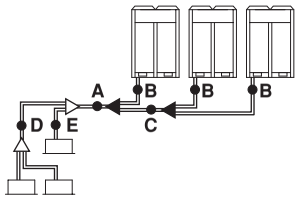
Pipe size selection
For an outdoor unit multi installation (RXYQ20~54P + RXYHQ16~36), select the pipe size in accordance with the following figure.



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.

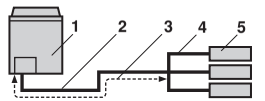
	Gas side
RX(Y)Q5	Ø15.9 → Ø19.1
RX(Y)Q8	Ø19.1 → Ø22.2
RX(Y)Q10	Ø22.2 → Ø25.4(a)
RX(Y)Q12+14 + RXYHQ12	Ø28.6 —
RX(Y)Q16+18 + RXYQ20+22 + RXYHQ16~22	Ø28.6 → Ø31.8(a)
RXYQ24 + RXYHQ24	Ø34.9 —
RXYQ26~34 + RXYHQ26~34	Ø34.9 → Ø38.1(a)
RXYQ36~54 + RXYHQ36	Ø41.3 —

— 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.

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

$X_{1...6}$ = 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	2x (8~12)	**0** kg
	(8~12) + (14~18)	**1** kg
	(14~18) + (14~18)	**2** kg
3x	3x (8~12)	**0** kg
	[2x (8~12)] + (14~18)	**1** kg
	(8~12) + [2x (14~18)]	**2** kg
	3x (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**