technical data

air conditioning systems

Air-cooled selection procedure

R-410A

technical data

air conditioning systems

Air-cooled selection procedure

R-410A

TABLE OF CONTENTS
II Air-cooled selection procedure

1 Selection procedure VRV®III 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.

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 29 indoor units can be connected to one outdoor unit (18HP). 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 %
RXYSQ4PAV/RXYSQ4PAY	130	120	110	100	90	80	70	60	50
RXYSQ5PAV/RXYSQ5PAY	162.5	150	137.5	125	112.5	100	87.5	75	62.5
RXYSQ6PAV/RXYSQ6PAY	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/REYQ8P8	260	240	220	200	180	160	140	120	100
RX(Y)Q10P/REYQ10P8	325	300	275	250	225	200	175	150	125
RX(Y)Q12P/REYQ12P8	390	360	330	300	270	240	210	180	150
RX(Y)Q14PA/REYQ14P8	455	420	385	350	315	280	245	210	175
RX(Y)Q16PA/REYQ16P8	520	480	440	400	360	320	280	240	200
RX(Y)Q18PA/REYQ18P8	585	540	495	450	405	360	315	270	225
RXYQ20P(A)/REYQ20P8	650	600	550	500	450	400	350	300	250
RXYQ22P(A)/REYQ22P8	715	660	605	550	495	440	385	330	275
RXYQ24P(A)/REYQ24P8	780	720	660	600	540	480	420	360	300
RXYQ26P(A)/REYQ26P8	845	780	715	650	585	520	455	390	325
RXYQ28P(A)/REYQ28P8	910	840	770	700	630	560	490	420	350
RXYQ30P(A)/REYQ30P8	975	900	825	750	675	600	525	450	375
RXYQ32P(A)/REYQ32P8	1,040	960	880	800	720	640	560	480	400
RXYQ34P(A)/REYQ34P8	1,105	1,020	935	850	765	680	595	510	425
RXYQ36P(A)/REYQ36P8	1,170	1,080	990	900	810	720	630	540	450
RXYQ38P(A)/REYQ38P8	1,235	1,140	1,045	950	855	760	665	570	475
RXYQ40P(A)/REYQ40P8	1,300	1,200	1,100	1,000	900	800	700	600	500
RXYQ42P(A)/REYQ42P8	1,365	1,260	1,155	1,050	945	840	735	630	525
RXYQ44P(A)/REYQ44P8	1,430	1,320	1,210	1,100	990	880	770	660	550
RXYQ46P(A)/REYQ46P8	1,495	1,380	1,265	1,150	1,035	920	805	690	575
RXYQ48P(A)/REYQ48P8	1,560	1,440	1,320	1,200	1,080	960	840	720	600
RXYQ50P(A)	1,625	1,500	1,375	1,250	1,125	1,000	875	750	625
RXYQ52P(A)	1,690	1,560	1,430	1,300	1,170	1,040	910	780	650
RXYQ54P(A)	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 VRV®III 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: RXYQ10P
  Indoor unit: FXCQ25M8 x 3, FXCQ40M8 x 5
- Indoor unit combination total capacity index
  25 x 3 + 40 x 5 = 275 (110 %)

1 Selection procedure VRV®III system based on cooling load

1 - 4 Selection example based on cooling load

4 Actual performance data (50Hz)

- Outdoor unit cooling capacity: 30.5kW (RXYQ10P, 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

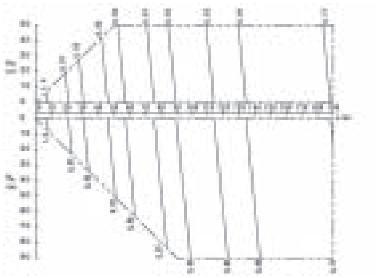
Then, the capacities have to be corrected for actual piping length according to the location of indoor and outdoor units and the distance between them.

2 Capacity correction ratio

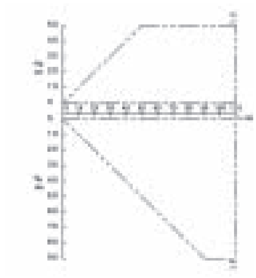
2 - 1 VRV®III heat recovery small footprint combination

REYQ8P9,REYQ22P8

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D057931B

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 A/C (cooling / heating) capacity:
The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned below, whichever smaller.
Calculating A/C capacity of outdoor units
- Condition: Indoor unit combination ratio does not exceed 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from performance characteristics table at the 100% combination
x capacity change rate due to piping length to the farthest indoor unit
Condition: Indoor unit combination ratio exceeds 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristics table at the combination
x capacity change rate due to piping length to the farthest indoor unit

4 When overall equivalent pipe length is 90m or more, the diameter of the main liquid pipes (outdoor unit-branch sections) must be increased.
When level difference is 50m or more, the diameter of the main gas and liquid pipes (outdoor unit-brach sections) must be increased.
[Diameter of above case]

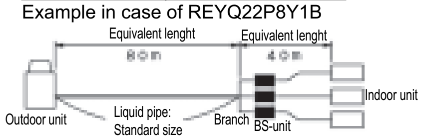
Model	Liquid
REYQ8P9Y1B	Ø12.7
REYQ22P8Y1B	Ø19.1

*If available on the site, use this size. Otherwise, not increased.

5 When the main sections of the interunit liquid pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x Correction factor + Equivalent length after branching
Choose a correction factor from the following table.

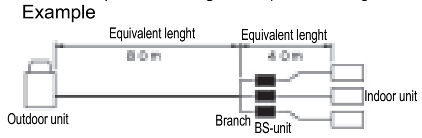
Model	Correction factor
REYQ8P9Y1B	0.2
REYQ22P8Y1B	0.4

Example in case of REYQ22P8Y1B



In the above case (Heating)
Overall equivalent length = 80m x 0.3 + 40m = 64m
The correction factor in capacity when Hp=0m is thus approximately 1.0

6 In combination wich does not include cooling onlyindoor 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 Hp=0m is thus approximately 0.88

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 : Rate of change in cooling / heating capacity
[Diameter of pipe (standard size)]

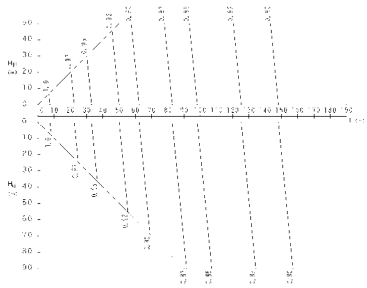
Model	Liquid
REYQ8P9Y1B	Ø9.5
REYQ22P8Y1B	Ø15.9

2 Capacity correction ratio

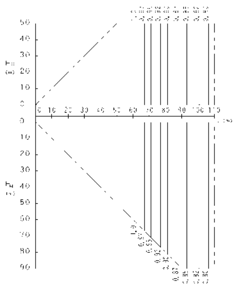
2 - 1 VRV®III heat recovery small footprint combination

REYQ10P8

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D058181

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

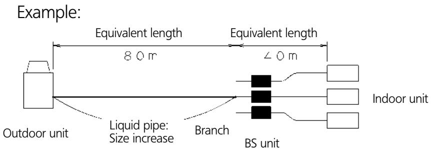
   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ10P8Y1B	Φ 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 0.2 + Equivalent length after branching

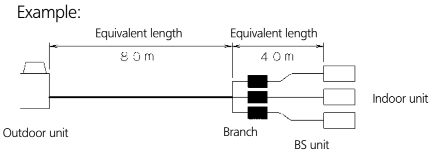
   Example:



   In the above case (Heating)
   Overall equivalent length = 80m x 0.2 + 40m = 56m
   The correction factor in capacity when Hp=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 Hp=0m is thus approximately 0.88.

Explanation of symbols

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

[Diameter of pipe (standard size)]

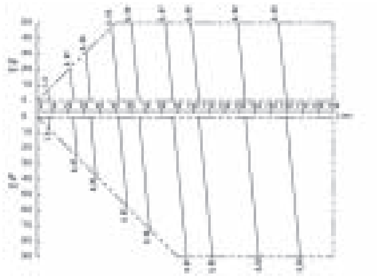
Model	Liquid
REYQ10P8Y1B	Φ9.5

2 Capacity correction ratio

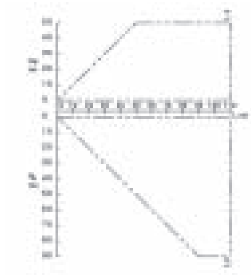
2 - 1 VRV®III heat recovery small footprint combination

REYQ26,28,30,38,40,42,44P8
REYQ12,18P9

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D057935B

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 A/C (cooling / heating) capacity:
The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned below, whichever smaller.
Calculating A/C capacity of outdoor units
- Condition: Indoor unit combination ratio does not exceed 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from performance characteristics table at the 100% combination x capacity change rate due to piping length to the farthest indoor unit
Condition: Indoor unit combination ratio exceeds 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristics table at the combination x capacity change rate due to piping length to the farthest indoor unit

4 When overall equivalent pipe length is 90m or more, the diameter of the main liquid pipes (outdoor unit-branch sections) must be increased.
When level difference is 50m or more, the diameter of the main gas and liquid pipes (outdoor unit-brach sections) must be increased.
[Diameter of above case]

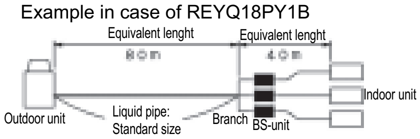
Model	Liquid	Model	Liquid	Model	Liquid
REYQ12P9Y1B	Ø15.9	REYQ30P8Y1B	Ø22.2	REYQ44P8Y1B	Ø22.2
REYQ18P9Y1B	Ø19.1	REYQ38P8Y1B			
REYQ26P8Y1B	Ø22.2	REYQ40P8Y1B			
REYQ28P8Y1B		REYQ42P8Y1B			

*If available on the site, use this size. Otherwise, not increased.

5 When the main sections of the interunit liquid pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x Correction factor + Equivalent length after branching
Choose a correction factor from the following table.

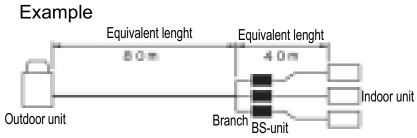
Model	Correction factor	Model	Correction factor
REYQ12PY1 (B)	0.3	REYQ38P8Y1B	0.4
REYQ12P8Y1B		REYQ40P8Y1B	
REYQ18P8Y1B	0.4	REYQ42P8Y1B	
REYQ26P8Y1B		REYQ44P8Y1B	
REYQ28P8Y1B			
REYQ30P8Y1B			

Example in case of REYQ18PY1B



In the above case
Overall equivalent length = 80m x 0.4 + 40m = 72m
The correction factor in capacity when Hp=0m is thus approximately 1.0

6 In combination wich does not include cooling onlyindoor 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 Hp=0m is thus approximately 0.88

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 : Rate of change in cooling / heating capacity
[Diameter of pipe (standard size)]

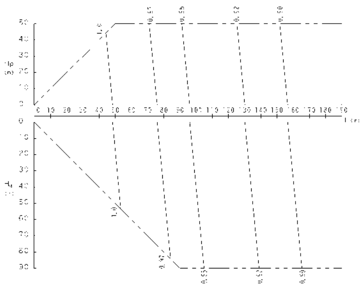
Model	liquid	Model	liquid
REYQ12PY1(B)	Ø12.7	REYQ38P8Y1B	Ø19.1
REYQ12P8Y1(B)		REYQ40P8Y1B	
REYQ18P8Y1B	Ø15.9	REYQ42P8Y1B	
REYQ26P8Y1B	Ø19.1	REYQ44P8Y1B	
REYQ28P8Y1B			
REYQ30P8Y1B			

2 Capacity correction ratio

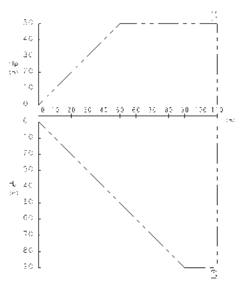
2 - 1 VRV®III heat recovery small footprint combination

REYQ14P8

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D058182

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

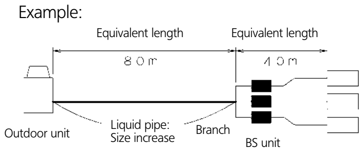
   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ14P8Y1B	Φ 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 0.3 + Equivalent length after branching

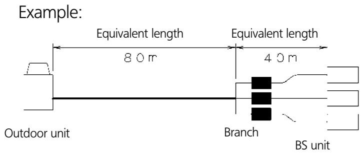
   Example:



   In the above case (Heating)
   Overall equivalent length = 80m x 0.3 + 40m = 64m
   The correction factor in capacity when Hp=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 Hp=0m is thus approximately 0.96.

Explanation of symbols

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

[Diameter of pipe (standard size)]

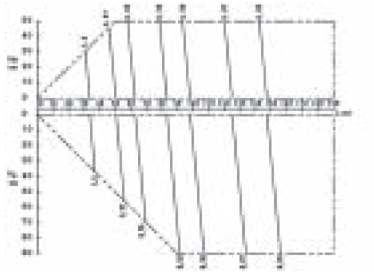
Model	Liquid
REYQ14P8Y1B	Φ12.7

2 Capacity correction ratio

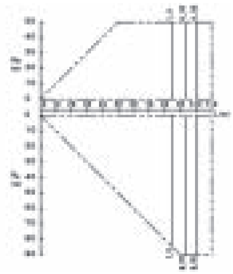
2 - 1 VRV®III heat recovery small footprint combination

REYQ16P8

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D058183A

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.

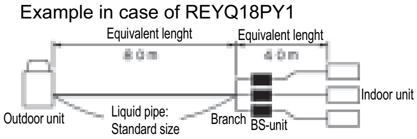
3 Method of calculating A/C (cooling / heating) capacity:
The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned below, whichever smaller.
Calculating A/C capacity of outdoor units
- Condition: Indoor unit combination ratio does not exceed 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from performance characteristics table at the 100% combination x capacity change rate due to piping length to the farthest indoor unit
Condition: Indoor unit combination ratio exceeds 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristics table at the combination x capacity change rate due to piping length to the farthest indoor unit

4 When overall equivalent pipe length is 90m or more, the diameter of the main liquid pipes (outdoor unit-branch sections) must be increased.
When level difference is 50m or more, the diameter of the main gas and liquid pipes (outdoor unit-brach sections) must be increased.
[Diameter of above case]

Model	Liquid
REYQ16P9Y1B	Ø15.9

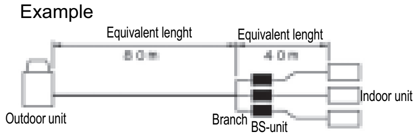
*If available on the site, use this size. Otherwise, not increased.

5 When the main sections of the interunit liquid pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x Correction factor + Equivalent length after branching
Choose a correction factor from the following table.
Example in case of REYQ18PY1



In the above case (Heating)
Overall equivalent length = 80m x 0.3 + 40m = 64m
The correction factor in capacity when Hp=0m is thus approximately 1.0

6 In combination wich does not include cooling onlyindoor 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 Hp=0m is thus approximately 0.88

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 : Rate of change in cooling / heating capacity

[Diameter of pipe (standard size)]

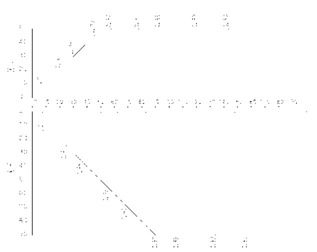
Model	Liquid
REYQ16P9Y1B	Ø12.7

2 Capacity correction ratio

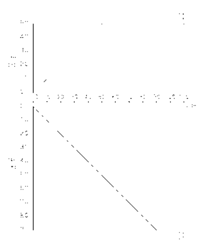
2 - 1 VRV®III heat recovery small footprint combination

REYQ20,32,34P8

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057933

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.

     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

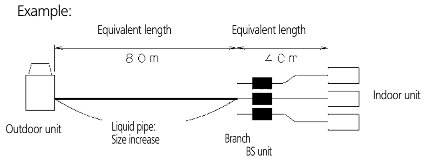
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model 8	Liquid
REYQ20P8Y1B	Φ 19.1
REYQ32P8Y1B	Φ 22.2
REYQ34P8Y1B	

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 0.4 + Equivalent length after branching

   Example:

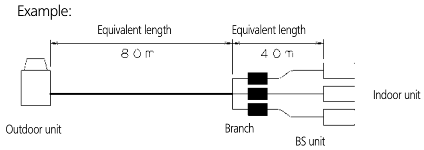


   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=0m is thus approximately 1.0.

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 Hp=0m is thus approximately 0.88.

Explanation of symbols

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

[Diameter of pipe (standard size)]

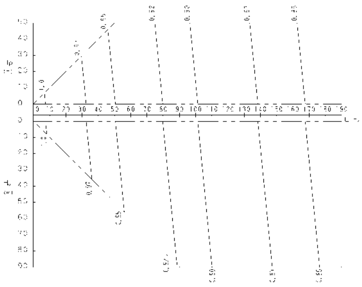
Model	Liquid
REYQ20P8Y1B	Φ 15.9
REYQ32P8Y1B	Φ 19.1
REYQ34P8Y1B	

2 Capacity correction ratio

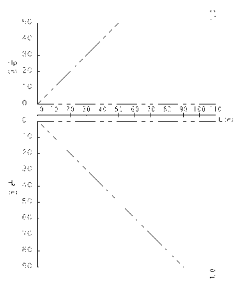
2 - 1 VRV®III heat recovery small footprint combination

REYQ24P8

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057932

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.

     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

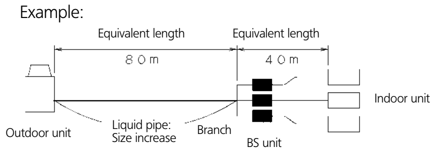
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ24P8Y1B	Φ19.1

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 0.4 + Equivalent length after branching

   Example:

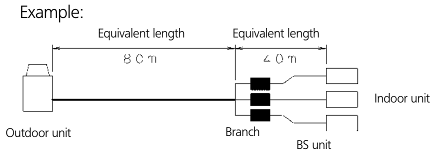


   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=0m is thus approximately 1.0.

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 Hp=0m is thus approximately 0.91.

Explanation of symbols

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

[Diameter of pipe (standard size)]

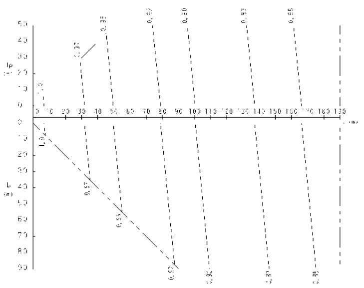
Model	Liquid
REYQ24P8Y1B	Φ15.9

2 Capacity correction ratio

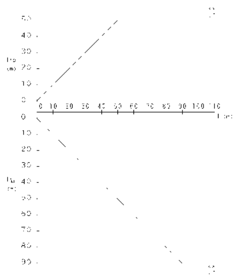
2 - 1 VRV®III heat recovery small footprint combination

REYQ36P9

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057934

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.

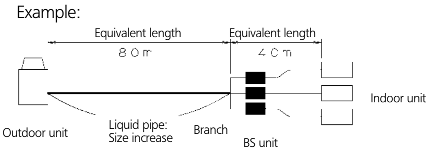
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ36P9Y1B	Φ 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 0.4 + Equivalent length after branching

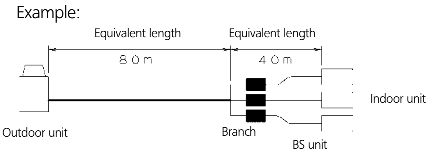
   Example:

   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=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 Hp=0m is thus approximately 0.92.

Explanation of symbols

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

[Diameter of pipe (standard size)]

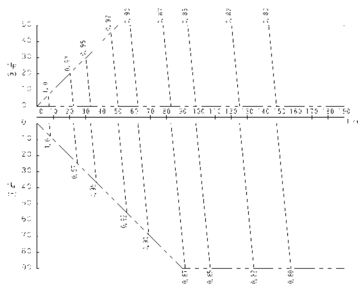
Model	Liquid
REYQ36P9Y1B	Φ19.1

2 Capacity correction ratio

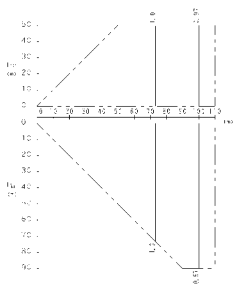
2 - 1 VRV®III heat recovery small footprint combination

REYQ46P8

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057936

NOTES

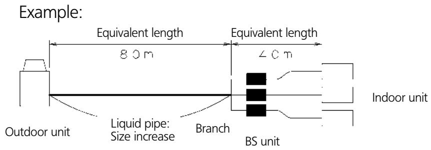
1. These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions. Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.
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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

   Calculating A/C capacity of outdoor units
   - Condition: Indoor unit combination ratio does not exceed 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ46P8Y1B	Φ 22.2

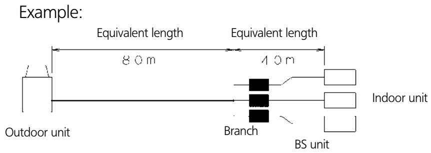
5. When the main sections of the interunit gas pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
   Overall equivalent length = Equivalent length to main pipe x 0.4 + Equivalent length after branching

   Example:



   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=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 Hp=0m is thus approximately 0.88.

Explanation of symbols

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

[Diameter of pipe (standard size)]

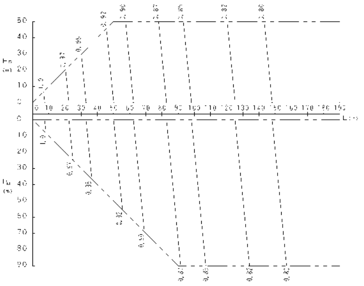
Model	Liquid
REYQ46P8Y1B	Φ19.1

2 Capacity correction ratio

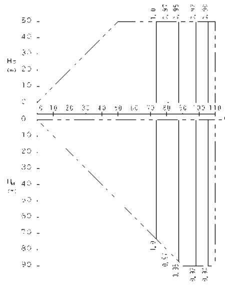
2 - 1 VRV®III heat recovery small footprint combination

REYQ48P8

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057937

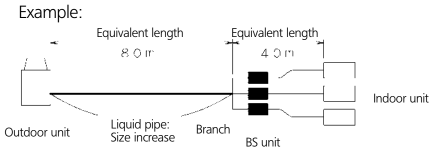
NOTES

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.
   Calculating A/C capacity of outdoor units
   - Condition: Indoor unit combination ratio does not exceed 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ48P8Y1B	Φ22.2

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 0.4 + Equivalent length after branching

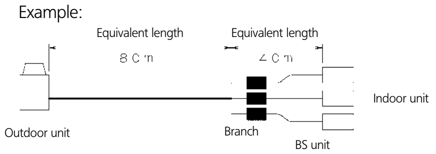
   Example:



   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=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 Hp=0m is thus approximately 0.88.

Explanation of symbols

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

[Diameter of pipe (standard size)]

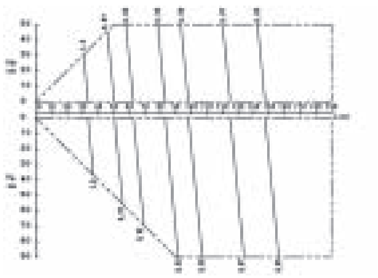
Model	Liquid
REYQ48P8Y1B	Φ19.1

2 Capacity correction ratio

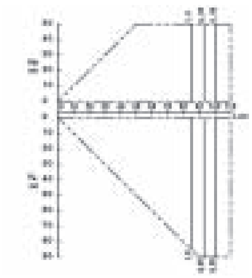
2 - 2 VRV®III heat recovery high COP combination

REYHQ16P

- Rate of change in cooling capacity



- Rate of change in heating capacity



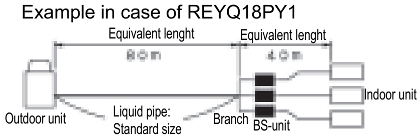
3D058183A

NOTES

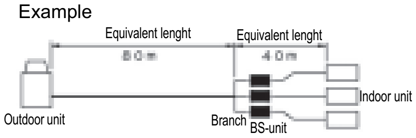
1. These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
   Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above 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 A/C (cooling / heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned below, whichever smaller.
   Calculating A/C capacity of outdoor units
   - Condition: Indoor unit combination ratio does not exceed 100%
     Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from performance characteristics table at the 100% combination
     x capacity change rate due to piping length to the farthest indoor unit
     Condition: Indoor unit combination ratio exceeds 100%
     Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristics table at the combination
     x capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main liquid pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main gas and liquid pipes (outdoor unit-brach sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYQ16P9Y1B	Ø15.9

   *If available on the site, use this size. Otherwise, not increased.
5. When the main sections of the interunit liquid pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
   Overall equivalent length = Equivalent length to main pipe x Correction factor + Equivalent length after branching
   Choose a correction factor from the following table.
   Example in case of REYQ18PY1



   In the above case (Heating)
   Overall equivalent length = 80m x 0.3 + 40m = 64m
   The correction factor in capacity when Hp=0m is thus approximately 1.0
6. In combination wich does not include cooling onlyindoor 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 Hp=0m is thus approximately 0.88

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 : Rate of change in cooling / heating capacity

[Diameter of pipe (standard size)]

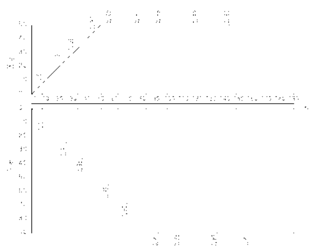
Model	Liquid
REYQ16P9Y1B	Ø12.7

2 Capacity correction ratio

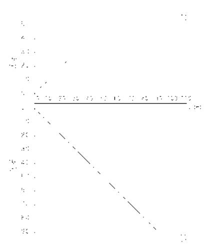
2 - 2 VRV®III heat recovery high COP combination

REYHQ20P

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057933

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.

     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

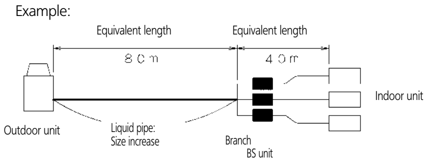
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYHQ20PY1B	Φ 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 0.4 + Equivalent length after branching

   Example:

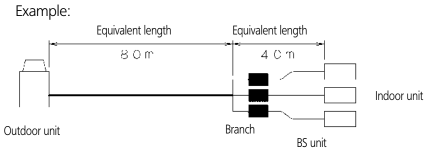


   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=0m is thus approximately 1.0.

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 Hp=0m is thus approximately 0.88.

Explanation of symbols

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

[Diameter of pipe (standard size)]

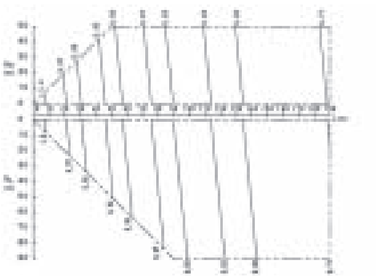
Model	Liquid
REYHQ20PY1B	Φ 15.9

2 Capacity correction ratio

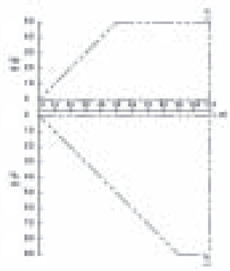
2 - 2 VRV®III heat recovery high COP combination

REYHQ22P

- Rate of change in cooling capacity



- Rate of change in heating capacity



3D057931B

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 A/C (cooling / heating) capacity:
The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned below, whichever smaller.
Calculating A/C capacity of outdoor units
- Condition: Indoor unit combination ratio does not exceed 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from performance characteristics table at the 100% combination
x capacity change rate due to piping length to the farthest indoor unit
Condition: Indoor unit combination ratio exceeds 100%
Maximum A./C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristics table at the combination
x capacity change rate due to piping length to the farthest indoor unit

4 When overall equivalent pipe length is 90m or more, the diameter of the main liquid pipes (outdoor unit-branch sections) must be increased.
When level difference is 50m or more, the diameter of the main gas and liquid pipes (outdoor unit-brach sections) must be increased.
[Diameter of above case]

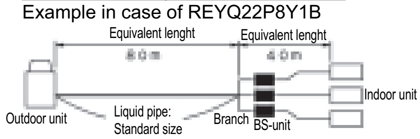
Model	Liquid
REYQ8P9Y1B	Ø12.7
REYQ22P8Y1B	Ø19.1

*If available on the site, use this size. Otherwise, not increased.

5 When the main sections of the interunit liquid pipe diameters are increased the overall equivalent length should be calculated as follows. (Heating only)
Overall equivalent length = Equivalent length to main pipe x Correction factor + Equivalent length after branching
Choose a correction factor from the following table.

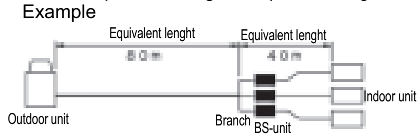
Model	Correction factor
REYQ8P9Y1B	0.2
REYQ22P8Y1B	0.4

Example in case of REYQ22P8Y1B



In the above case (Heating)
Overall equivalent length = 80m x 0.3 + 40m = 64m
The correction factor in capacity when Hp=0m is thus approximately 1.0

6 In combination wich does not include cooling onlyindoor 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 Hp=0m is thus approximately 0.88

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 : Rate of change in cooling / heating capacity
[Diameter of pipe (standard size)]

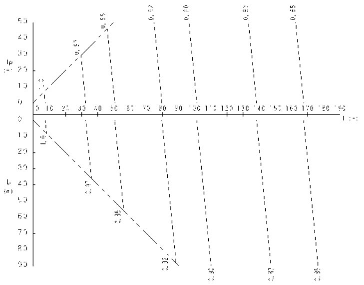
Model	Liquid
REYQ8P9Y1B	Ø9.5
REYQ22P8Y1B	Ø15.9

2 Capacity correction ratio

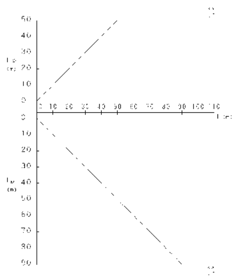
2 - 2 VRV®III heat recovery high COP combination

REYHQ24P

1. Rate of change in cooling capacity



2. Rate of change in heating capacity



3D057932

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 A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned bellow, whichever smaller.

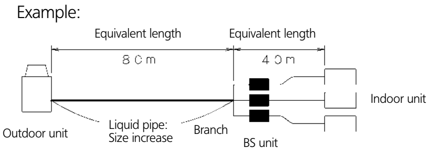
   Calculating A/C capacity of outdoor units

   - Condition: Indoor unit combination ratio does not exceed 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.
     Maximum A/C capacity of outdoor units = A/C capacity of outdoor units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 90m or more, the diameter of the main gas pipes (outdoor unit-branch sections) must be increased.
   When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.
   [Diameter of above case]

Model	Liquid
REYHQ24PY1B	ϕ19.1

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 0.4 + Equivalent length after branching

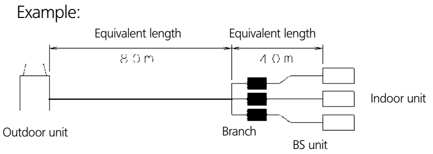
   Example:



   In the above case (Heating)
   Overall equivalent length = 80m x 0.4 + 40m = 72m
   The correction factor in capacity when Hp=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 Hp=0m is thus approximately 0.91.

Explanation of symbols

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

[Diameter of pipe (standard size)]

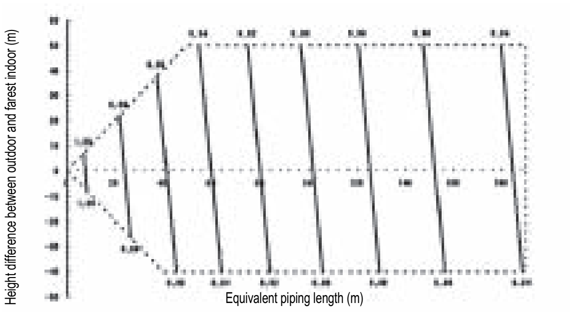
Model	Liquid
REYHQ24PY1B	ϕ15.9

2 Capacity correction ratio

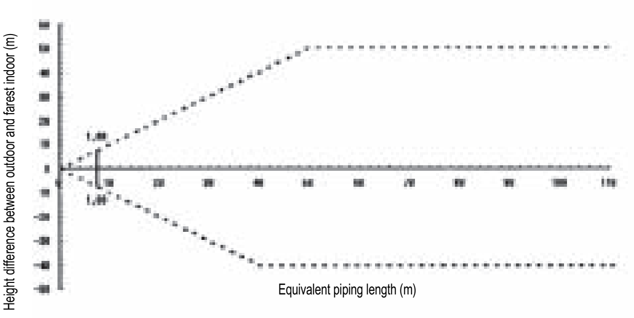
2 - 3 VRV®III heat pump small footprint combination

RXYQ5P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ5P	19.1	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).

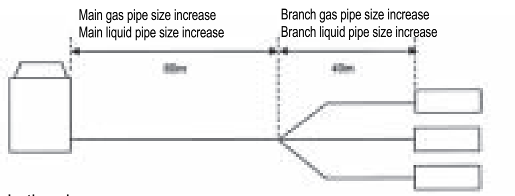
Model	gas	liquid
RXYQ5P	15.9	9.5

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m

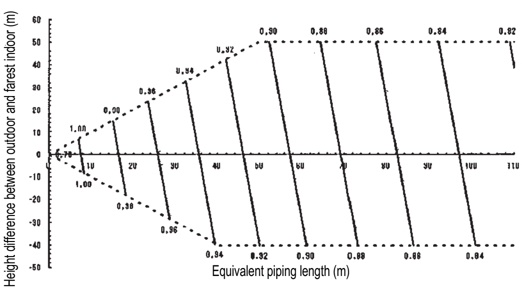
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.78
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

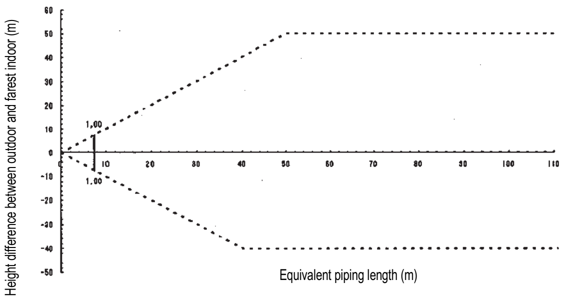
2 - 3 VRV®III heat pump small footprint combination

RXYQ8P8

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ8P8	22.2	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).

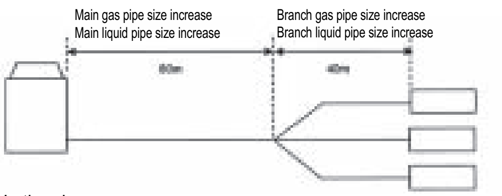
Model	gas	liquid
RXYQ8P8	19.1	9.5

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

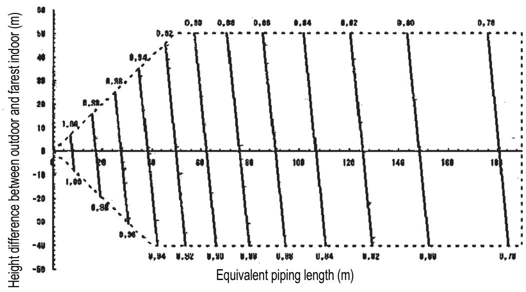
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.86
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

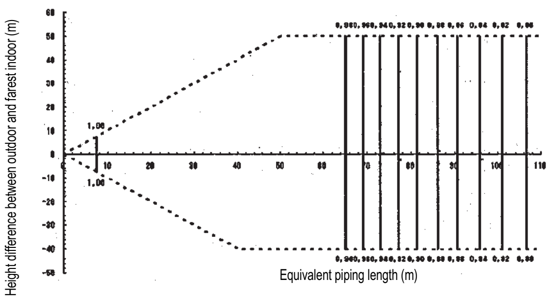
2 - 3 VRV®III heat pump small footprint combination

RXYQ10P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ10P	25.4 *	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).

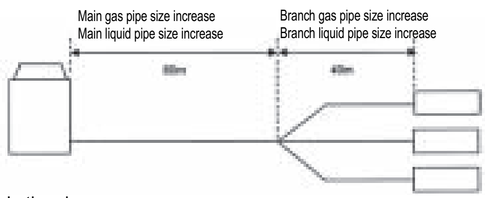
Model	gas	liquid
RXYQ10P	22.2	9.5

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 the correction factor from the following table.

ling 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

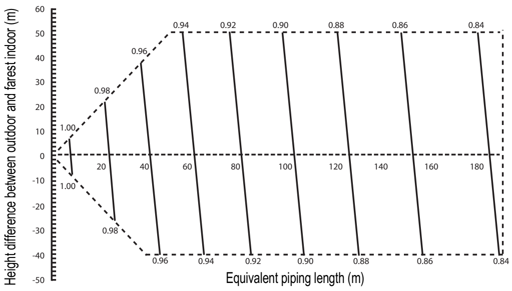
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.87
Heating capacity when height difference = 0 is thus approximately 0.90

2 Capacity correction ratio

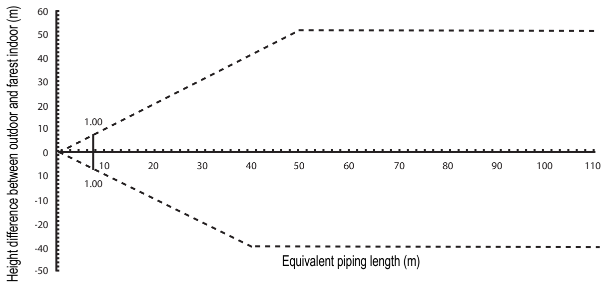
2 - 3 VRV®III heat pump small footprint combination

RXYQ12,14,24,36P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ12	28.6	15.9
RXYQ14P	28.6	15.9
RXYQ24P	34.9	19.1
RXYQ36P	41.3	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).

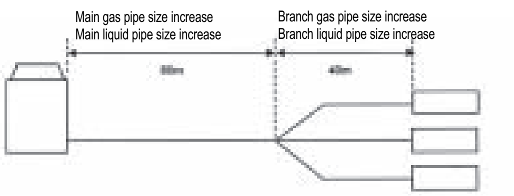
Model	gas	liquid
RXYQ12	28.6	12.7
RXYQ14P	28.6	12.7
RXYQ24P	34.9	15.9
RXYQ36P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

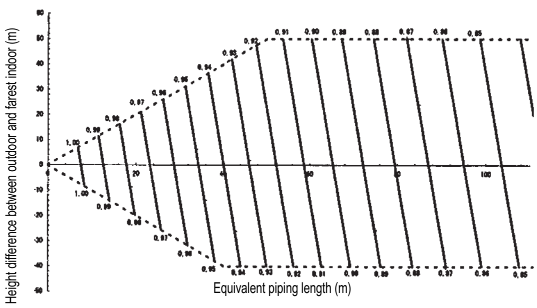
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.89
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

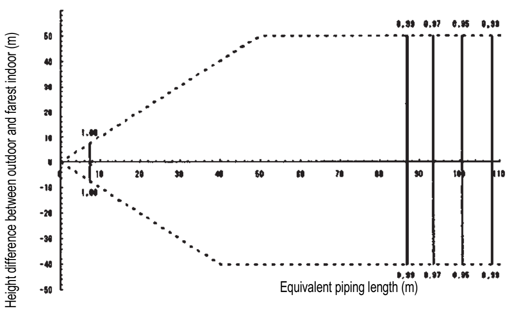
2 - 3 VRV®III heat pump small footprint combination

RXYQ16P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ16P	31.8*	15.9

* If not available on site, do not increasse. 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).

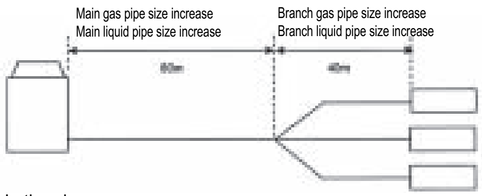
Model	gas	liquid
RXYQ16P	28.6	12.7

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

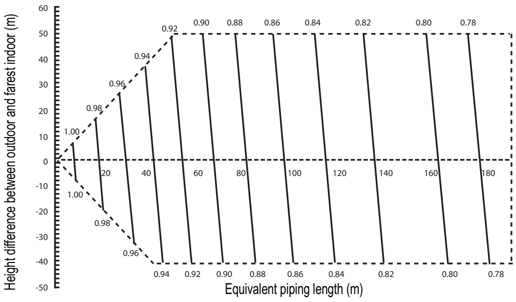
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.88
Heating capacity when height difference = 0 is thus approximately 0.99

2 Capacity correction ratio

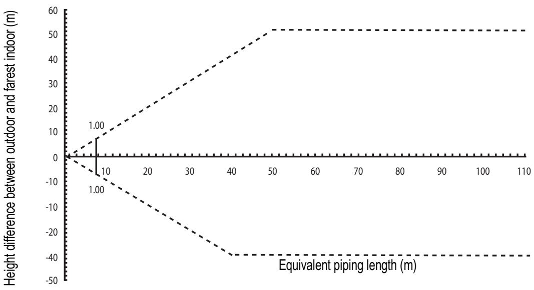
2 - 3 VRV®III heat pump small footprint combination

RXYQ18,22,28,30,38,40,42,44P(8)

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ18	31.8	19.1
RXYQ26-30P(8)	38.1	22.2
RXYQ38-44P(8)	41.3	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).

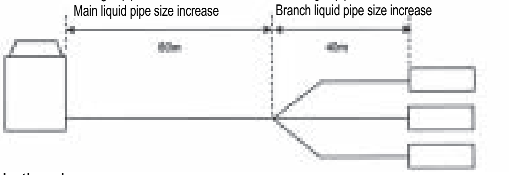
Model	gas	liquid
RXYQ18P	28.6	15.9
RXYQ26-30P(8)	34.9	19.1
RXYQ38-44P(8)	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

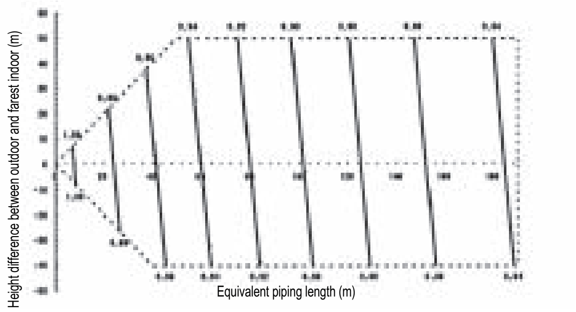
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

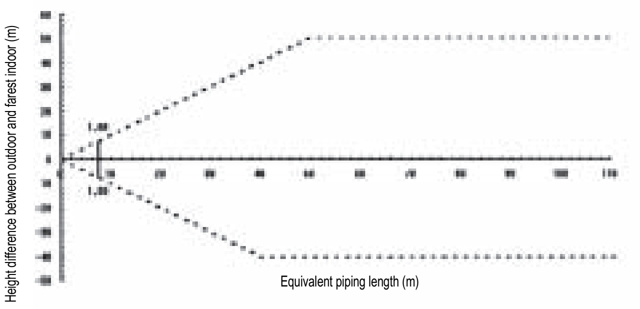
2 - 3 VRV®III heat pump small footprint combination

RXYQ20,32,34P(8)

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ20P8*	31.8	19.1
RXYQ32-34P*	38.1	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).

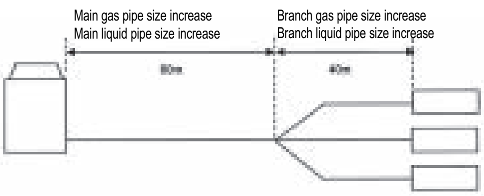
Model	gas	liquid
RXYQ20P8*	28.6	15.9
RXYQ32-34P	34.9	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

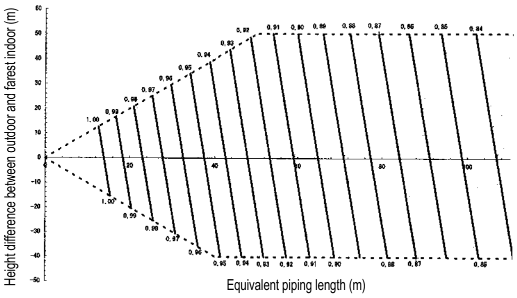
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.88
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

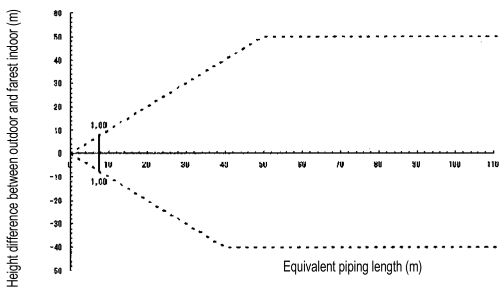
2 - 3 VRV®III heat pump small footprint combination

RXYQ22P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ22P	31.8*	19.1

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).

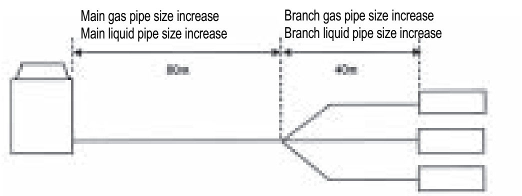
Model	gas	liquid
RXYQ22P	28.6	15.9

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

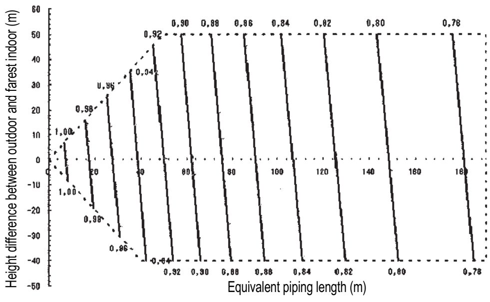
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.88
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

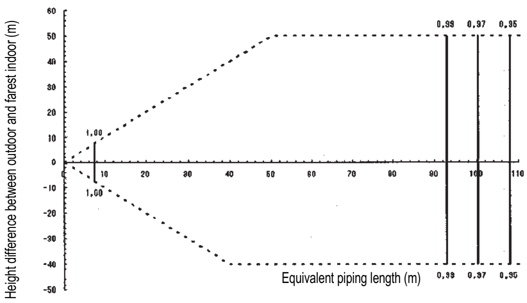
2 - 3 VRV®III heat pump small footprint combination

RXYQ46P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ46P	41.3	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).

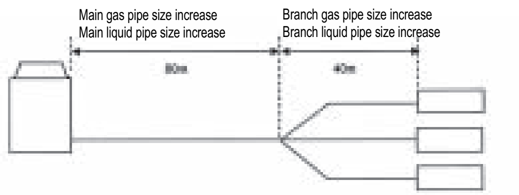
Model	gas	liquid
RXYQ46P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

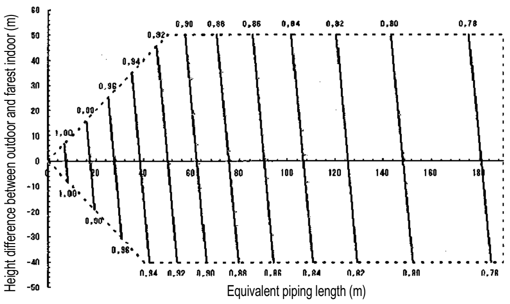
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

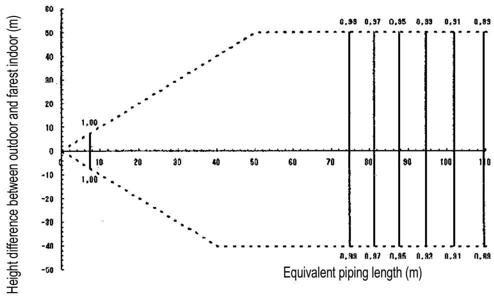
2 - 3 VRV®III heat pump small footprint combination

RXYQ48P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ48P	41.3	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).

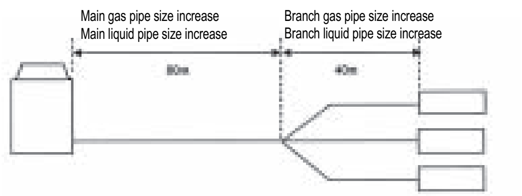
Model	gas	liquid
RXYQ48P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

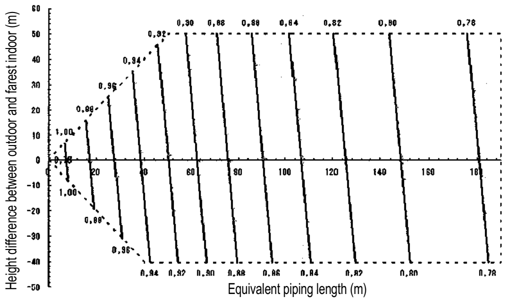
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 0.92

2 Capacity correction ratio

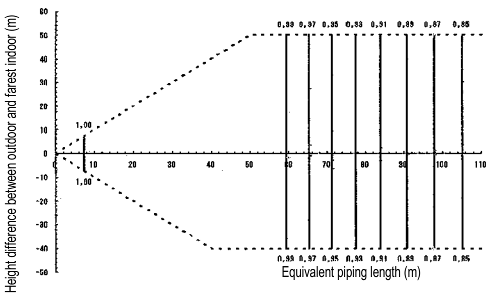
2 - 3 VRV®III heat pump small footprint combination

RXYQ50P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ50P	41.3	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).

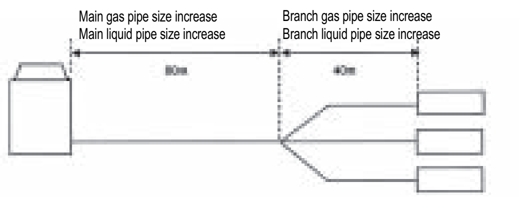
Model	gas	liquid
RXYQ50P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

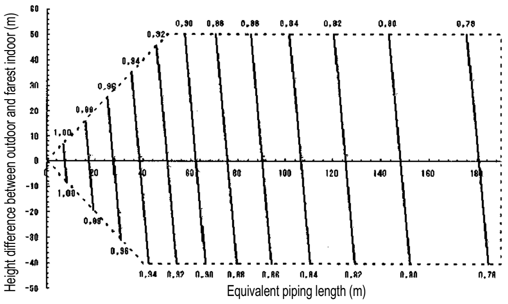
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 0.92

2 Capacity correction ratio

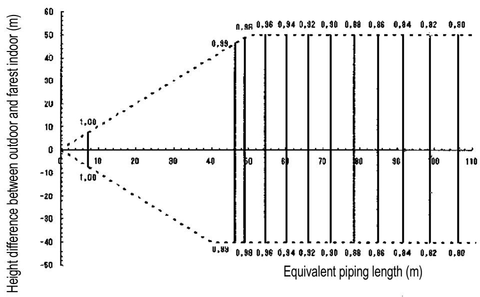
2 - 3 VRV®III heat pump small footprint combination

RXYQ52P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ52P	41.3	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).

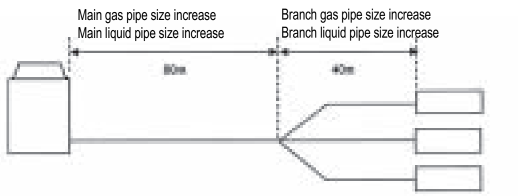
Model	gas	liquid
RXYQ52P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

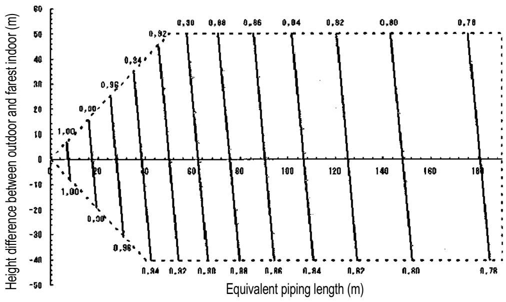
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 0.88

2 Capacity correction ratio

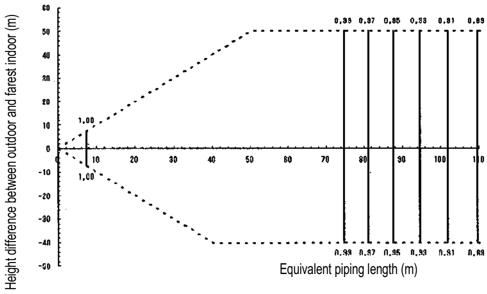
2 - 3 VRV®III heat pump small footprint combination

RXYQ54P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYQ54P	41.3	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).

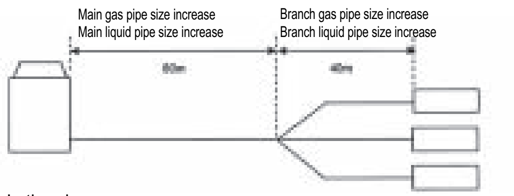
Model	gas	liquid
RXYQ54P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

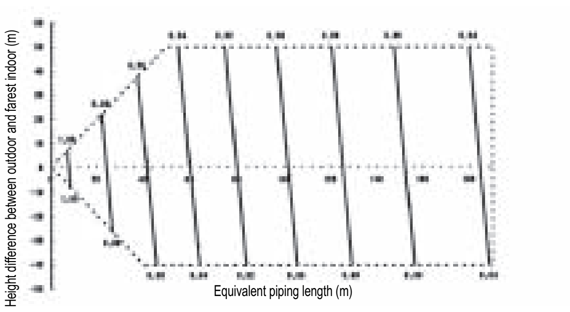
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 0.83

2 Capacity correction ratio

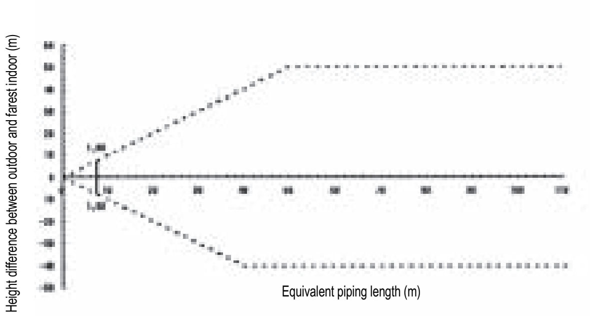
2 - 4 VRV®III heat pump high COP combination

RXYHQ12,14,24,36P(8)

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYHQ12P8	28.6	15.9
RXYHQ24P	34.9	19.1
RXYHQ36P	41.3	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).

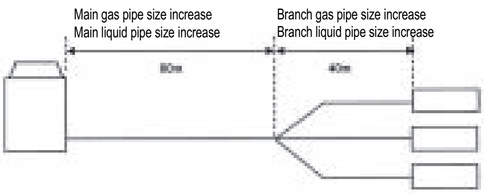
Model	gas	liquid
RXYHQ12P8	28.6	12.7
RXYHQ24P	34.9	15.9
RXYHQ36P	41.3	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

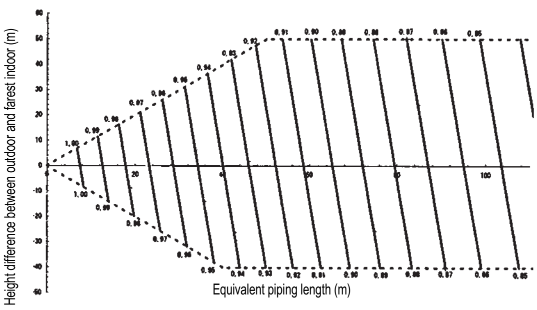
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.89
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

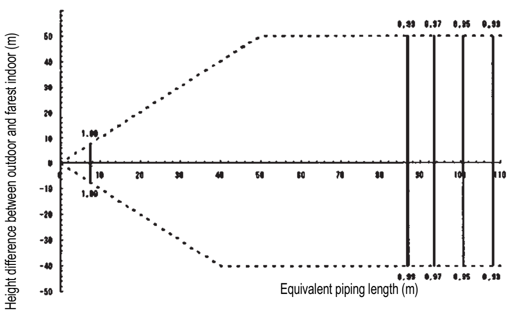
2 - 4 VRV®III heat pump high COP combination

RXYHQ16P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYHQ16P	31.8*	15.9

* If not available on site, do not increasse. 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).

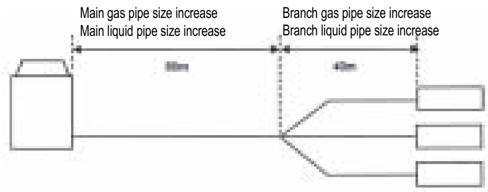
Model	gas	liquid
RXYHQ16P	28.6	12.7

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

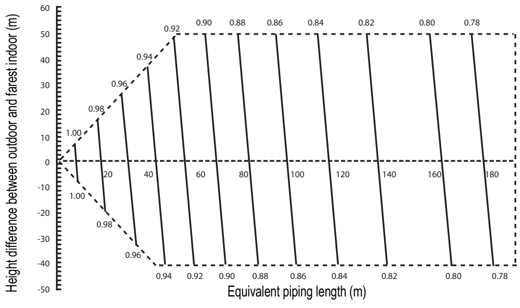
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.88
Heating capacity when height difference = 0 is thus approximately 0.99

2 Capacity correction ratio

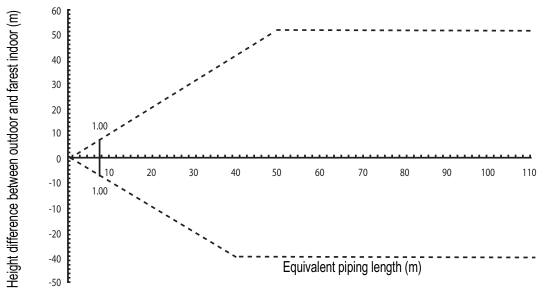
2 - 4 VRV®III heat pump high COP combination

RXYHQ18,26,28,30P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4. When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYHQ18P	31.8	19.1
RXYHQ26-30P	38.1	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).

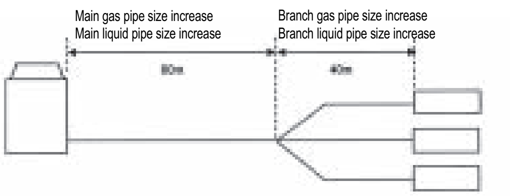
Model	gas	liquid
RXYHQ18P	28.6	15.9
RXYHQ26-30P	34.9	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 120m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

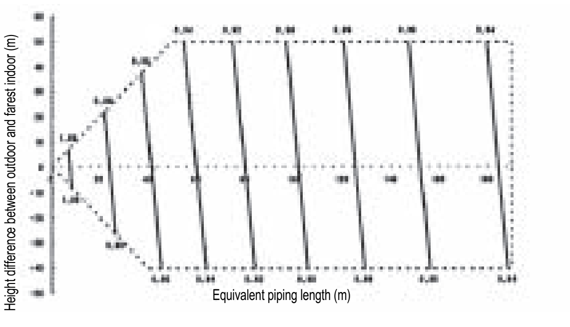
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.83
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

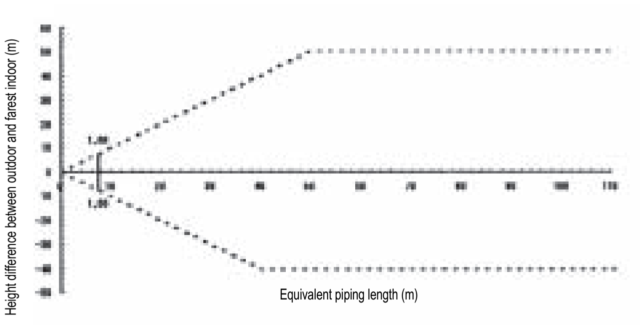
2 - 4 VRV®III heat pump high COP combination

RXYHQ20,32,34P(8)

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor
4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYHQ20P8*	31.8	19.1
RXYHQ32-34P*	38.1	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).

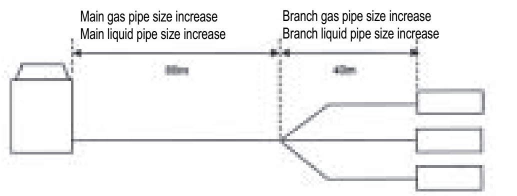
Model	gas	liquid
RXYHQ20P8	28.6	15.9
RXYHQ32-34P*	34.9	19.1

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m

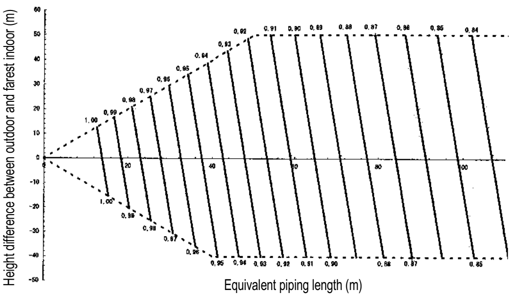
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.88
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

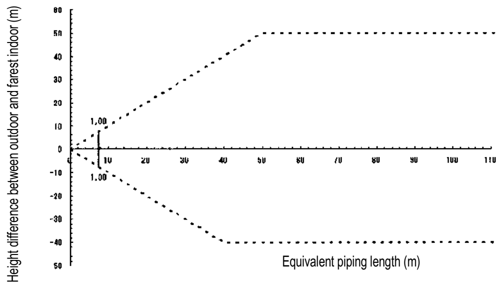
2 - 4 VRV®III heat pump high COP combination

RXYHQ22P

Correction ratio for cooling capacity



Correction ratio for heating capacity



3TW31472-1

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 for 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 macimum capacity of the system will be either the total capacity of the indoor units or the macimum 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 units from capacity table at installed% connection ratio X Correction ratio of piping to farest indoor

4 When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased. For new diameters, see below.

Model	gas	liquid
RXYHQ22P	31.8*	19.1

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).

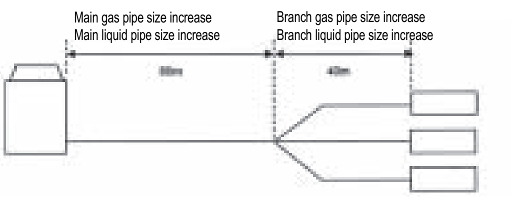
Model	gas	liquid
RXYHQ22P	28.6	15.9

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 the 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

Example



In the above case:
(Cooling) Overall equivalent length= 80mx1.0 + 40mx1.0 = 80m
(Heating) Overall equivalent length= 80mx0.5 + 40mx1.0 = 80m

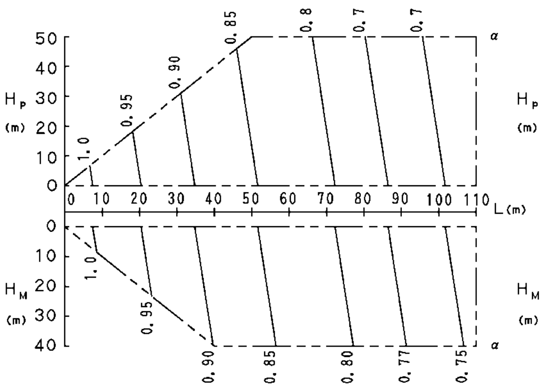
The rate of change in:
Cooling capacity when height difference = 0 is thus approximately 0.88
Heating capacity when height difference = 0 is thus approximately 1.0

2 Capacity correction ratio

2 - 5 VRV®III-S

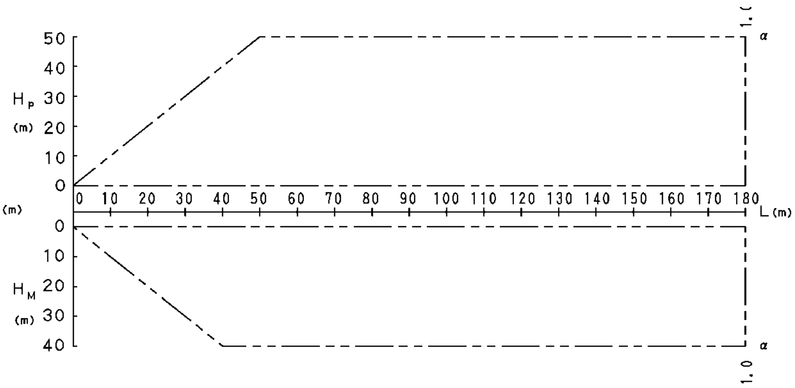
RXYSQ4,5PAV1/PAY1

- Rate of change in cooling capacity



- Rate of change in heating capacity

- Rate of change in heating capacity



3D045710D

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.

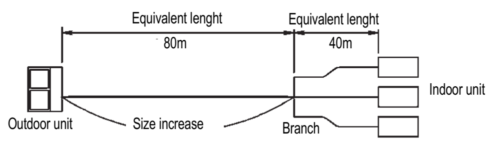
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

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
In the case length of piping 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
< As for RXYMQ4, 5MV4A * RXYSQ4, 5MV7V3B * RXYMQ4,5MVLT * RXYMQ4,5PV4A * RXYMQ4P,5PVE * RXYMQ4P,5PVE * RXYSQ4, 5P7V3B * RXYSQ4,5P7Y1B * RXYSQ4,5PA7V1B * RXYSQ4,5PA7Y1B>

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

Model		gas	liquid
RXYMQ4,5MV4A RXYSQ4,5M7V3B RXYMQ4,5MVLT RXYSQ4,5P7Y1B	RXYMQ4,5PV4A, VE RXMQ4,5PVE RXYSQ4,5P7V3B RXYSQ4,5PA7V1B RXYSQ4,5PA7Y1B	ø 19.1	Not Increased

5 When the main sections 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)
Example: RXYMQ4, 5MV4A
RXYSQ4, 5MV7V3B
RXYMQ4,5MVLT
RXYMQ4,5PV4A, VE
RXYMQ4P,5PVE
RXYSQ4, 5P7V3B
RXYSQ4,5P7Y1B
RXYSQ4,5PA7V1B
RXYSQ4,5PA7Y1B>



In the above case
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

[Diameter of pipes]

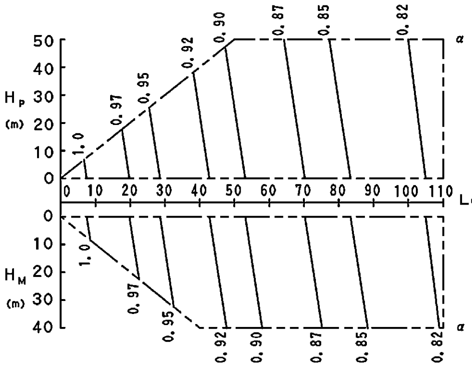
Model	gas	liquid
RXYMQ4,5MV4A RXYSQ4,5M7V3B RXYMQ4,5MVLT RXYMQ4,5PV4A, VE RXMQ4,5PVE RXYSQ4,5P7V3B RXYSQ4,5P7Y1B RXYSQ4,5PA7V1B RXYSQ4,5PA7Y1B	ø 19.1	Not Increased

2 Capacity correction ratio

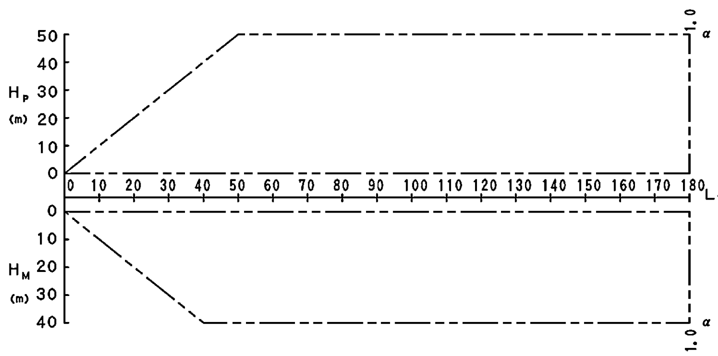
2 - 5 VRV®III-S

RXYSQ6PAV1/PAY1

- Rate of change in cooling capacity



- Rate of change in heating capacity



- Rate of change in heating capacity

3D045961D

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.

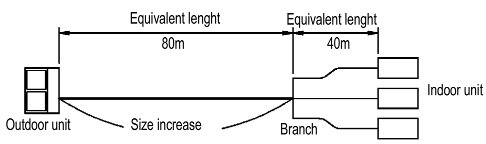
2 With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.

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
In the case length of piping 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
< As for RXYMQ6MV4A * RXYSQ6MV7V3B * RXYMQ6MVLT * RXYMQ6PV4A * RXYMQ6PVE * RXYMQ6PVE * RXYSQ6P7V3B * RXYSQ6P7Y1B * RXYSQ6PA7V1B * RXYSQ6PA7Y1B>

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

Model		gas	liquid
RXYMQ6MV4A RXYSQ6M7V3B RXYMQ6MVLT RXYSQ6P7Y1B	RXYMQ6PV4A, VE RXMQ6PVE RXYSQ6P7V3B RXYSQ6PA7V1B RXYSQ6PA7Y1B	ø 22.2	Not Increased

5 When the main sections 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)
Example: RXYMQ6MV4A
RXYSQ6MV7V3B
RXYMQ6MVLT
RXYMQ6PV4A, VE
RXYMQ6PVE
RXYSQ6P7V3B
RXYSQ6P7Y1B
RXYSQ6PA7V1B
RXYSQ6PA7Y1B>



In the above case
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

[Diameter of pipes]

Model	gas	liquid
RXYMQ6MV4A RXYSQ6M7V3B RXYMQ6MVLT RXYMQ6PV4A, VE RXMQ6PVE RXYSQ6P7V3B RXYSQ6P7Y1B RXYSQ6PA7V1B RXYSQ6PA7Y1B	ø 19.1	ø 9.5

3 Integrated heating capacity coefficient

REYQ-P8/P9

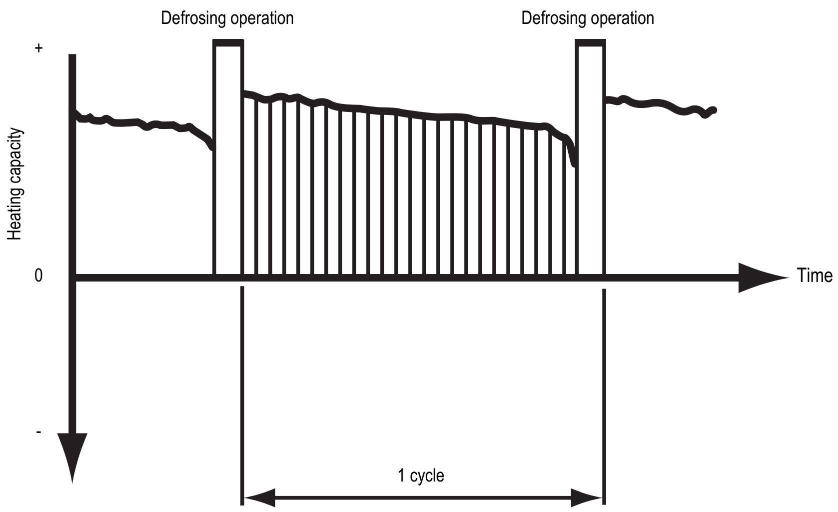
INTEGRATED HEATING CAPACITY COEFFICIENT

The heating capacity 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
Integrated correction factor for frost accumulation = C
A = B x C

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	REYQ8, 10, 12P	0,97	0,95	0,90	0,86	0,87	0,92	1,0
	REYQ14, 16P	0,96	0,94	0,89	0,85	0,86	0,91	1,0
	REYHQ16, 20~24P	0,99	0,97	0,92	0,88	0,89	0,94	1,0
	REYQ18~32P	0,99	0,97	0,92	0,88	0,89	0,94	1,0
	REYQ34~48P	0,98	0,96	0,91	0,87	0,88	0,93	1,0



3TW30322-3A

NOTE

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

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.

3 Integrated heating capacity coefficient

REYHQ-P

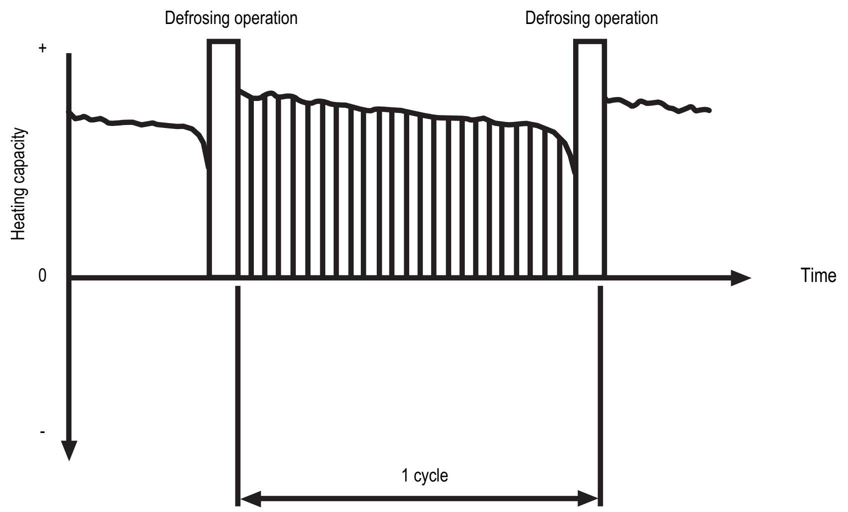
INTEGRATED HEATING CAPACITY COEFFICIENT

The heating capacity 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
Integrated correction factor for frost accumulation = C
A = B x C

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	REYHQ16,20~24P	0,99	0,97	0,92	0,88	0,89	0,94	1,0



3TW30322-3A

NOTE

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

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.

3 Integrated heating capacity coefficient

RXYQ5-54P(8)

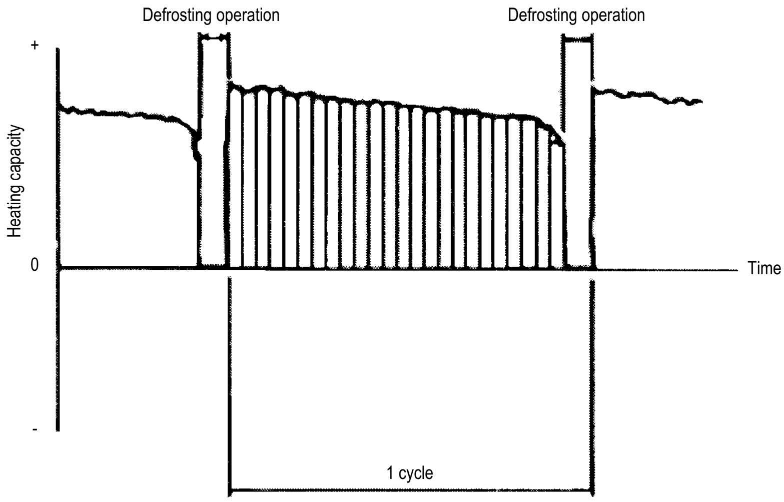
INTEGRATED HEATING CAPACITY COEFFICIENT

The heating capacity 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

Integrating 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



3TW27232-7

NOTE

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

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.

3 Integrated heating capacity coefficient

RXYHQ12-36P8

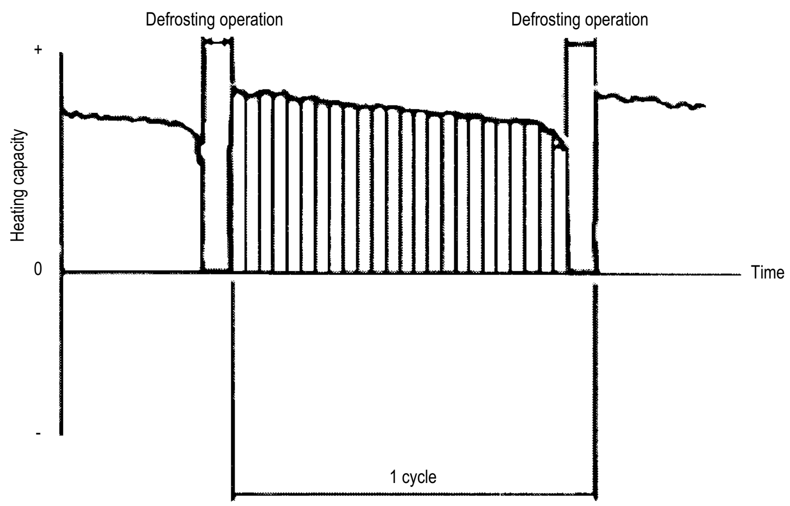
INTEGRATED HEATING CAPACITY COEFFICIENT

The heating capacity 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

Integrating 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



3TW27232-7

NOTE

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

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.

3 Integrated heating capacity coefficient

RXYSQ4,5PAV/PAY1

Integrated heating capacity coefficient

The heating capacity 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

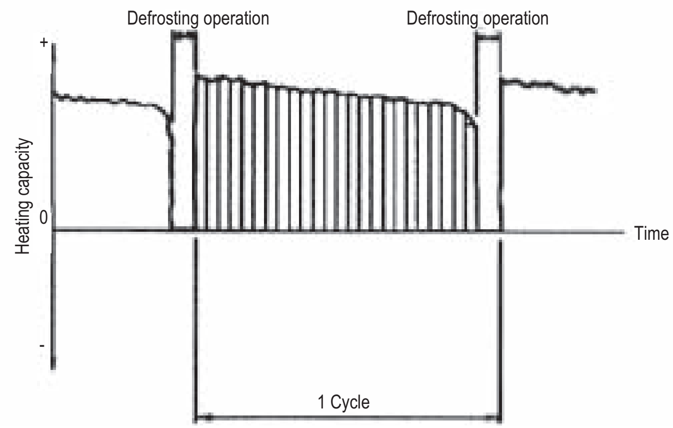
Value given in table of capacity characteristics = B

Integrating correction factor for frost accumulation (kW) = C

A = B x C

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	0.88	0.86	0.8	0.75	0.76	0.82	1.0



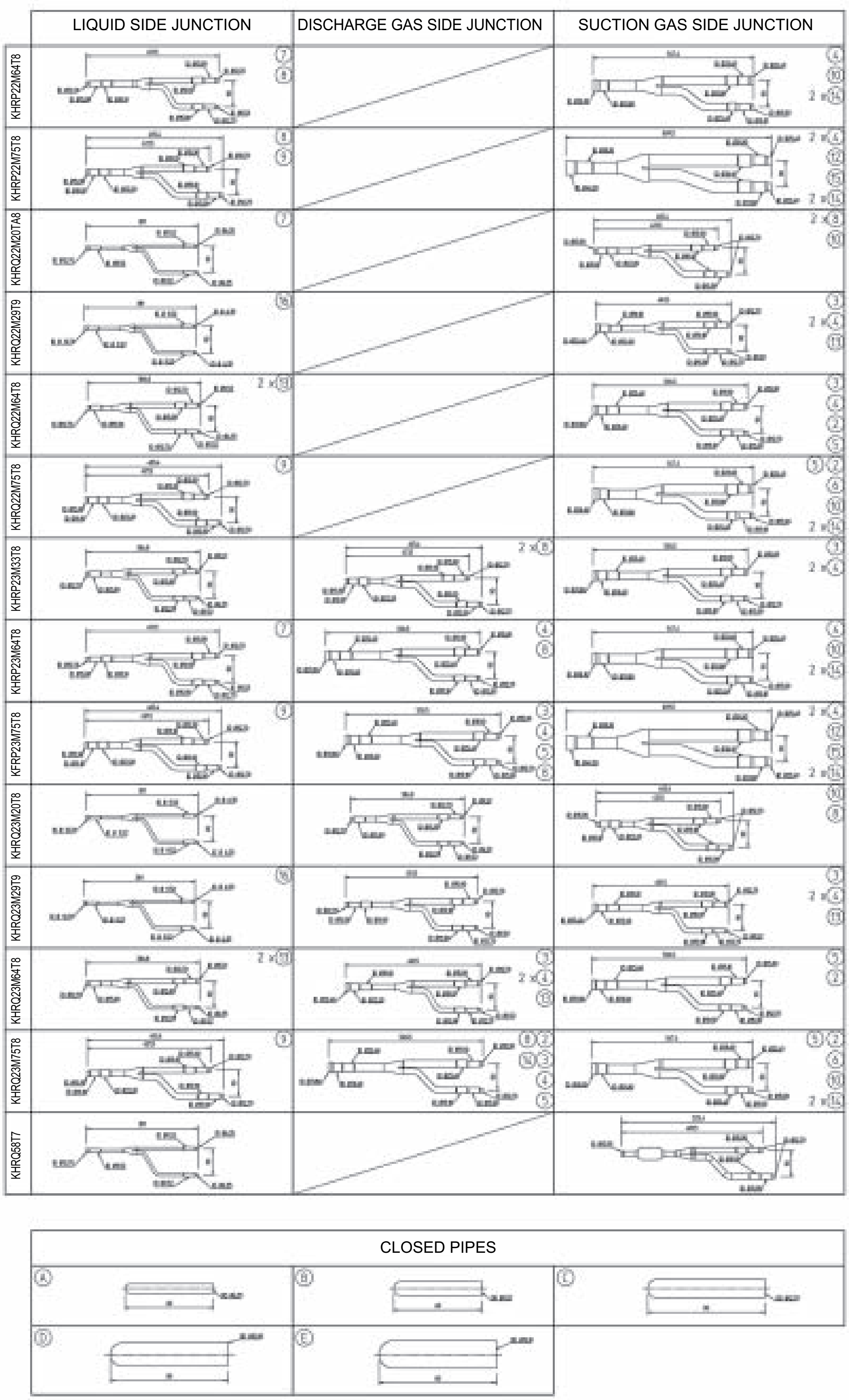
NOTE

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

Please note that, when there is an accumulation of snow against the outside surface of the outdoor unit 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.

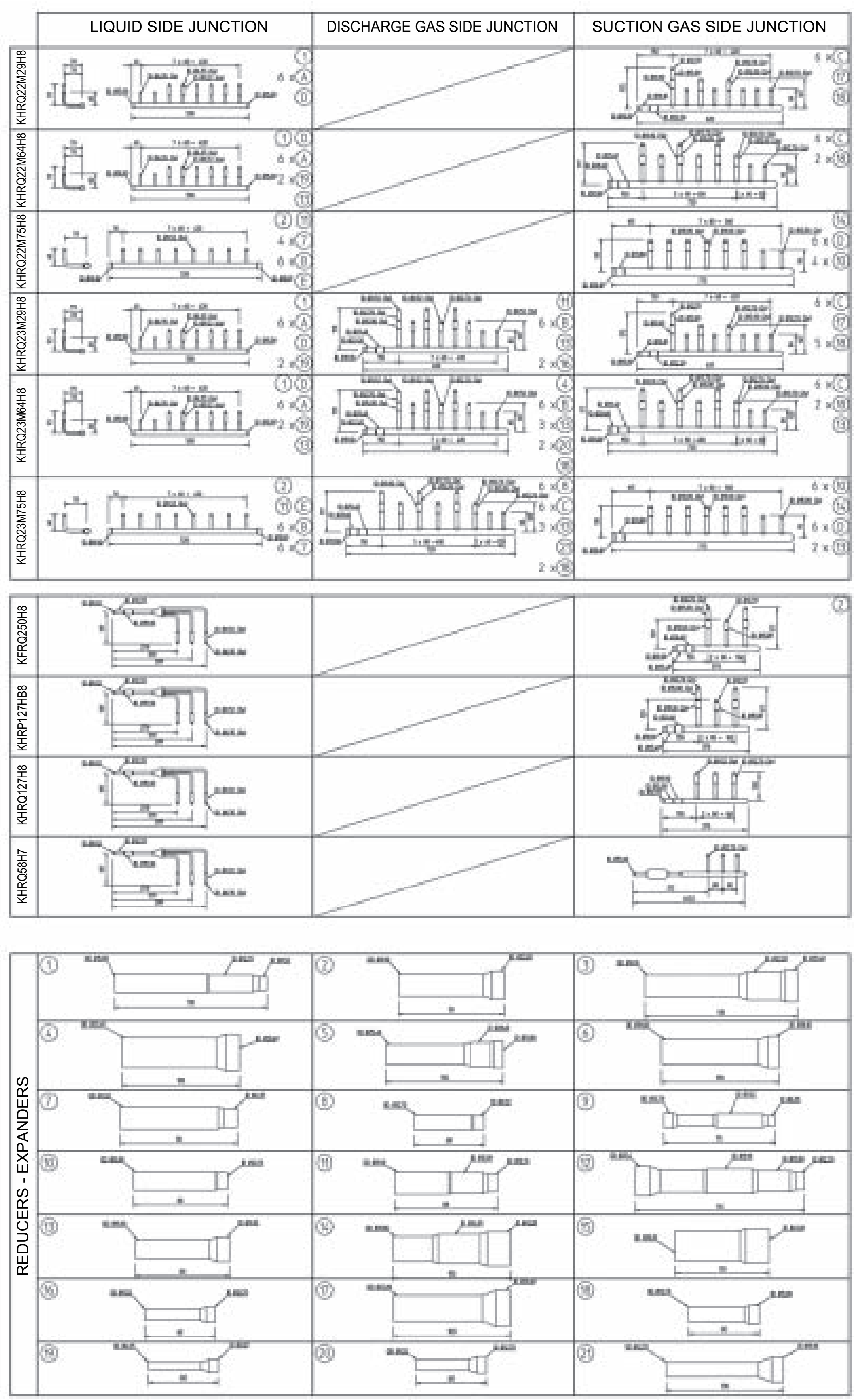
3TW30402-1

4 Refnet pipe systems



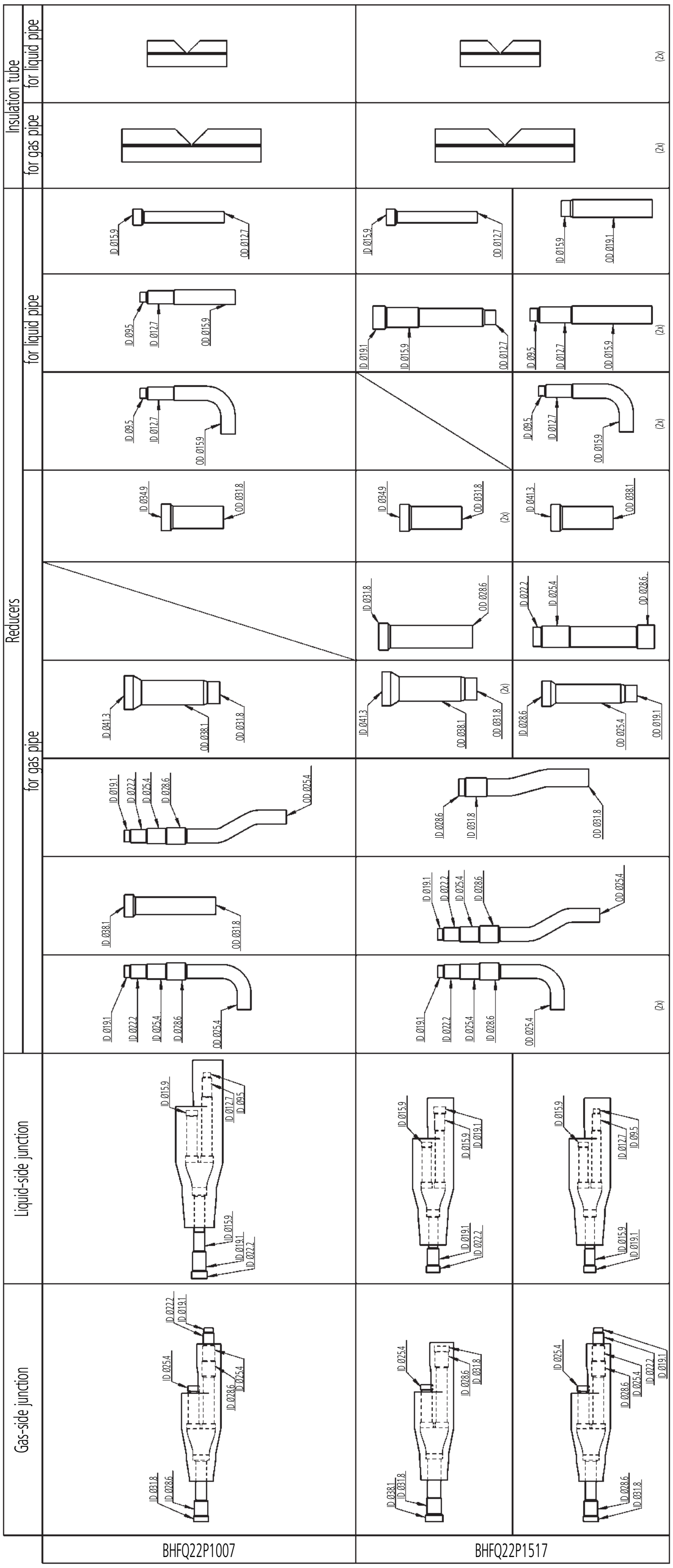
1TW25799-4D

4 Refnet pipe systems



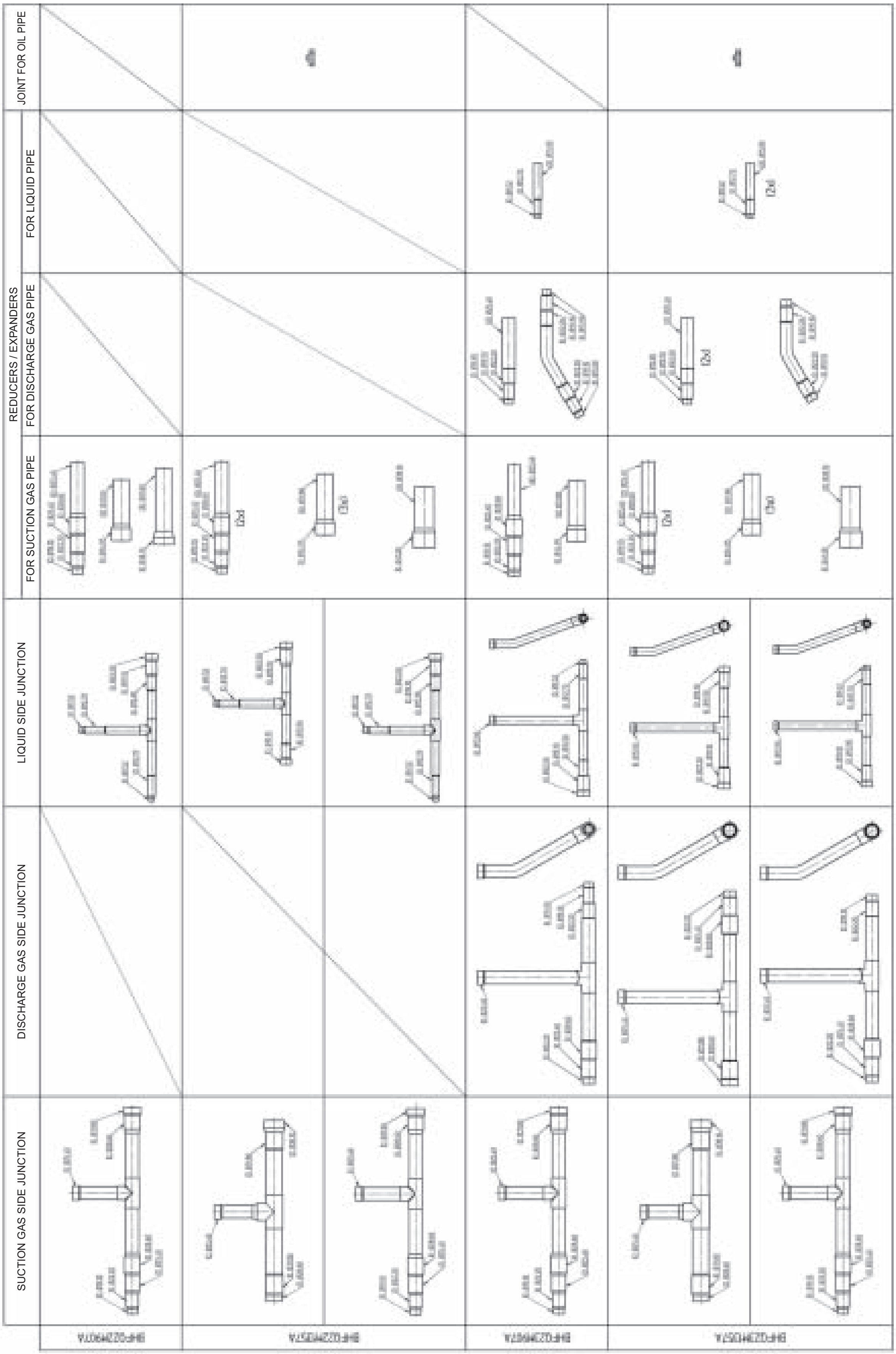
1TW25799-4D

4 Refnet pipe systems



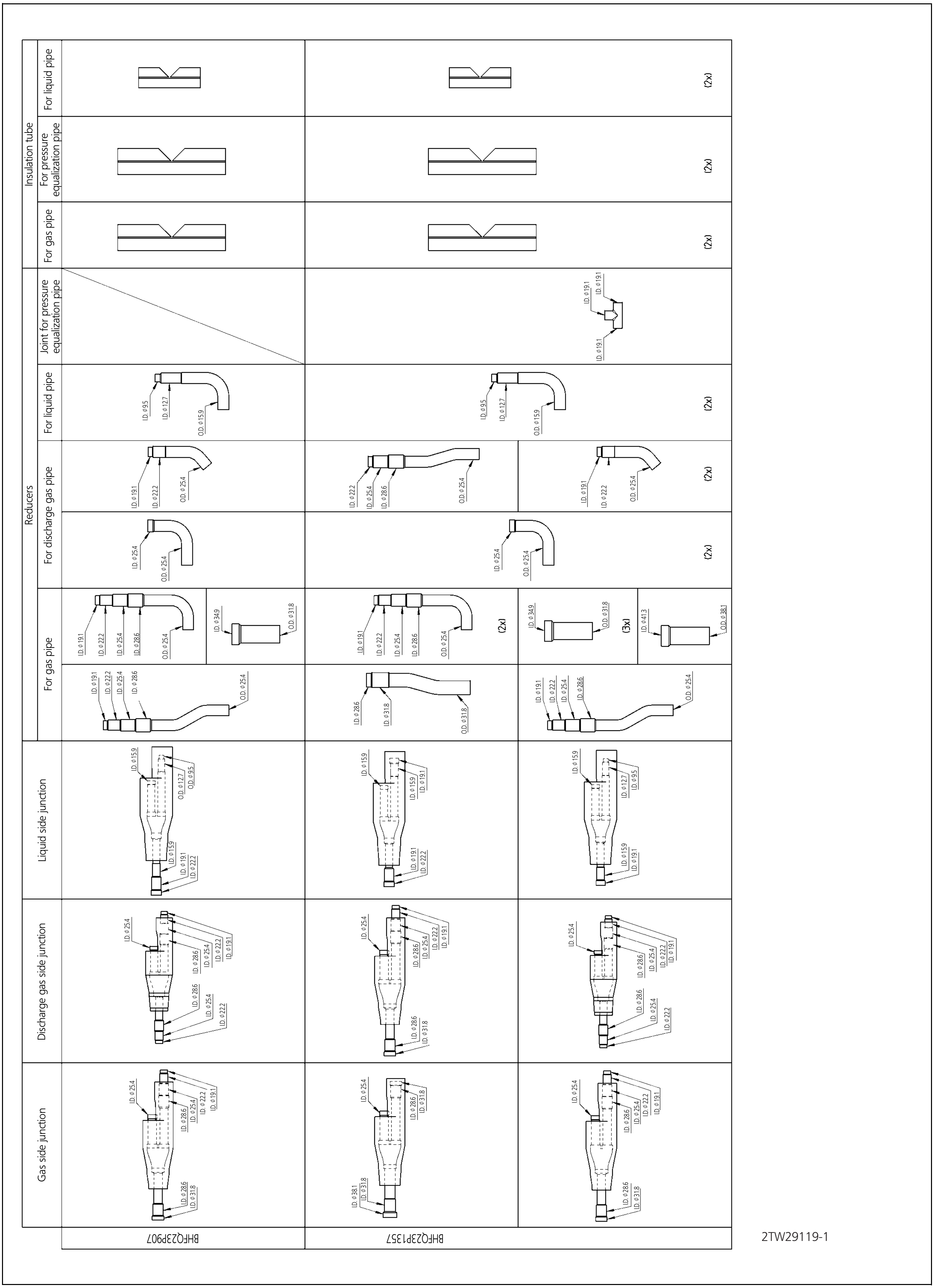
4TW27239-1

4 Refnet pipe systems

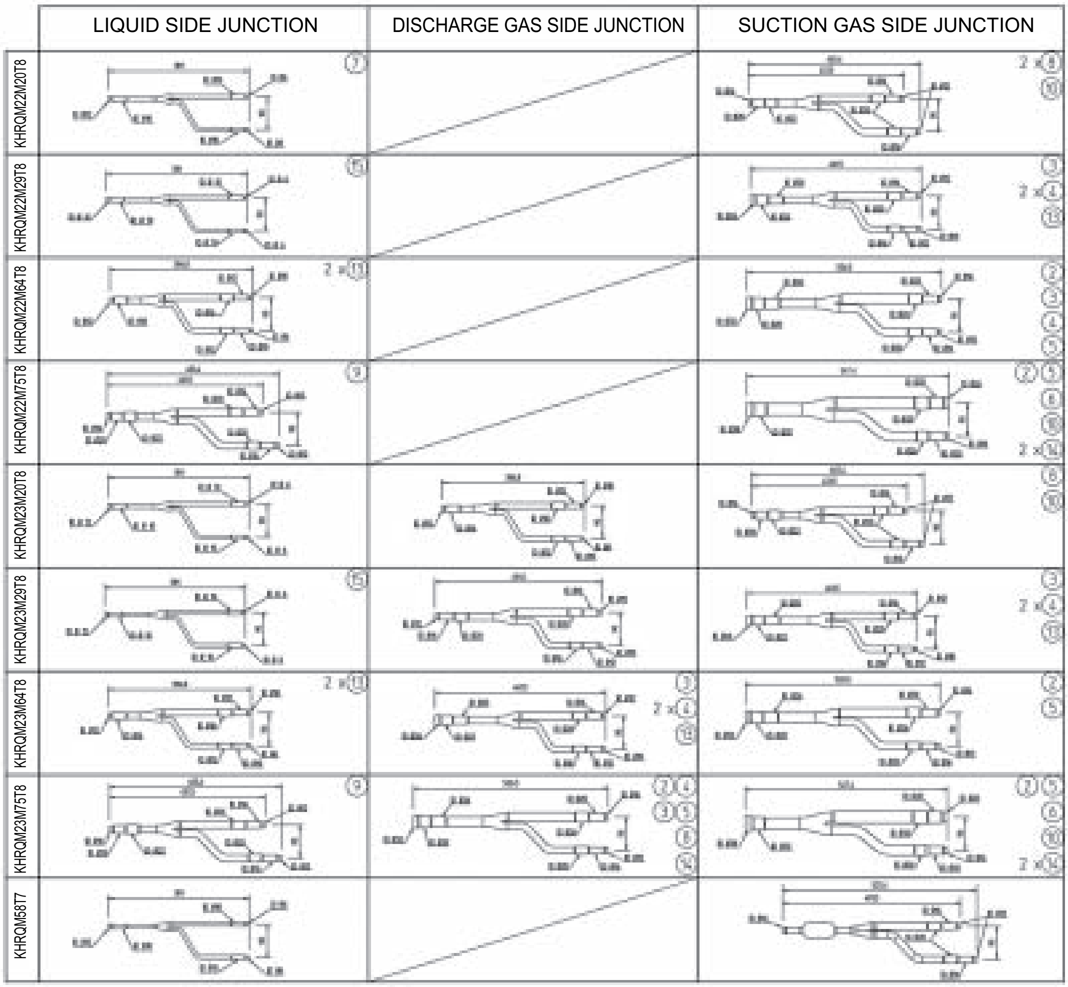


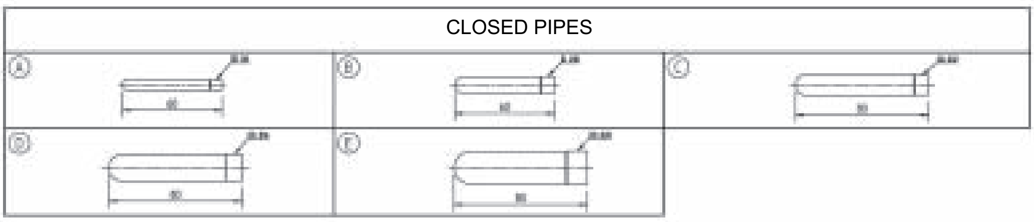
2TW25799-6

4 Refnet pipe systems



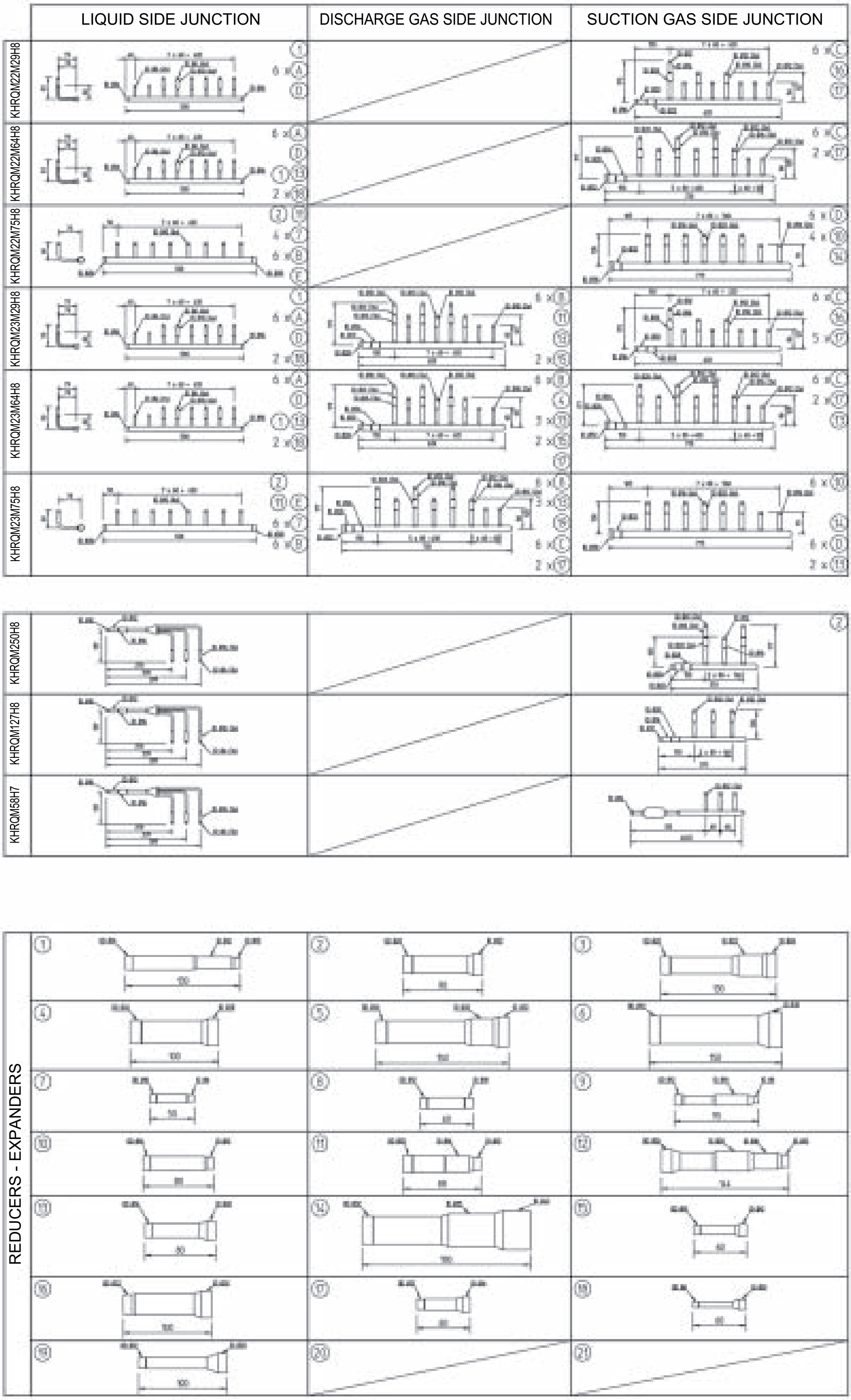
4 Refnet pipe systems





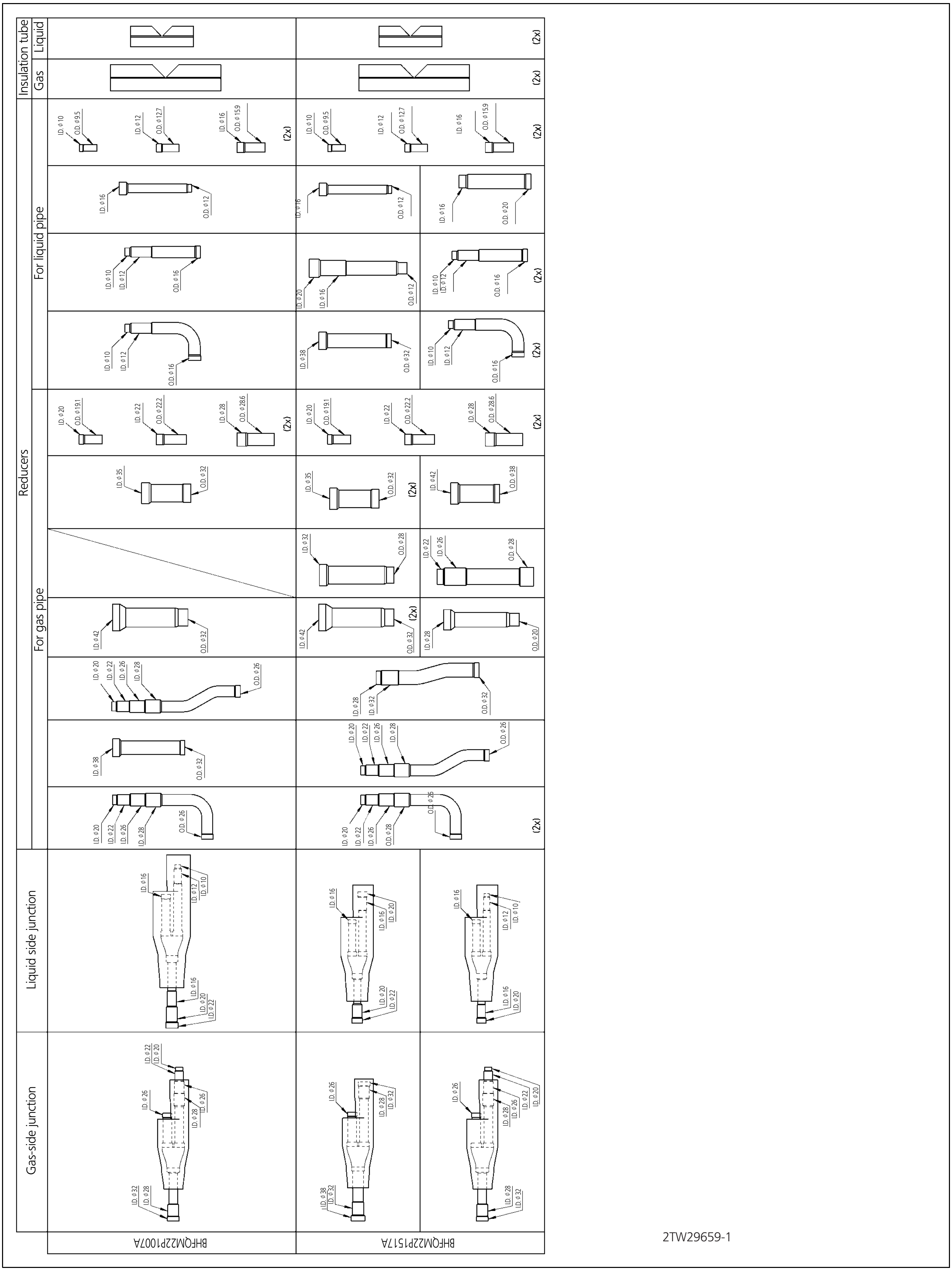
1TW29479-1A

4 Refnet pipe systems

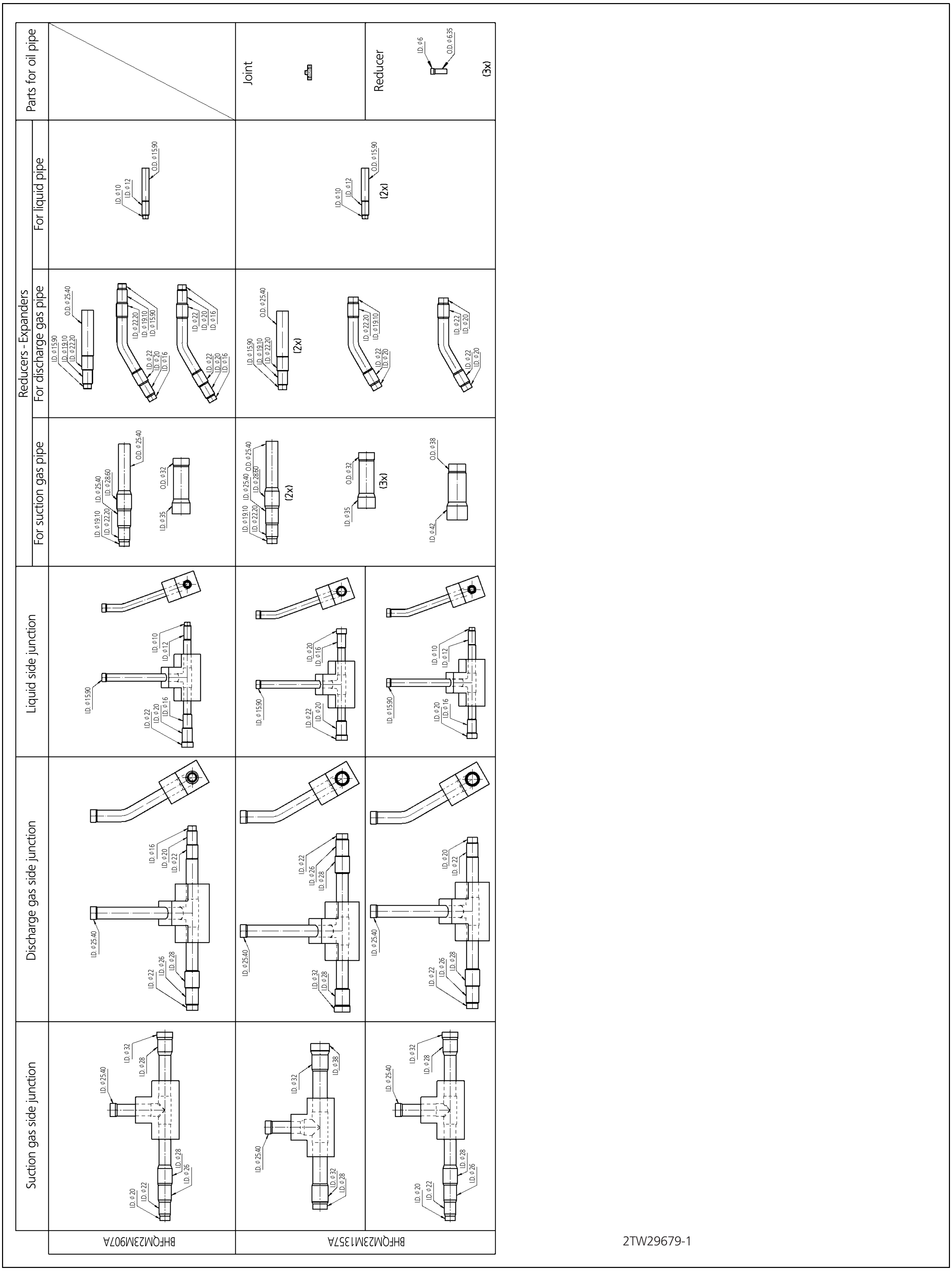


1TW29479-1A

4 Refnet pipe systems

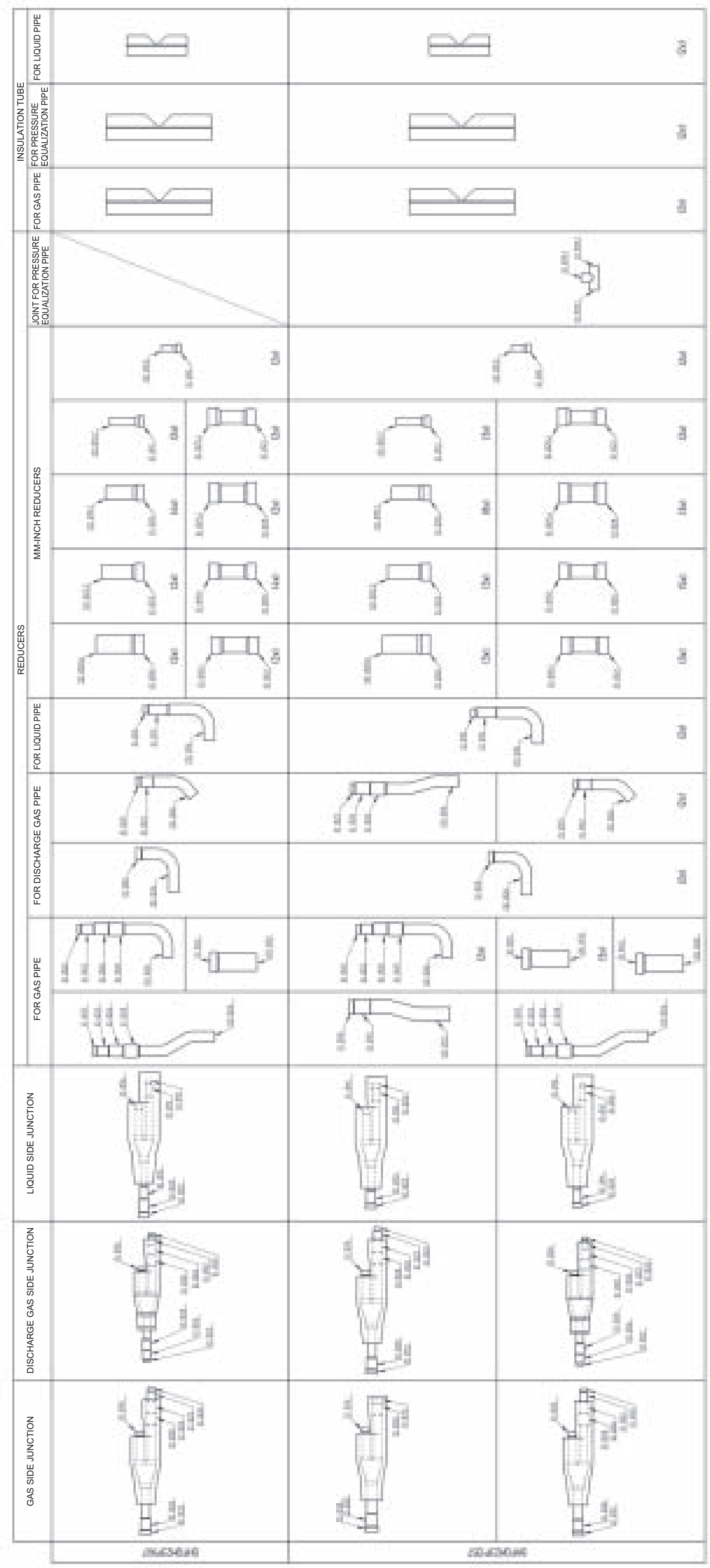


4 Refnet pipe systems



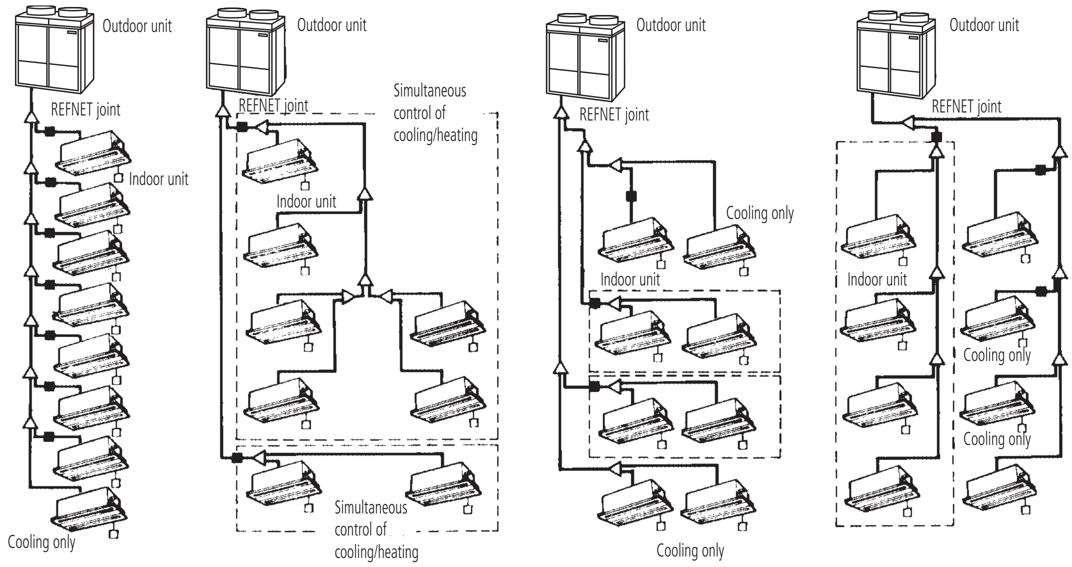
2TW29679-1

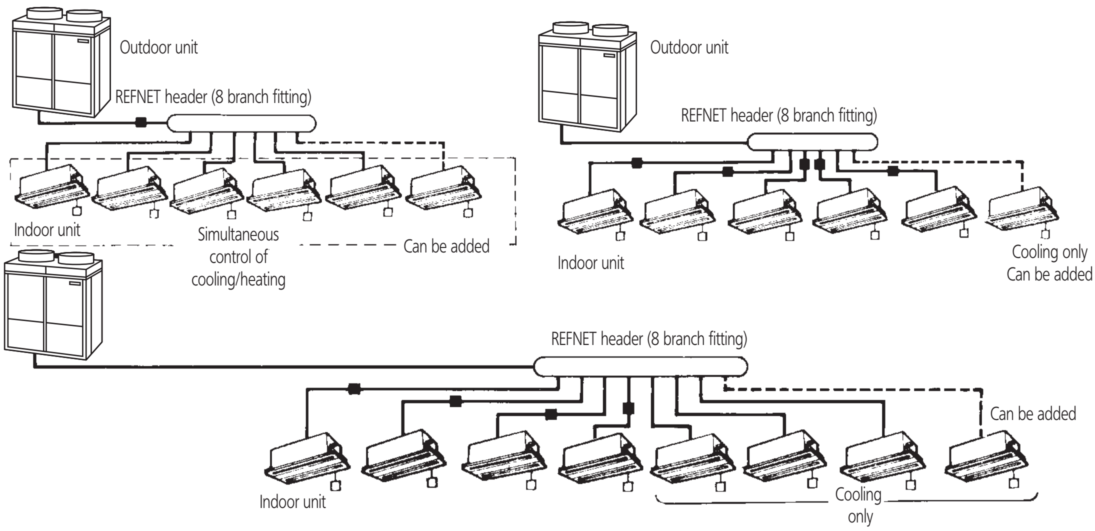
4 Refnet pipe systems

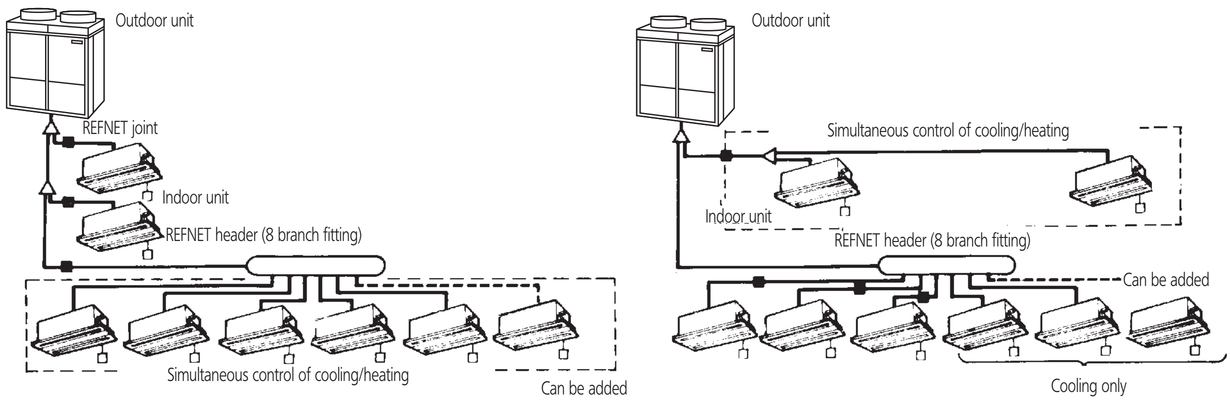


1TW29119-2

5 Example of Refnet piping layouts

<table>
<tr><th>Type of fitting</th><th>Sample systems</th></tr>
<tr><td>Distribution by REFNET joints</td><td>


</td></tr>
<tr><td>Distribution by REFNET header</td><td>


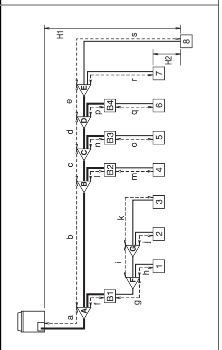
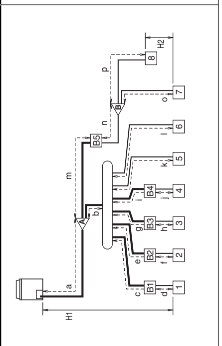
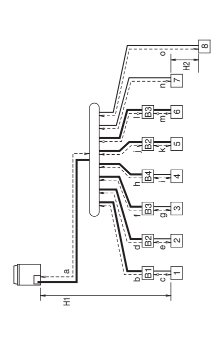
</td></tr>
<tr><td>Distribution by REFNET joints and headers</td><td>


</td></tr>
</table>

6 Refrigerant pipe selection

6 - 1 VRV®III heat recovery small footprint combination

REYQ8,12P9, REYQ10,14,16P8

Example of connection (Connection of 8 indoor units)			**Branch with refnet joint**	**Branch with refnet joint and refnet header**	**Branch with refnet header**
Outdoor unit side (3 pipes): Suction gas pipe, High pressure/low pressure gas pipe, Liquid pipe — BS unit — Indoor unit side (2 pipes): Gas pipe, Liquid pipe		Single outdoor unit system (REYQ8~16)			
			1 indoor unit; A refnet joint	refnet header	Outdoor unit side (3 pipes) (thick line); Indoor unit side (2 pipes) (thin line)
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+s ≤ 165 m	[Example] unit 6: a+b+l ≤ 165 m, unit 8: a+m+n+p ≤ 165 m	[Example] unit 8: a+o ≤ 165 m
		Equivalent length	Equivalent pipe length between outdoor and indoor units ≤ 190 m (Assume equivalent pipe length of the refnet joint to be 0.5 m, of the refnet header to be 1.0 m, of the BSVQ100 and BSVQ160 to be 4 m and of the BSVQ250 to be 6 m (for calculation purposes)) (See note 1 on next page)		
		Total extension length	Total piping length from outdoor to all indoor units ≤ 1000 m		
Allowable height difference	Between outdoor and indoor units		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 between adjacent indoor units (H2) ≤ 15 m		
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either refnet jointline branch pipe or refnet headerheader branch pipe) to indoor unit ≤ 40 m (See note 2 on next page)		
			[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 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 (example: refnet jointline branch pipe A).

Outdoor unit capacity type (Hp)	Refrigerant branch kit name
8+10	KHRQ23M29T9
12~16	KHRQ23M64T

For refnet joints other than the first branch, select the proper branch kit model based on the total capacity index of all indoor units connected after the refrigerant branch.

Indoor capacity type	Refrigerant branch kit name	
	3 pipes	2 pipes
<200	KHRQ23M20T	KHRQ22M20T
200≤x<290	KHRQ23M29T9	KHRQ22M29T
290≤x<640	KHRQ23M64T	KHRQ22M64T
≥640	KHRQ23M75T	KHRQ22M75T

How to select the refnet header
Choose from the following table in accordance with the total capacity of all the indoor units connecte header.
Note: 250 type indoor unit can not be connected lower than the refnet header.

Indoor capacity type	Refrigerant branch kit name	
	3 pipes	2 pipes
<200	KHRQ23M29H	KHRQ22M29H
200≤x<290	KHRQ23M29H	KHRQ22M29H
290≤x<640	KHRQ23M64H	KHRQ22M64H
≥640	KHRQ23M75H	KHRQ22M75H

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

4PW48462-1

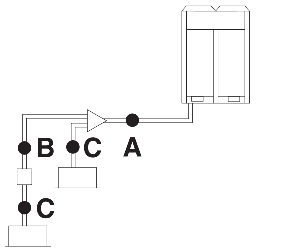
6 Refrigerant pipe selection

6 - 1 VRV®III heat recovery small footprint combination

REYQ8,12P9, REYQ10,14,16P8

Pipe size selection

For an outdoor unit multi installation (REYQ18~48 + REYHQ16~24), select the pipe size in accordance with the following figure.



A. 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 capacity type (Hp)	Piping outer diameter size (mm)		
	Suction gas pipe	HP/LP gas pipe	Liquid pipe
8	19.1	15.9	9.5
10	22.2	19.1	9.5
12	28.6	19.1	12.7
14 + 16	28.6	22.2	12.7

C. Piping between outdoor unit multi connection piping kit or BS unit and indoor unit

Choose from the following table in accordance with the capacity type of the connected outdoor unit.

Outdoor unit capacity type (Hp)	Piping outer diameter size (mm)	
	Suction gas pipe	HP/LP gas pipe
20, 25, 32, 40, 50	12.7	6.4
63, 80, 100, 125	15.9	9.5
200	19.1	9.5
250	22.2	9.5

B. Piping between refrigerant branch kit and BSHR unit

Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit. Choose from the following table in accordane with the indoor unit total capacity type, connected downstream.

Indoor unit capacity type	Piping outer diameter size (mm)		
	Suction gas pipe	HP/LP gas pipe	Liquid pipe
< 150			
$150 \leq x < 200$	19.1	15.9	9.5
$200 \leq x < 290$	22.2	19.1	9.5
$290 \leq x < 420$	28.6	19.1	12.7
$420 \leq x < 640$	28.6	28.6	15.9
$640 \leq x < 920$	34.9	28.6	19.1
≥ 920	41.3	28.6	19.1

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 100 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 100 kg refrigerant charge.
For factory charge, refer to the unit name plate.

$$R = \begin{bmatrix} [(X_1 \times \mathbf{Ø22.2}) \times 0.37] + [(X_2 \times \mathbf{Ø19.1}) \times 0.26] + [(X_3 \times \mathbf{Ø15.9}) \times 0.18] + \\ [(X_4 \times \mathbf{Ø12.7}) \times 0.12] + [(X_5 \times \mathbf{Ø9.5}) \times 0.059] + [(X_6 \times \mathbf{Ø6.4}) \times 0.022] \end{bmatrix} \times 1.02 + 3.6 + \mathbf{A}$$

$X_{1...6}$ = Total length (m) of liquid piping size at **Øa**

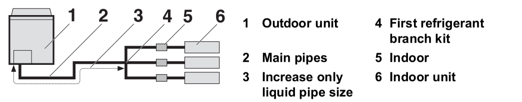
A = Weight according to table A in function of indoor unit connection ratio

	A
≥ 100% ≤ 130%	**0.5** kg

Note 1

When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main liquid pipe must be increased. Never increase suction gas pipe and HP/LP gas pipe sizes. Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main liquid pipe.

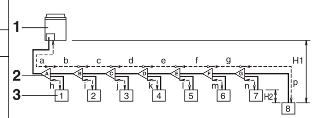
REYQ	Ø
8+10	9.5 → 12.7
12~16	12.7 → 15.9



1 Outdoor unit
2 Main pipes
3 Increase only liquid pipe size
4 First refrigerant branch kit
5 Indoor
6 Indoor unit

Note 2

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 of the liquid and suction gas pipe if the pipe length between the first and the final branch kit is over 410 m (reducers must be procured on site). Increasing the HP/LP gas pipe size is not allowed. • If the increased liquid pipe size is larger than the pipe size of the main liquid pipe, then the pipe size of the main liquid pipe needs to be increased as well. • If the increased suction gas pipe size is larger then the pipe size of the main suction gas pipe, then the allowable length after the first refrigerant branch kit may not be increased to 90 m. Size-up of the main suction gas pipe may affect a good oil return to the outdoor unit due to influence of the HP/LP gas pipe.	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 Ø9.5 → Ø12.7 Ø12.7 → Ø15.9 Ø15.9 → Ø19.1 Ø19.1 → Ø22.2
For calculation of total extension length, the actual length of above pipes must be doubled (except length of main pipes and of pipes which do not have an increased 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	 **1** Outdoor unit **2** Refnet joints (a~g) **3** Indoor units (1~8)
Indoor unit to the nearest branch kit ≤ 40m	h, i, j....... p≤40 m	
The diffecrence between the distance of the outdoor unit to the farhest indoor unit and the distance of the outdoor unit to the nearest indoor unit ≤ 40m	The farthest indoor unit **8** The nearest indoor unit **1** (a+b+c+d+e+f+g+p)– (a+h)≤40 m	

4PW48461-1

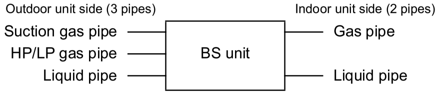
6 Refrigerant pipe selection

6 - 2 VRV®III heat recovery small fooprint combination/high COP combination

REYQ18-48P8/9
REYHQ-P

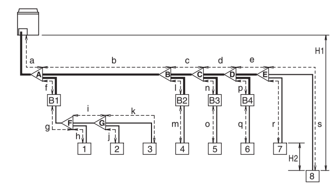
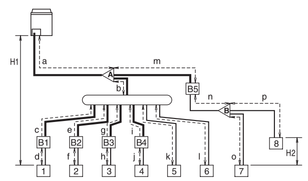
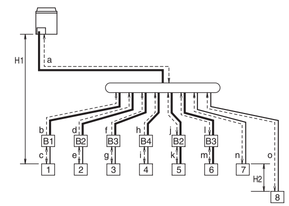
Example of connection
(Connection of 8 indoor units)

Use the outdoor unit multi connection piping kit that is sold separately as an option (BHFQ23P907+1357) for the multi installation of outdoor units. Selection method is as shown in the right table.



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".
(*) In case of multi combination, interprete the word "outdoor" as "first outdoor branch".

Outdoor units installed in a multiple outdoor unit system (REYQ18~48 + REYHQ16 + REYHQ20~24)

Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
		

1 indoor unit
A refnet joint
refnet header
◄ outdoor multi connection piping kit
Outdoor unit side (3 pipes)
Indoor unit side (2 pipes)

			Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
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+s ⩽ 165 m	[Example] unit 6: a+b+l ⩽ 165 m, unit 8: a+m+n+p ⩽ 165 m	[Example] unit 8: a+o ⩽ 165 m
		Equivalent length	Equivalent pipe length between outdoor(*) and indoor units ⩽ 190 m (Assume equivalent pipe length of the refnet joint to be 0.5 m, of the refnet header to be 1.0 m, of the BSVQ100 and BSVQ160 to be 4 m and of the BSVQ250 to be 6 m (for calculation purposes)) (See note 1)		
		Total extension length	Total piping length from outdoor(*) to all indoor units ⩽ 1000 m		
	Between the first outdoor unit multi connection piping kit and outdoor unit (in case of a multiple outdoor unit system)	Actual and equivalent pipe length	The actual pipe length from the first outdoor unit multi connection piping kit to the outdoor unit 10 m. (x⩽10 m, y⩽10 m, z⩽10 m) The equivalent pipe length from the first outdoor unit multi connection piping kit to the outdoor unit 13 m. (x⩽13 m, y⩽13 m, z⩽13 m)		
Allowable height difference	Between outdoor and indoor units		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 between adjacent indoor units (H2)⩽15 m		
	Between outdoor and outdoor units		Difference in height between adjacent outdoor units (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 2)		
			[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

Outdoor unit multi connection piping kit and 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 (example: refnet joint A).

Outdoor unit capacity type (Hp)	Refrigerant branch kit name
8+10	KHRQ23M29T
12~22	KHRQ23M64T
⩾ 24	KHRQ23M75T

For refnet joints other than the first branch, select the proper branch kit model based on the total capacity index of all indoor units connected after the refrigerant branch.

Indoor capacity type	Refrigerant branch kit name	
	3 pipes	2 pipes
< 200	KHRQ23M20T	KHRQ22M20T
200 ⩽ x < 290	KHRQ23M29T9	KHRQ22M29T
290 ⩽ x < 640	KHRQ23M64T	KHRQ22M64T
⩾ 640	KHRQ23M75T	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 indoor unit can not be connected lower than the refnet headerheader branch pipe.

Indoor capacity type	Refrigerant branch kit name	
	3 pipes	2 pipes
< 200	KHRQ23M29H	KHRQ22M29H
200 ⩽ x < 290	KHRQ23M29H	KHRQ22M29H
290 ⩽ x < 640	KHRQ23M64H	KHRQ22M64H
⩾640	KHRQ23M75H	KHRQ22M75H

How to choose an outdoor multi connection piping kit (this is required when the system is a multiple outdoor unit system)

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

Number of outdoor units	Branch kit name
2	BHFQ23P907
3	BHFQ23P1357

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

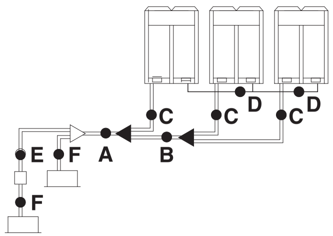
4PW48463-1

6 Refrigerant pipe selection

6 - 2 VRV®III heat recovery small fooprint combination/high COP combination

REYQ18-48P8/9
REYHQ-P

Pipe size selection
For an outdoor unit multi installation (REYQ18~48 + REYHQ16~24), select the pipe size in accordance with the following figure.



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

Outdoor unit capacity type (Hp)	Piping outer diameter size (mm) Suction gas pipe	HP/LP gas pipe	Liquid pipe
8	19.1	15.9	9.5
10	22.2	19.1	9.5
12	28.6	19.1	12.7
14 + 16	28.6	22.2	12.7
18	28.6	22.2	15.9
20 + 22	28.6	28.6	15.9
24	34.9	28.6	15.9
26 ~ 34	34.9	28.6	19.1
36	41.3	28.6	19.1
38 ~48	43.3	34.9	19.1

C. Piping between outdoor unit multi connection piping kit and outdoor unit
Choose from the following table in accordance with the capacity type of the connected outdoor unit.

Outdoor unit capacity type (Hp)	Piping outer diameter size (mm) Suction gas pipe	HP/LP gas pipe	Liquid pipe
8 + 10	22.2	19.1	9.5
12	28.6	19.1	12.7
14 + 16	28.6	22.2	12.7

E. Piping between refrigerant branch kit and BSHR unit
Pipe seize for direct connection to indoor unit must be the same as the connection size of indoor unit. Choose from the following table in accordane with the indoor unit total capacity type, connected downstream.

	Piping outer diameter size (mm)		
< 150			
150 ≤ x < 200	19.1	15.9	9.5
200 ≤ x < 290	22.2	19.1	9.5
290 ≤ x < 420	28.6	19.1	12.7
420 ≤ x < 640	28.6	28.6	15.9
640 ≤ x < 920	34.9	28.6	19.1
≥ 920	41.3	28.6	19.1

F. Piping between refrigerant branch kit or BSHR unit and indoor unit
Choose from the following table in accordance with the capacity type of the connected indoor unit.

Indoor unit capacity type	Piping outer diameter size (mm) Suction gas pipe	HP/LP gas pipe
20, 25, 32, 40, 50	12.7	6.4
63, 80, 100, 125	15.9	9.5
200	19.1	9.5
250	22.2	9.5

D. Equalizer piping (outdoor units only)

Piping outer diameter size (mm)	19.1

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 100 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 100 kg refrigerant charge. For factory charge, refer to the unit name plate.

$$R = \left[(X_1 \times \mathbf{Ø22.2}) \times 0.37] + [(X_2 \times \mathbf{Ø19.1}) \times 0.26] + [(X_3 \times \mathbf{Ø15.9}) \times 0.18] + [(X_4 \times \mathbf{Ø12.7}) \times 0.12] + [(X_5 \times \mathbf{Ø9.5}) \times 0.059] + [(X_6 \times \mathbf{Ø6.4}) \times 0.022] \right] \times 1.02 + \mathbf{A} + \mathbf{B}$$

$X_{1...6}$ = Total length (m) of liquid piping size **Øa**
A = Weight according to table A
B = Weight according to table B in function of indoor unit connecction ratio

REYQA	A
18 + 20 Hp	1.0 kg
22 + 24 Hp	1.5 kg
26 Hp2.0 Kg	2.0 kg
28 + 30 Hp	2.5 kg
32 ~ 40 Hp	3.0 kg
42 Hp3.5 Kg	3.5 kg
44 + 46 Hp	4.0 kg
48 Hp4.5 Kg	4.5 kg
REYHQA	**A**
16 Hp	1.0 kg
20 Hp	1.5 kg
22+24 Hp	2.0 kg

REY(H)Q		B
16~32 Hp	> 100% ≤ 130%	0.5 kg
34~48 Hp	> 100% ≤ 120%	0.5 kg
	> 120% ≤ 130%	1.0 kg

Example for refrigerant branch using refnet jointline branch pipe and fernet headerheader branch pipe for REYQ34, REYQ34 = REMQ8 + REMQ10 + REMQ16, the indoor unit connection ratio = 120% and the piping lengths are as below.

a: Ø19.1x30 m	f: Ø9.5x10 m	k: Ø9.5x20 m	p: Ø6.4x10 m
b: Ø19.1x20 m	g: Ø9.5x10 m	l: Ø9.5x20 m	r: Ø12.7x3 m
c: Ø9.5x10 m	h: Ø9.5x10 m	m: Ø9.5x20 m	s: Ø9.5x3 m
d: Ø9.5x10 m	i: Ø9.5x10 m	n: Ø9.5x10 m	t: Ø9.5x3 m
e: Ø9.5x10 m	j: Ø9.5x10 m	o: Ø6.4x10 m	u: Ø15.9x1 m

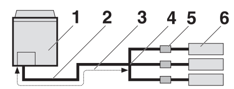
R= [[50x0.26]+[1x0.18]+[3x0.12]+[156x0.059]+[20x0.022]]x1.02+3.0+0.5
= 27.148 → R=27.1 kg

Note 1

When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main liquid pipe must be increased. Never increase suction gas pipe and HP/LP gas pipe sizes. Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main liquid pipe.

REY(H)Q	Ø	REY(H)Q	Ø
8+10	9.5 → 12.7	18~2	15. → 19.1
12~1	12. → 15.9	26~4	19. → 22.2

XPQ	Ø	XPQ	Ø
8+10	9.5 → 12.7	18~2	15. → 19.1
12~1	12. → 15.9	26~4	19. → 22.2

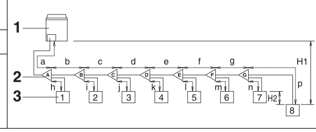


1 Outdoor unit
2 Main pipes
3 Increase only liquid pipe size
4 First refrigerant branch kit
5 Indoor
6 Indoor unit

Note 2

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 of the liquid and suction gas pipe if the pipe length between the first and the final branch kit is over 410 m (reducers must be procured on site). Increasing the HP/LP gas pipe size is not allowed. • If the increased liquid pipe size is larger than the pipe size of the main liquid pipe, then the pipe size of the main liquid pipe needs to be increased as well. • If the increased suction gas pipe size is larger then the pipe size of the main suction gas pipe, then the allowable length after the first refrigerant branch kit may not be increased to 90 m. Size-up of the main suction gas pipe may affect a good oil return to the outdoor unit due to influence of the HP/LP gas pipe.	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 Ø9.5 → Ø12.7 Ø12.7 → Ø15.9 Ø19.1 → Ø22.2
For calculation of total extension length, the actual length of above pipes must be doubled (except length of main pipes and of pipes which do not have an increased 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 ≤ 40m	h, i, j....... p≤40 m	
The diffecrence between the distance of the outdoor unit to the farhest indoor unit and the distance of the outdoor unit to the nearest indoor unit ≤ 40m	The farthest indoor unit **8** The nearest indoor unit **1** (a+b+c+d+e+f+g+p)–(a+h)≤40 m	



1 Outdoor unit
2 Refnet joints (a~g)
3 Indoor units (1~8)

4PW48461-1

6 Refrigerant pipe selection

6 - 3 VRV®III heat pump small footprint combination / high COP combination

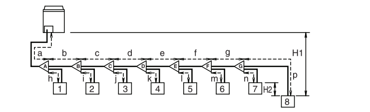
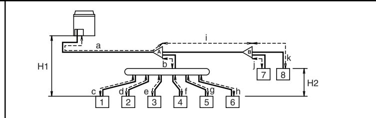
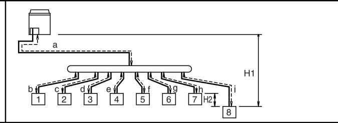
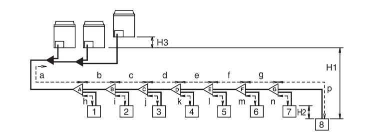
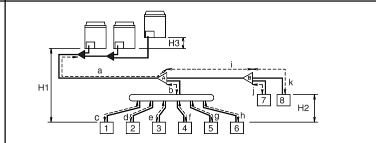
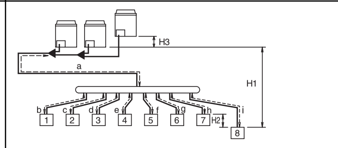
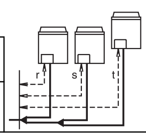
RXQ-P(A)
RXYQ-P(8)
RXYHQ-P8

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) that are sold separately as an option of the M-type series and do not use T-joints.

- 1 indoor unit
- A 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 RXY(H)Q20 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 + RXYHQ12)			
		Outdoor units installed in a multiple outdoor unit system (RXYQ20~54+ RXYHQ16~36)			
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⩽165 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 headerheader branch pipe 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 RXY(H)Q20 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 jointline branch pipe or refnet headerheader branch pipe) 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+h4⩽0 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	KHRQ22M20TCZ-P20BK12Q
RX(Y)Q8+10	KHRQ22M29T9CZ-P29BK12QA
RX(Y)Q12~18U RXYQ20+22 RXYHQ12 + RXYHQ16~22	KHRQ22M64TCZ-P64BK12Q
RXYQ24~54 RXYHQ24~36	KHRQ22M75TCZ-P75BK12Q

- For refnet jointsline branch pipes 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	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	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 RXY(H)Q20 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	Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
	[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

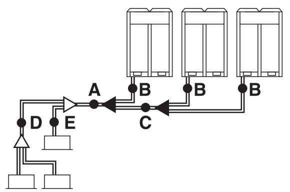
4PW48461-1

6 Refrigerant pipe selection

6 - 3 VRV®III heat pump small footprint combination / high COP combination

RXYQ-P(A)
RXYQ-P(8)
RXYHQ-P8

Pipe size selection
For an outdoor unit multi installation (RXYQ20~54P + RXYHQ16~36), 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 + RXYHQ12+16	Ø28.6	Ø12.7
RX(Y)Q18 + RXYQ20+22 + RXYHQ18~22		Ø15.9
RXY(H)Q24	Ø34.9	
RXY(H)Q26~34		Ø19.1
RXYQ36~54 + RXYHQ36	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	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	

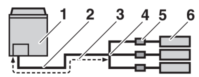
When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main pipes (both gas side and liquid side) must be increased.
Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main pipes.

	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 + RXYHQ12	Ø28.6 —
RX(Y)Q16 + 18 + RXYQ20+22 + RXYHQ16~22	Ø28.6 → Ø31.8[a]
RXYQ24 + RXYHQ24	Ø34.9 —
RXYQ26~34 + RXYHQ26~34	Ø34.9 → Ø38.1[a]
RXYQ36~54 + RXYHQ36	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 + RXYHQ12+16	Ø12.7 → Ø15.9
RX(Y)Q18 + RXYQ20~24 + RXYHQ18~24	Ø15.9 → Ø19.1
RXYQ26~54 + RXYHQ26~36	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 100 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 100 kg refrigerant charge.
For factory charge, refer to the unit name plate.

R = [(X_1 x **Ø22.2**) x0.37] + [(X_2 x **Ø19.1**) x0.26] + [(X_3 x **Ø15.9**) x0.18] + [(X_4 x **Ø12.7**) x0.12] + [(X_5 x **Ø9.5**) x0.059] + [(X_6 x **Ø6.4**) x0.022] **+ A**

$X_{1...6}$ = Total length (m) of liquid piping size at **Øa**
A = Weight according to table

		A
1x	5~12	0 kg
	14~18	1 kg
2x	2 x (8~12)	0 kg
	(8~12) + (14~18)	1 kg
	(14~18) + (14~18)	2 kg
3x	3 x (8~12)	0 kg
	[2 x (8~12)] + (14~18)	1 kg
	(8~12) + [2 x (14~18)]	2 kg
	3 x (14~18)	3 kg

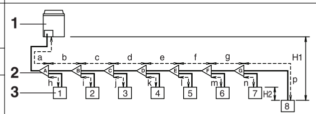
Example for refrigerant branch using refnet joint and refnet header for RXYQ34P ((1x 16) + (1x 18))
If the outdoor unit is RXYQ34P and the piping lengths are as below

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]**+2** = 16.238
⇒ **R = 16.2 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 of the liquid and the gas pipe if the pipe length between the first and the final branch kit is over 40 m (reducers must be procured on site). If the increased pipe size is larger than the pipe size of the main pipe, then the pipe size of the main pipe needs to be increased as well.	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 Ø9.5 → Ø12.7 Ø15.9 → Ø19.1 Ø22.2 → Ø25.4* Ø12.7 → Ø15.9 Ø19.1 → Ø22.2 Ø28.6 → Ø31.8* 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	 **1** Outdoor unit **2** Refnet joints (a~g) **3** Indoor units (1~8)
Indoor unit to the nearest branch kit ≤40 m	h, i, j....... p≤40 m	
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.

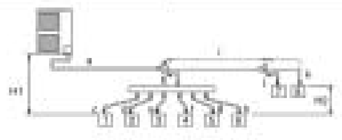
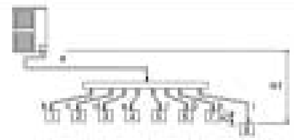
4PW48461-1

6 Refrigerant pipe selection

6 - 4 VRV®III-S

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

- indoor unit
- refnet joint
- refnet header

	Branch with refnet joint	Branch with refnet joint and refnet header	Branch with 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.

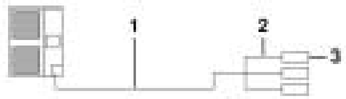
Use the following refnet joint

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] + [89 x 0.022] = 5.46 → 5.5 kg

4PW35338-1

6 Refrigerant pipe selection

6 - 5 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 25.4	1/2H	0.88
Ø 28.6	1/2H	0.99
Ø 31.8	1/2H	1.10
Ø 34.9	1/2H	1.21
Ø 38.1	1/2H	1.32
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.

In all of us,
a green heart

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intension to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

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.

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 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.

The present publication is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V.. Daikin Europe N.V. has compiled the content of this publication to the best of its knowledge. No express or implied warranty is given for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this publication. All content is copyrighted by Daikin Europe N.V..

DAIKIN EUROPE N.V.

Naamloze Vennootschap
Zandvoordestraat 300
B-8400 Oostende, Belgium
www.daikin.eu
BTW: BE 0412 120 336
RPR Oostende

Prepared in Belgium by Lannoo (www.lannooprint.be), a company whose concern for the environment is set in the EMAS and ISO 14001 systems.
Responsible Editor: Daikin Europe N.V., Zandvoordestraat 300, B- 8400 Oostende