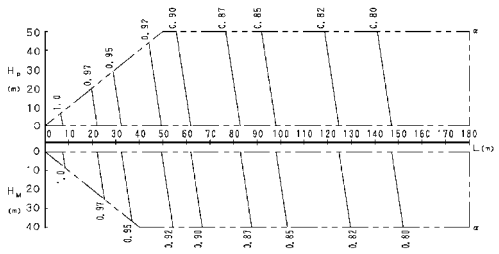
Model	liquid
REYQ8M	ø 9.5
REYQ22M	ø 15.9

2 Capacity correction ratio

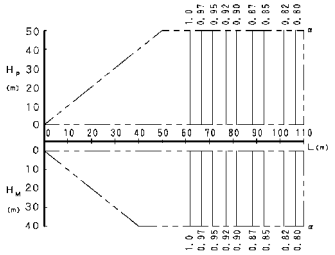
2 - 4 VRVII heat recovery

REYQ10M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042142

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.

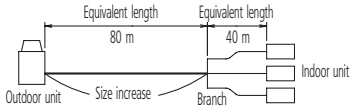
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

3 Method of calculating cooling / heating capacity (max. capacity for combination with standard indoor unit)
cooling / heating capacity = cooling / heating capacity obtained from performance characteristics table x each capacity rate of change
When piping length differs depending on the indoor unit, maximum capacity of each unit during simultaneous operation is:
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit-branch sections) must be increased.

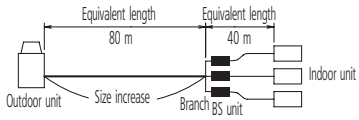
Model	liquid
REYQ10M	ø 12.7

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.91

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.88

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

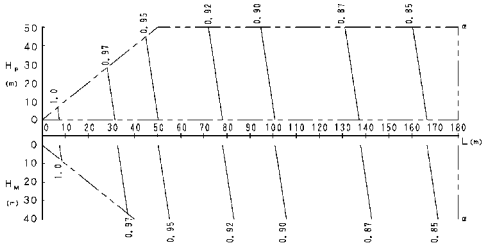
Model	liquid
REYQ10M	ø 9.5

2 Capacity correction ratio

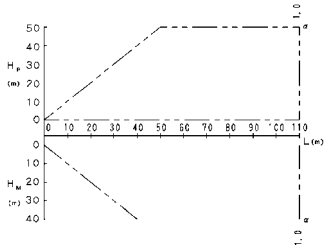
2 - 4 VRVII heat recovery

REYQ12,14,24,36M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042143

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.

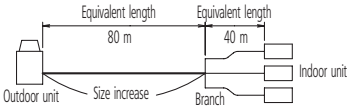
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

3 Method of calculating cooling / heating capacity (max. capacity for combination with standard indoor unit)
cooling / heating capacity = cooling / heating capacity obtained from performance characteristics table x each capacity rate of change
When piping length differs depending on the indoor unit, maximum capacity of each unit during simultaneous operation is:
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit-branch sections) must be increased.

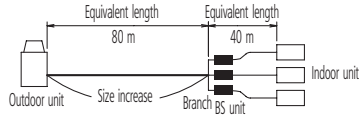
Model	liquid
REYQ12,14M	ø 15.9
REYQ24M	ø 19.1
REYQ36M	ø 22.2

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 1.0

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.92

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

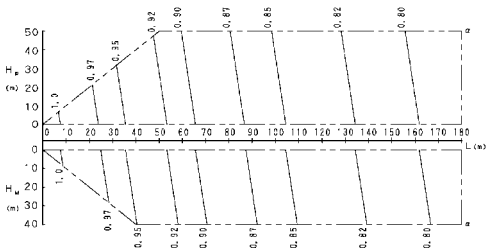
Model	liquid
REYQ12,14M	ø 12.7
REYQ24M	ø 15.9
REYQ36M	ø 19.1

2 Capacity correction ratio

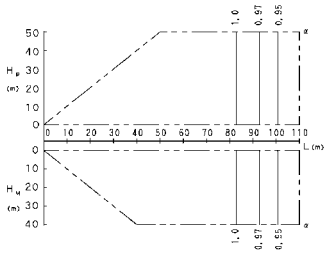
2 - 4 VRVII heat recovery

REYQ16M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042144

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.

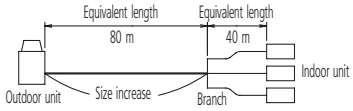
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

3 Method of calculating cooling / heating capacity (max. capacity for combination with standard indoor unit)
cooling / heating capacity = cooling / heating capacity obtained from performance characteristics table x each capacity rate of change
When piping length differs depending on the indoor unit, maximum capacity of each unit during simultaneous operation is:
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main liquid pipes (outdoor unit-branch sections) must be increased.

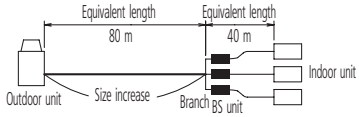
Model	liquid
REYQ16M	ø 15.9

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 1.0

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.88

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

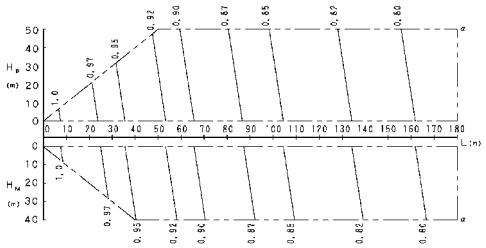
Model	liquid
REYQ16M	ø 12.7

2 Capacity correction ratio

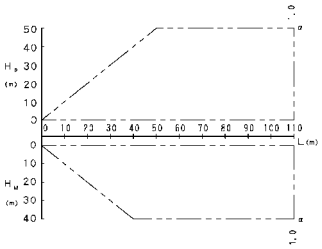
2 - 4 VRVII heat recovery

REYQ18,26,28,30,38,40,42,44M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042145

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.

2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

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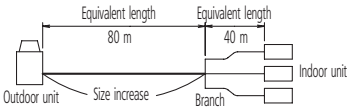
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit-branch sections) must be increased.

Model	liquid
REYQ18M	ø 19.1
REYQ26,28,30,38,40,42,44M	ø 22.2

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 1.0

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
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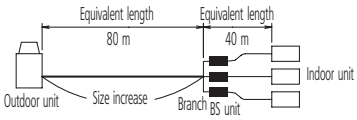
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
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EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

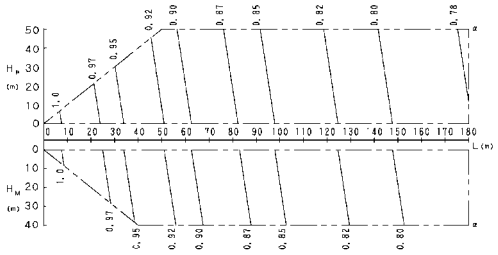
Model	liquid
REYQ18M	ø 15.9
REYQ26,28,30,38,40,42,44M	ø 19.1

2 Capacity correction ratio

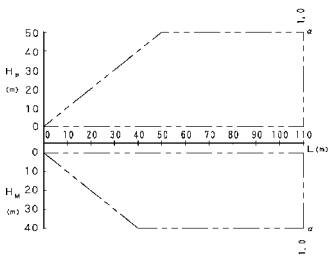
2 - 4 VRVII heat recovery

REYQ20,32,34,46M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042146

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
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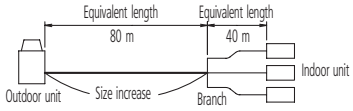
When piping length differs depending on the indoor unit, maximum capacity of each unit during simultaneous operation is:
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit-branch sections) must be increased .

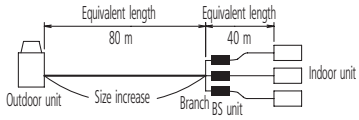
Model	liquid
REYQ20M	ø 19.1
REYQ32,34,46M	ø 22.2

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 1.0

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.87

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

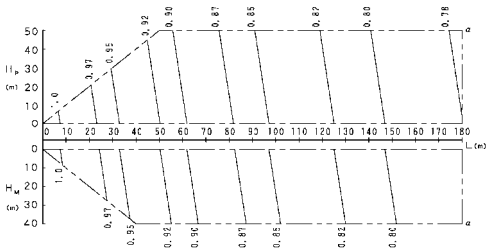
Model	liquid
REYQ20M	ø 15.9
REYQ32,34,46M	ø 19.1

2 Capacity correction ratio

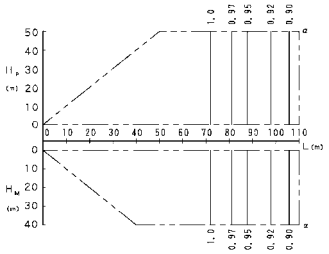
2 - 4 VRVII heat recovery

REYQ48M

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D042147

NOTES

1 These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
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2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

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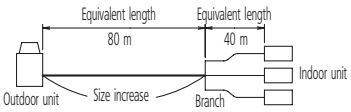
cooling / heating capacity = cooling / heating capacity obtained from performance characteristics table x each capacity rate of change
When piping length differs depending on the indoor unit, maximum capacity of each unit during simultaneous operation is:
cooling / heating capacity = cooling / heating capacity of each unit x capacity rate of change for each piping length

4 When overall equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit-branch sections) must be increased except for the gas pipe of REYQ46M7W1B.

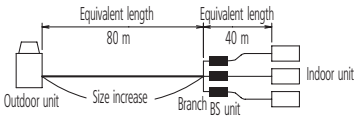
Model	liquid
REYQ48M	ø 22.2

5 When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Heating)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.97

6 In the combination which does not include cooling only indoor unit, calculate the equivalent length pipe by the following when you calculate cooling capacity.
Overall equivalent length = Equivalent length to main pipe x 0.5 + Equivalent length after branching
Example



In the above case (Cooling)
Overall equivalent length = 80m x 0.5 + 40m = 80m
The correction factor in capacity when H_p = 0m is thus approximately 0.87

EXPLANATION OF SYMBOLS

H_p : Level difference (m) between indoor and outdoor units with indoor unit in inferior position
H_M : Level difference (m) between indoor and outdoor units with indoor unit in superior position
L : Equivalent pipe length (m)
α : Capacity correction factor

Model	liquid
REYQ48M	ø 19.1

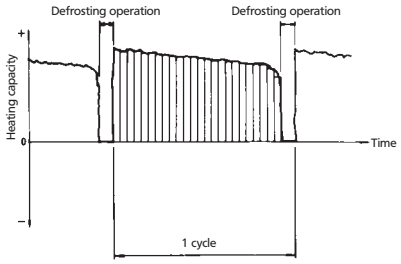
3 Integrated heating capacity coefficient

2 The tables do not take account of the reduction in capacity when frost has accumulated or while the defrosting operation is in progress.
The capacity values which take these factors into account, in other words the integrated heating capacity values, can be calculated as follows:

Formula: Integrated heating capacity = A
Value given in table of capacity characteristics = B
Integrating correction factor for frost accumulation (kW) = C
A = B x C

3 Correction factor for finding integrated heating capacity

Inlet port temperature of heat exchanger (°C/RH 85%)	-7	-5	-3	0	3	5	7
Integrating correction factor for frost accumulation	0.96	0.93	0.87	0.81	0.83	0.89	1.0

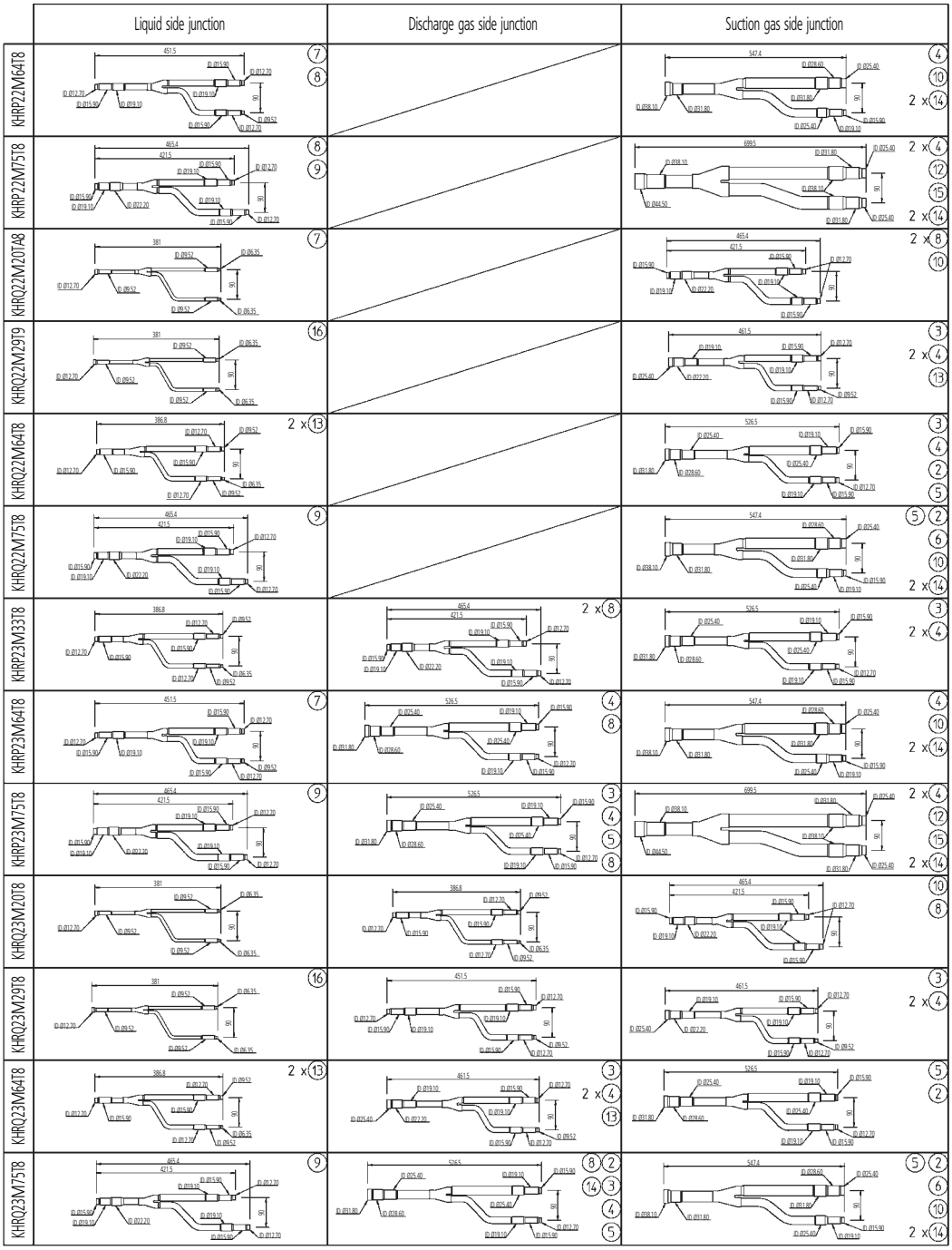


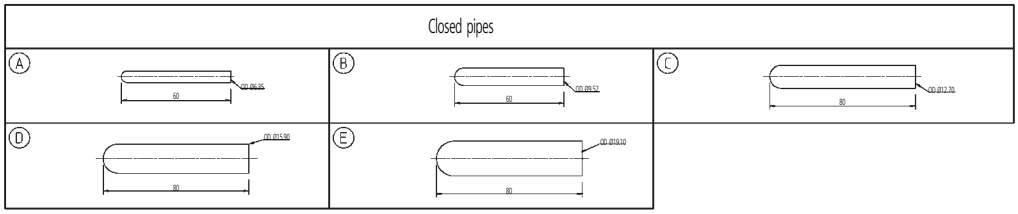
NOTE

- The figure shows that the integrated heating capacity expresses the integrated heating capacity for a single cycle (from defrost operation to defrost operation) in terms of time.

3 Please note that when there is an accumulation of snow against the outside surface of the outdoor unit heat exchanger, there will always be a temporary reduction in capacity although this will, of course, vary in degree in accordance with a number of other factors such as the outdoor temperature (°CDB), relative humidity (RH) and the amount of frosting which occurs.

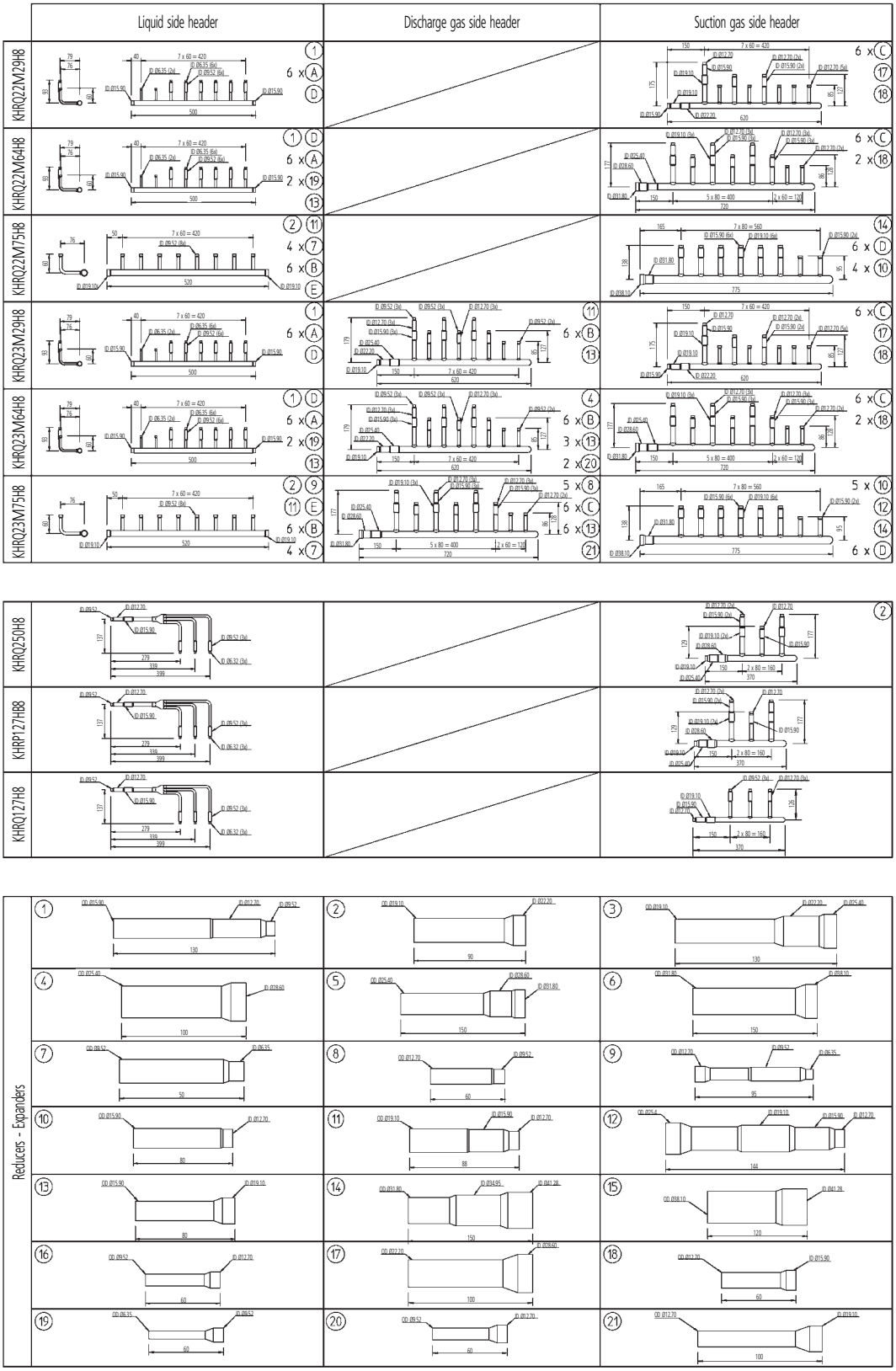
4 Refnet pipe systems





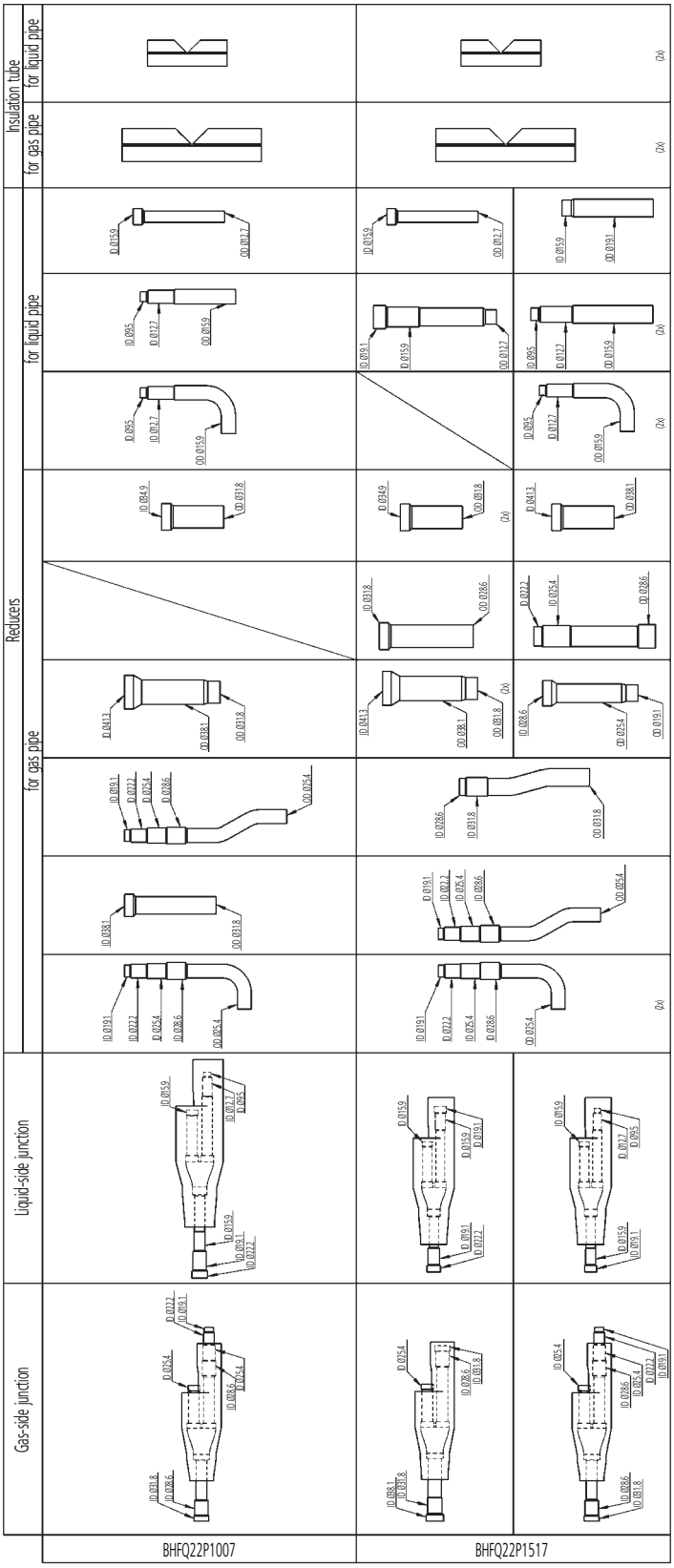
4TW25799-4A

4 Refnet pipe systems



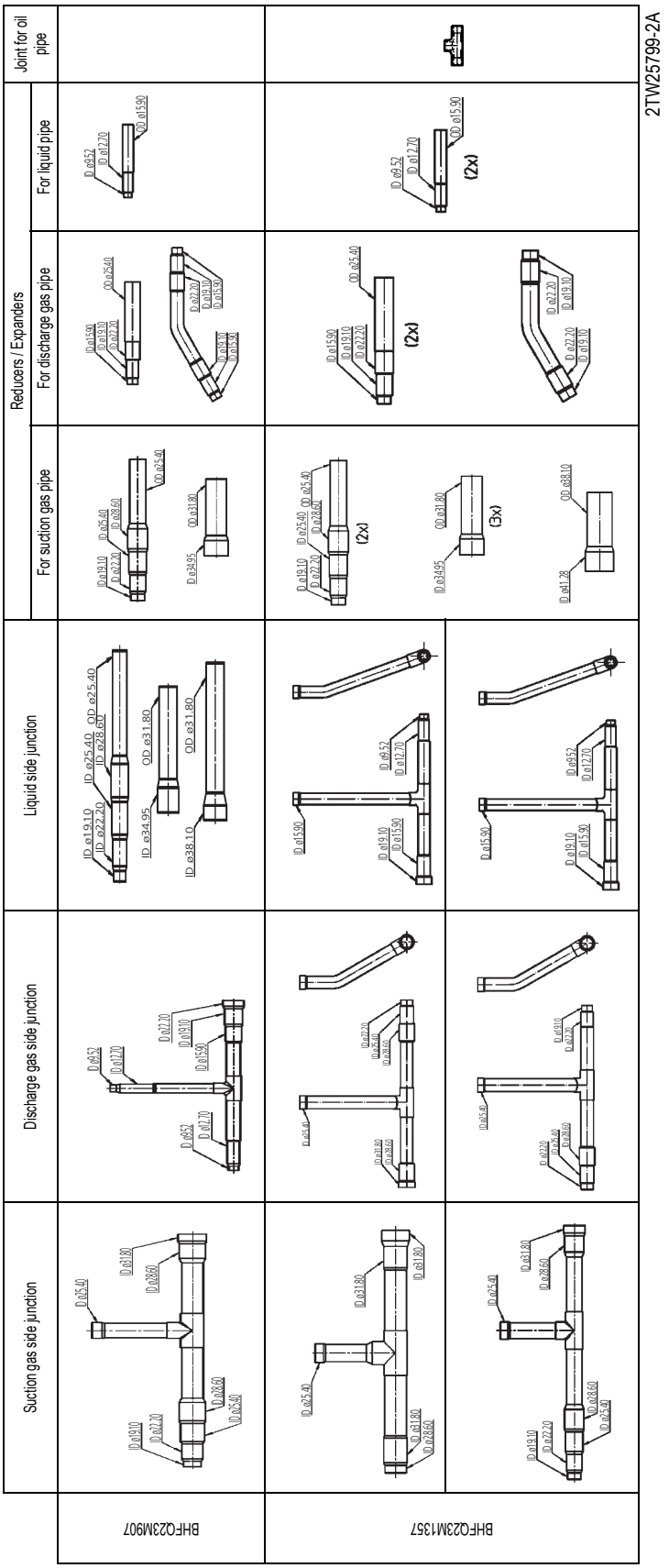
4TW25799-4A

4 Refnet pipe systems

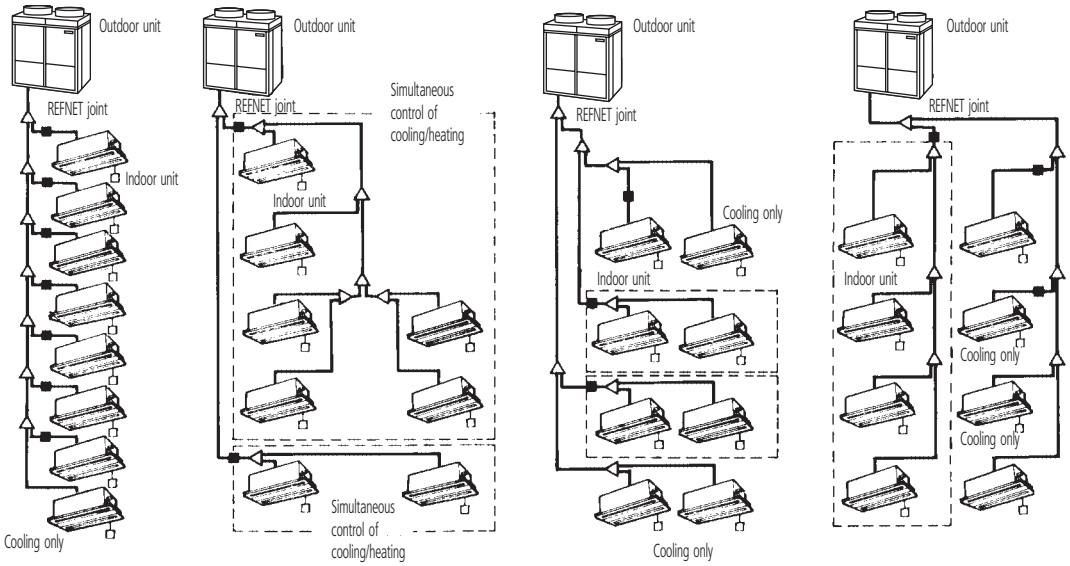
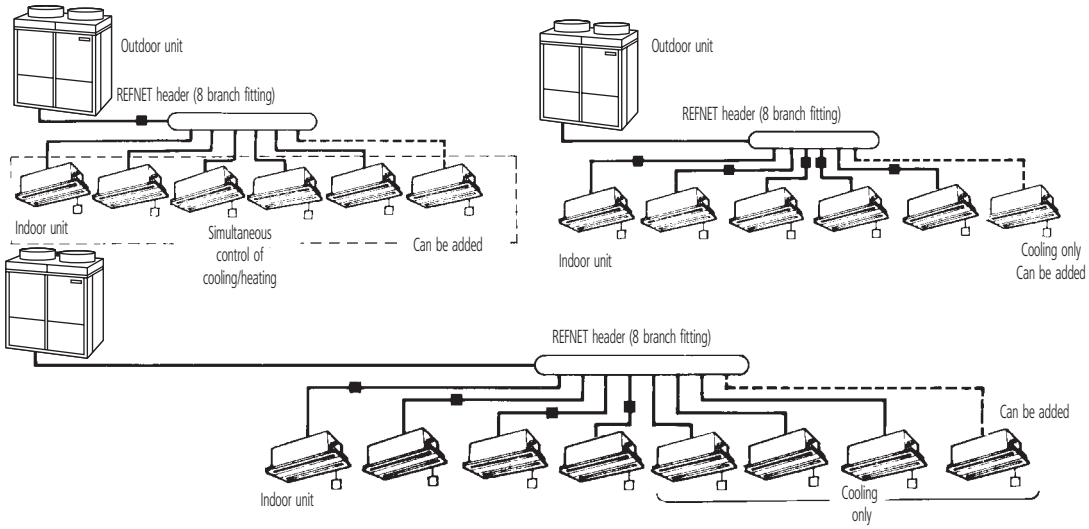
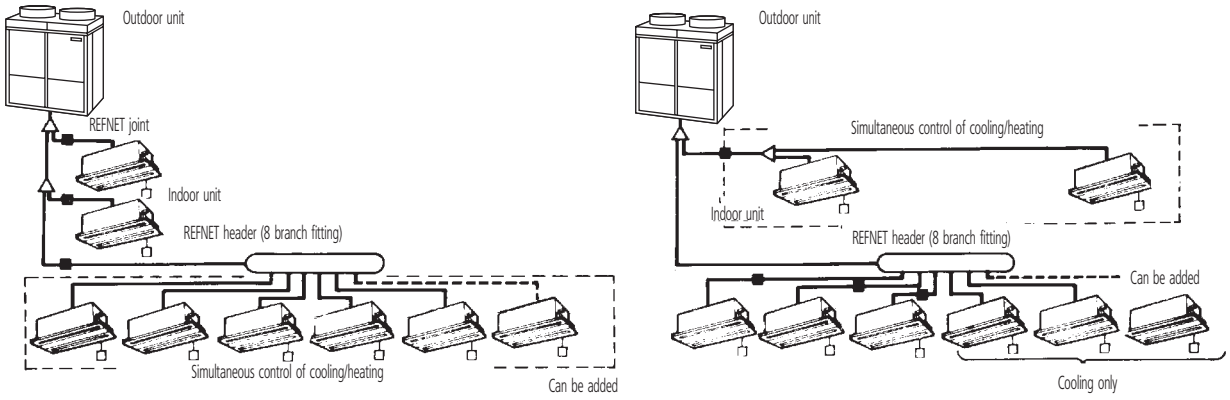


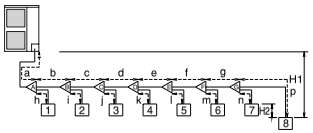
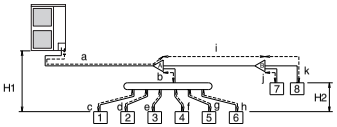
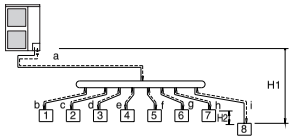
4TW27239-1

4 Refnet pipe systems



5 Example of Refnet piping layouts

Type of fitting	Sample systems
Distribution by REFNET joints	
Distribution by REFNET header	
Distribution by REFNET joints and headers	

			Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
Example of connection (Connection of 8 indoor units Heat pump system) 1 indoor unit refnet joint refnet header					
Maximum allowable length	Between outdoor and indoor units	Actual pipe length	Pipe length between outdoor and indoor units ≤150 m		
			[Example] unit 8: a+b+c+d+e+f+g+p≤150 m	[Example] unit 6: a+b+h≤150 m, unit 8: a+i+k≤150 m	[Example] unit 8: a+i≤150 m
		Equivalent length	Equivalent pipe length between outdoor and indoor units ≤175 m (Assume equivalent pipe length of refnet joint to be 0.5 m and of the refnet header to be 1.0 m. (for calculation purposes))		
		Total extension length	Total piping length from outdoor unit to all indoor units between 10 m and 300 m		
Allowable height	Between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1)≤50 m (≤40 m if outdoor unit is located in a lower position).		
	Between indoor and indoor units	Difference in height	Difference in height between adjacent indoor units (H2)≤15 m		
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤40 m		
			[Example] unit 8: b+c+d+e+f+g+p≤40 m	[Example] unit 6: b+h≤40 m, unit 8: i+k≤40 m	[Example] unit 8: i≤40 m

Refrigerant branch kit selection

Refrigerant branch kits can only be used with R410A.

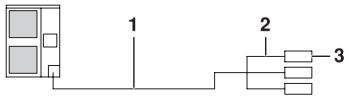
Use the following refnet joint

Outdoor unit capacity type	Refrigerant branch kit name
RXYSQ4~6	KHRQ22M20T

Use the following refnet header

Outdoor unit capacity type	Refrigerant branch kit name
RXYSQ4~6	KHRQ22M29H

Pipe size selection
Caution on selecting connection pipes
If the overall equivalent piping length is ≥90 m, be sure to enlarge the pipe diameter of the gas-side main piping. If the recommended pipe size is not available, stick to the original pipe diameter (which may result in a small capacity decrease).
[Gas side]
RXYSQ4+5: Ø15.9→Ø19.1
RXYSQ6: Ø19.1→Ø22.2



1 Main pipe (enlarge)
2 First refrigerant branch kit
3 Indoor unit

A. Piping between outdoor unit and refrigerant branch kit
- Match to the size of the connection piping on the outdoor unit.

Outdoor unit connection piping size

Outdoor unit capacity type	Piping size (outer diameter x minimum thickness) Gas pipe	Liquid pipe
RXYSQ4+5	Ø15.9x1.0 (Ø19.1x1.0)	Ø9.5x0.8
RXYSQ6	Ø19.1x1.0 (Ø22.2x1.0)	

B. Piping between refrigerant branch kits
- Use the pipe size from the following table.

Piping size (outer diameter x minimum thickness) Gas pipe	Liquid pipe
Ø15.9x1.0	Ø9.5x0.8

C. Piping between refrigerant branch kit and indoor unit
- Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit.

Indoor capacity index	Piping size (outer diameter x minimum thickness) Gas pipe	Liquid pipe
20+25+32+40+50	Ø12.7x0.8	Ø6.4x0.8
63+80+100+125	Ø15.9x1.0	Ø9.5x0.8

How to calculate the additional refrigerant to be charged
Additional refrigerant to be charged R (kg)
R should be rounded off in units of 0.1 kg

$$R = \left(\text{Total length (m) of liquid piping size at Ø9.5}\right) \times 0.054 + \left(\text{Total length (m) of liquid piping size at Ø6.4}\right) \times 0.022$$

Example for refrigerant branch using refnet joint and refnet header

a: Ø9.5x30 m	d: Ø9.5x13 m	g: Ø6.4x10 m	j: Ø6.4x10 m
b: Ø9.5x10 m	e: Ø6.4x10 m	h: Ø6.4x20 m	k: Ø6.4x9 m
c: Ø9.5x10 m	f: Ø6.4x10 m	i: Ø9.5x10 m	

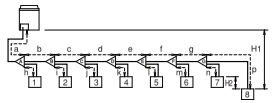
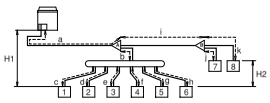
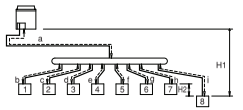
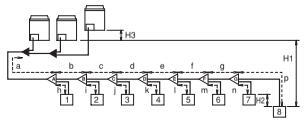
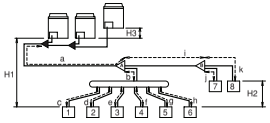
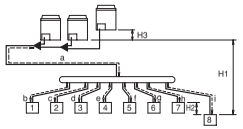
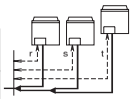
R=[73 x 0.054] + [69 x 0.022] = 5.46 ⇒ 5.5 kg

Example of connection
(Connection of 8 indoor units Heat pump system)

- Use the outdoor unit multi connection piping kit that is sold separately as an option (BHFQ22P1007+1517) for the multi installation of outdoor units. Selection method is as shown in the right table.
- Do not use the outdoor unit multi connection piping kit (BHFQ22M909+1359) that are sold separately as an option of the M-type series and do not use T-joints.

1 indoor unit
refnet joint
refnet header
◄ outdoor multi connection piping kit

Install the joint part (◄ part in the figure) of the outdoor unit multi connection piping kit horizontally with attention to the installation restrictions described in "connecting the refrigerant piping".
(*) If the system capacity is RXYQ20 or more, re-read to the first outdoor branch as seen from the indoor unit.

			Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
		One outdoor unit installed (RX(Y)Q5~18)			
		Outdoor units installed in a multiple outdoor unit system (RXYQ20~54)			
Maximum allowable length	Between outdoor and indoor units	Actual pipe length	Pipe length between outdoor(*) and indoor units ≤165 m		
			[Example] unit 8: a+b+c+d+e+f+g+p≤165 m	[Example] unit 6: a+b+h≤120 m, unit 8: a+i+k≤165 m	[Example] unit 8: a+i≤165 m
		Equivalent length	Equivalent pipe length between outdoor(*) and indoor units ≤190 m (Assume equivalent pipe length of refnet joint to be 0.5 m and of the refnet header to be 1.0 m. (for calculation purposes))		
		Total extension length	Total piping length from outdoor unit* to all indoor units ≤1000 m		
	Between outdoor branch and outdoor unit (Only for RXYQ20 or more)	Actual pipe length	Piping length from outdoor branch to outdoor unit ≤10 m. Approximate length: max. 13 m		
Allowable height	Between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1)≤50 m (≤40 m if outdoor unit is located in a lower position).		 **r**≤10 m (Approximate length: max. 13 m) **s**≤10 m (Approximate length: max: 13 m) **t**≤10 m (Approximate length: max: 13 m)
	Between indoor and indoor units	Difference in height	Difference in height between adjacent indoor units (H2)≤15 m		
	Between outdoor and outdoor units	Difference in height	Difference in height between outdoor unit (main) and outdoor unit (sub) (H3)≤5 m		
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤40 m (See note 1 on next page)		
			[Example] unit 8: b+c+d+e+f+g+p≤40 m	[Example] unit 6: b+h≤40 m, unit 8: i+k≤40 m	[Example] unit 8: i≤40 m

Refrigerant branch kit selection

Refrigerant branch kits can only be used with R410A.

How to select the refnet joint

- When using refnet joints at the first branch counted from the outdoor unit side. Choose from the following table in accordance with the capacity of the outdoor unit.

Outdoor unit capacity type	Refrigerant branch kit name
RX(Y)Q5	KHRQ22M20T
RX(Y)Q8+10	KHRQ22M29T9
RX(Y)Q12~18 + RXYQ20+22	KHRQ22M64T
RXYQ24~54	KHRQ22M75T

- For refnet joints other than the first branch, select the proper branch kit model based on the total capacity index.

Indoor capacity type (kW)	Refrigerant branch kit name
<200	KHRQ22M20T
200≤x<290	KHRQ22M29T9
290≤x<640	KHRQ22M64T
≥640	KHRQ22M75T

How to select the refnet header

- Choose from the following table in accordance with the total capacity of all the indoor units connected below the refnet header.
- Note: 250 type cannot be connected below the refnet header.

Indoor capacity type (kW)	Refrigerant branch kit name
<290	KHRQ22M29H (Max. 8 branch)
290≤x<640	KHRQ22M64H (Max. 8 branch)(a)
≥640	KHRQ22M75H (Max. 8 branch)

(a) See note 2 on next page

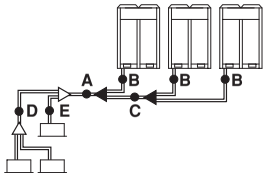
How to choose an outdoor multi connection piping kit (needed if the outdoor unit capacity type is RXYQ20 or more.)

- Choose from the following table in accordance with the number of outdoor units.

Number of outdoor units	Branch kit name
2	BHFQ22P1007
3	BHFQ22P1517

Example of downstream indoor units	[Example] in case of refnet joint C; indoor units 3+4+5+6+7+8	[Example] in case of refnet joint B; indoor units 7+8, in case of refnet header; indoor units 1+2+3+4+5+6	[Example] in case of refnet header; indoor units 1+2+3+4+5+6+7+8

Pipe size selection
For an outdoor unit multi installation (RXYQ20~54P7W1B), select the pipe size in accordance with the following figure.



A,B,C. Piping between outdoor unit and refrigerant branch kit
- Choose from the following table in accordance with the outdoor unit total capacity type, connected downstream.

Outdoor unit connection piping size

Outdoor unit capacity type	Piping size (outer diameter) (mm)	
	Gas pipe	Liquid pipe
RX(Y)Q5	Ø15.9	Ø9.5
RX(Y)Q8	Ø19.1	
RX(Y)Q10	Ø22.2	
RX(Y)Q12~16	Ø28.6	Ø12.7
RX(Y)Q18 + RXYQ20+22		Ø15.9
RXYQ24	Ø34.9	
RXYQ26~34		Ø19.1
RXYQ36~54	Ø41.3	

D. Piping between refrigerant branch kits
- Choose from the following table in accordance with the total capacity of all the indoor units connected below this.
- Do not let the connection piping exceed the refrigerant piping size chosen by general system model name.

Indoor or outdoor unit total capacity (kW)	Piping size (outer diameter) (mm)	
	Gas pipe	Liquid pipe
<150	Ø15.9	Ø9.5
150≤x<200	Ø19.1	
200≤x<290	Ø22.2	
290≤x<420	Ø28.6	Ø12.7
420≤x<640		Ø15.9
640≤x<920	Ø34.9	Ø19.1
≥920	Ø41.3	

E. Piping between refrigerant branch kit and indoor unit
- Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit.

Indoor capacity type	Piping size (outer diameter) (mm)	
	Gas pipe	Liquid pipe
20~50	Ø12.7	Ø6.4
63~125	Ø15.9	Ø9.5
200	Ø19.1	
250	Ø22.2	

When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main pipes (both gas side and liquid side) must be increased.
Depending on the length of the piping, the capacity lay drop, but even in such a case it is possible to increase the size of the main pipes.

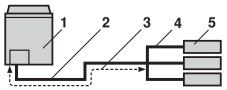
Gas side	
RX(Y)Q5	Ø15.9 → Ø19.1
RX(Y)Q8	Ø19.1 → Ø22.2
RX(Y)Q10	Ø22.2 → Ø25.4(a)
RX(Y)Q12+14	Ø28.6 —
RX(Y)Q16+18 + RXYQ20+22	Ø28.6 → Ø31.8(a)
RXYQ24	Ø34.9 —
RXYQ26~34	Ø34.9 → Ø38.1(a)
RXYQ36~54	Ø41.3 —

— Increase is not allowed

(a) If not available, increase is not allowed

Liquid side	
RX(Y)Q5	Ø9.5 —
RX(Y)Q8+10	Ø9.5 → Ø12.7
RX(Y)Q12~16	Ø12.7 → Ø15.9
RX(Y)Q18 + RXYQ20~24	Ø15.9 → Ø19.1
RXYQ26~54	Ø19.1 → Ø22.2

— Increase is not allowed



1 Outdoor unit
2 Main pipes
3 Increase
4 First refrigerant branch kit
5 Indoor unit

How to calculate the additional refrigerant to be charged
Additional refrigerant to be charged R (kg)
R should be rounded off in units of 0.1 kg

The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge.
For factory charge, refer to the unit name plate.

$$R = \left(\text{Total length (m) of liquid piping size at Ø22.2}\right) \times 0.37 + \left(\text{Total length (m) of liquid piping size at Ø19.1}\right) \times 0.26 + \left(\text{Total length (m) of liquid piping size at Ø15.9}\right) \times 0.18 + \left(\text{Total length (m) of liquid piping size at Ø12.7}\right) \times 0.12 + \left(\text{Total length (m) of liquid piping size at Ø9.5}\right) \times 0.059 + \left(\text{Total length (m) of liquid piping size at Ø6.4}\right) \times 0.022$$

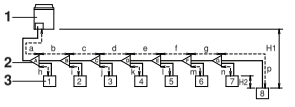
Example for refrigerant branch using refnet joint and refnet header for RXYQ34P7W1B
If the outdoor unit is RXYQ34P7W1B and the piping lengths are as below

a: Ø19.1x30 m	d: Ø9.5x10 m	g: Ø6.4x10 m	j: Ø6.4x10 m
b: Ø15.9x10 m	e: Ø9.5x10 m	h: Ø6.4x20 m	k: Ø6.4x9 m
c: Ø9.5x10 m	f: Ø9.5x10 m	i: Ø12.7x10 m	

R = [30x0.26]+[10x0.18]+[10x0.12]+[40x0.059]+[49x0.022] = 14.238
⇒ R = 14.2 kg

Note 1

Allowable length after the first refrigerant branch kit to indoor units is 40 m or less, however it can be extended up to 90 m if all the following conditions are fulfilled.

Required conditions	Example drawings	
It is necessary to increase the pipe size between the first branch kit and the final branch kit. (Reducers must be procured on site.) However, if the pipes are of the same pipe size as the main pipe there is no need to increase the pipe size.	indoor unit **8**: b+c+d+e+f+g+p≤90 m increase the pipe size of b, c, d, e, f, g	Increase the pipe size as follows Ø6.4 → Ø9.5 Ø15.9 → Ø19.1 Ø22.2 → Ø25.4* Ø9.5 → Ø12.7 Ø19.1 → Ø22.2 Ø28.6 → Ø31.8* Ø12.7 → Ø15.9 Ø34.9 → Ø38.1* * If available on the site. Otherwise it can not be increased.
For calculation of total extension length, the actual length of above pipes must be doubled. (except main pipe and the pipes that not increase the pipe size)	a+b*2+c*2+d*2+e*2+f*2+g*2 +h+i+j+k+l+m+n+p≤1000 m	
Indoor unit to the nearest branch kit ≤40 m	h, i, j..... p≤40 m	1 Outdoor unit 2 Refnet joints (a~g) 3 Indoor units (1~8)
The difference between the distance of the outdoor unit to the farthest indoor unit and the distance of the outdoor unit to the nearest indoor unit ≤40 m	The farthest indoor unit **8** The nearest indoor unit **1** (a+b+c+d+e+f+g+p)−(a+h)≤40 m	

Note 2

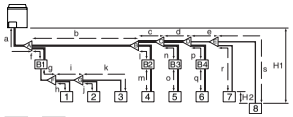
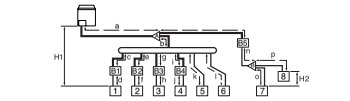
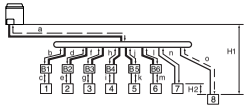
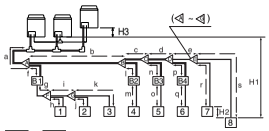
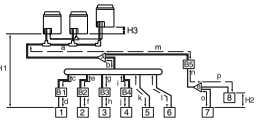
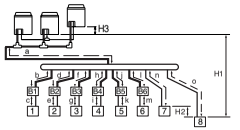
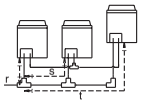
If the pipe size above the refnet header is Ø34.9 or more, KHRQ22M75H is required.

1 indoor unit
B1 BS box
A refnet joint
refnet header

(3 pipes) (2 pipes)
1 4
2 BS unit
3 3

1 Discharge gas side
2 Suction gas side
3 Liquid pipe
4 Gas pipe

Piping from BS unit to indoor unit and piping from refrigerant branch kit to indoor unit used as cooling only must be composed by 2 pipes (suction gas pipe and liquid pipe).
* If the system capacity is REYQ18 or more, measure to the first outdoor branch as seen from the indoor unit.

			Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
		One outdoor unit installed (REYQ8~16)	 1 ~ 6 Cool/heat selection possible 7 + 8 Cooling only	 1 ~ 4 , 7 + 8 Cool/heat selection possible 5 + 6 Cooling only	 1 ~ 6 Cool/heat selection possible 7 + 8 Cooling only
		When multiple outdoor units installed (REYQ18~…)	 1 ~ 6 Cool/heat selection possible 7 + 8 Cooling only	 1 ~ 4 , 7 + 8 Cool/heat selection possible 5 + 6 Cooling only	 1 ~ 6 Cool/heat selection possible 7 + 8 Cooling only
Maximum allowable length	Between outdoor and indoor units	Actual pipe length	Pipe length between outdoor and indoor units ≤150 m		
			[Example] unit 8: a+b+c+d+e+s≤150 m	[Example] unit 6: a+b+l ≤150 m, unit 8: a+m+n+p≤150 m	[Example] unit 8: a+o≤150 m
		Equivalent length	Equivalent pipe length between outdoor and indoor units ≤175 m (Assume equivalent pipe length of refnet joint to be 0.5 m and of the refnet header to be 1.0 m, that of BSVQ100 and BSVQ160 to be 4 m and that of BSVQ250 to be 6 m (for calculation purposes)).		
		Total extension length	Total piping length from outdoor unit* to all indoor units ≤300 m		
	Between outdoor branch and outdoor unit (Only for REYQ18 or more)	Actual pipe length	Piping length from outdoor branch to outdoor unit ≤10 m. Approximately length: max. 13 m		
Allowable height	Between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1)≤50 m (≤40 m if outdoor unit is located in a lower position).		 r≤10 m (Approximately length: max. 13 m) s≤10 m (Approximately length: max: 13 m) t≤10 m (Approximately length: max 13 m)
	Between indoor and indoor units	Difference in height	Difference in height between adjacent indoor units (H2)≤15 m		
	Between outdoor and outdoor units	Difference in height	Difference in height between outdoor unit (main) and outdoor unit (sub) (H3)≤5 m		
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤40 m		
			[Example] unit 8: b+c+d+e+s≤40 m	[Example] unit 6: b+l≤40 m, unit 8: m+n+p≤40 m	[Example] unit 8: o≤40 m

Refrigerant branch kit selection

Refrigerant branch kits can only be used with R-410A.

How to select the refnet joint

- When using refnet joints at the first branch counted from the outdoor unit side. Choose from the following table in accordance with the capacity of the outdoor unit.

Outdoor unit capacity type	Refrigerant branch kit name
REYQ8+10	KHRQ23M29T7
REYQ12~22	KHRQ23M64T7
REYQ24	KHRQ23M75T7

- For refnet joints other than the first branch, select the proper branch kit model based on the total capacity index.

Indoor capacity type	Refrigerant branch kit name	
<200	KHRQ23M20T7	KHRQ22M20T7
200≤x<290	KHRQ23M29T7	KHRQ22M29T7
290≤x<640	KHRQ23M64T7	KHRQ22M64T7
>640	KHRQ23M75T7	—

How to select the refnet header

- Choose from the following table in accordance with the total capacity of all the indoor units connected below the refnet header.
- Note: 250 type cannot be connected below the refnet header.

Indoor capacity type	Refrigerant branch kit name	
	In case of 3 pipes	In case of 2 pipes
<200	KHRQ23M29T7	KHRQ22M29H7
200≤x<290		
290≤x<640	KHRQ23M64H7	KHRQ22M64H7
>640	KHRQ23M75H7	—

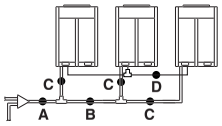
How to choose an outdoor branch kit (needed if the outdoor unit capacity type is REYQ18 or more.)

- Choose from the following table in accordance with the number of outdoor units.

Number of outdoor units	Branch kit name
2	BHFQ23M907
3	BHFQ23M1357

	Example of downstream indoor units	[Example] in case of refnet joint C; indoor units 5+6+7+8	[Example] in case of refnet joint B; indoor units 7+8, in case of refnet header; indoor units 1+2+3+4+5+6	[Example] in case of refnet header; indoor units 1+2+3+4+5+6+7+8

Pipe size selection
For an outdoor unit multi installation (REYQ18~48), make the settings in accordance with the following figure.



A. Piping between outdoor unit and refrigerant branch kit
- Match to the size of the connection piping on the outdoor unit.

Outdoor unit connection piping size

Outdoor unit capacity type	Piping size (outer diameter)		
	Liquid pipe	Gas pipe	
		Suction	Discharge
REYQ8	Ø9.5	Ø19.1	Ø15.9
REYQ10		Ø22.2	Ø19.1
REYQ12	Ø12.7	Ø28.6	
REYQ14+16			Ø22.2
REYQ18	Ø15.9		
REYQ20+22			Ø28.6
REYQ24		Ø34.9	
REYQ26~34	Ø19.1		
REYQ36		Ø41.3	
REYQ38~48			Ø34.9

Pipe size when overall equivalent pipe length is 90 m or more
- When overall equivalent pipe length is 90 m or more, the size of the main liquid pipe (outdoor unit branch sections) must be increased. (Only main liquid pipe!)

Main liquid pipe size

Outdoor capacity type	Piping size (outer diameter)	
	Normal size	Size up
REYQ8+10	Ø9.5	Ø12.7
REYQ12~16	Ø12.7	Ø15.9
REYQ18~24	Ø15.9	Ø19.1
REYQ26~48	Ø19.1	Ø22.2

B. Piping between outdoor branches
- Choose from the following table in accordance with the total capacity of all the outdoor units connected above this.

Outdoor capacity index	Piping size (outer diameter)		
	Liquid pipe	Gas pipe	
		Suction	Discharge
REYQ18	Ø15.9	Ø28.6	Ø22.2
REYQ20+22			Ø28.6
REYQ24		Ø34.9	
REYQ26	Ø19.1		

Between two immediately adjacent refrigerant branch kits and BS unit
- Choose from the following table in accordance with the total capacity of all the indoor units connected below this.
- Do not let the connection piping exceed the refrigerant piping size chosen by general system model name.

Indoor capacity index	Piping size (outer diameter)		
	Liquid pipe	Gas pipe	
		Suction	Discharge
<62.5(*)	Ø6.4	Ø12.7	Ø9.5
62.5≤x≤200	Ø9.5	Ø15.9	Ø12.7
200≤x<290		Ø22.2	Ø19.1
290≤x<420	Ø12.7	Ø28.6	
420≤x<640	Ø15.9		Ø28.6
640≤x<920	Ø19.1	Ø34.9	
Š920		Ø41.3	

(*) The BS unit (BSVQ100MV1) port and connection pipe are different sizes. Use the reducing joints included with the BS unit.

- When two pipes are connected between two adjacent refrigerant branch kits, select the proper gas pipe size based on data mentioned under "suction gas pipe" column in the table above.

C. Piping between outdoor branch and outdoor unit

Outdoor unit capacity type	Piping size (outer diameter)		
	Liquid pipe	Gas pipe	
		Suction	Discharge
REYQ8	Ø9.5	Ø19.1	Ø15.9
REYQ10		Ø22.2	Ø19.1
REYQ12	Ø12.7	Ø28.6	
REYQ14+16			Ø22.2

D. Oil-equalizing line (Only for REYQ18 or greater)

Piping size	Ø6.4

Between BS unit (refrigerant branch kit) and indoor unit
- Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit.

Indoor capacity index	Piping size (outer diameter)	
	Gas pipe	Liquid pipe
20, 25, 32,40, 50(*)	Ø12.7	Ø6.4
63, 80, 100, 125	Ø15.9	Ø9.5
200	Ø19.1	
250	Ø22.2	

(*) The BS unit (BSVQ100MV1) port and connection pipe are different sizes. Use the reducing joints included with the BS unit.

How to calculate the additional refrigerant to be charged
Additional refrigerant to be charged R (kg)
R should be rounded off in units of 0.1 kg

NOTE If a negative result is gotten for R from the formula at right, no refrigerant needs to be added nor removed.

$$R=\left\{\left(\begin{array}{c}\text{Total length (m) of liquid}\\ \text{piping size at Ø22.2}\end{array}\right)\text{x0.35}+\left(\begin{array}{c}\text{Total length (m) of liquid}\\ \text{piping size at Ø19.1}\end{array}\right)\text{x0.25}+\left(\begin{array}{c}\text{Total length (m) of liquid}\\ \text{piping size at Ø15.9}\end{array}\right)\text{x0.17}+\left(\begin{array}{c}\text{Total length (m) of}\\ \text{liquid}\\ \text{piping size at Ø12.7}\end{array}\right)\text{x0.11}\right.$$

$$\left.+\left(\begin{array}{c}\text{Total length (m) of liquid}\\ \text{piping size at Ø9.5}\end{array}\right)\text{x0.054}+\left(\begin{array}{c}\text{Total length (m) of liquid}\\ \text{piping size at Ø6.4}\end{array}\right)\text{x0.022}\right\}\text{x 1.15}-$$

Model	Amount of refrigerant
REYQ8~16	0 kg
REYQ18~32	3 kg
REYQ34~48	6 kg

Example for refrigerant branch using refnet joint and refnet header for REYQ34
If the outdoor unit is REYQ34 and the piping lengths are as below

a: Ø19.1x30 m	d: Ø9.5x10 m	g: Ø6.4x10 m	j: Ø6.4x10 m
b: Ø15.9x10 m	e: Ø9.5x10 m	h: Ø6.4x20 m	k: Ø6.4x9 m
c: Ø9.5x10 m	f: Ø9.5x10 m	i: Ø12.7x10 m	

R = [30x0.25]+[10x0.17]+[10x0.11]+[40x0.054]+[49x0.022]x1.15–6 = 9.569 ⇒ R = 9.6 kg

6 Refrigerant pipe selection

6 - 4 Piping thickness

Piping diameter	Material	Minimum thickness [mm]
Ø 6.4	O	0.8
Ø 9.5	O	0.8
Ø 12.7	O	0.8
Ø 15.9	O	0.99
Ø 19.1	1/2H	0.8
Ø 22.2	1/2H	0.8
Ø 28.6	1/2H	0.99
Ø 34.9	1/2H	1.21
Ø 41.3	1/2H	1.43

:O : annealed

1/2H : half-hard

For half hard pipes the maximum allowed tensile stress is 61 N/mm^2. For this reason the 0.2% proof strength of the half hard pipe shall be minimum 61 N/mm^2.

The bending radius is more than or equal to 3 times the diameter of the pipe.

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VRV III-S
VRV III
VRV II

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

Daikin units comply with the European regulations that guarantee the safety of the product.

VRV products are not within the scope of the Eurovent certification programme.

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