

Header Branch (ARBL054/ARBL057/ARBL104/ARBL107/ARBL1010/ARBL2010)

Installation Manual

Caution
If branch pipe and field pipe sizing was an insufficient connection and selection, Never operate the rated capacity of air Conditioner.
Be sure to observe the installation manual attached to the optional branch pipe and the installation manual of outdoor unit .

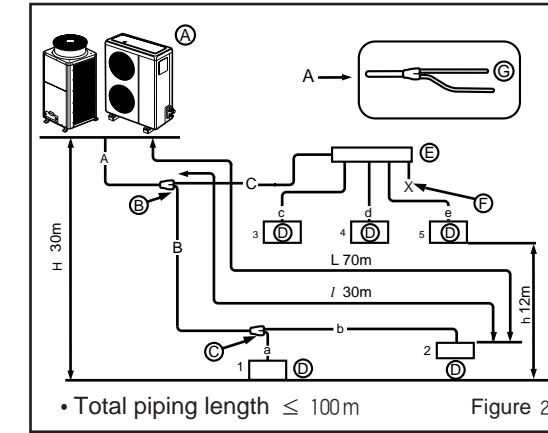
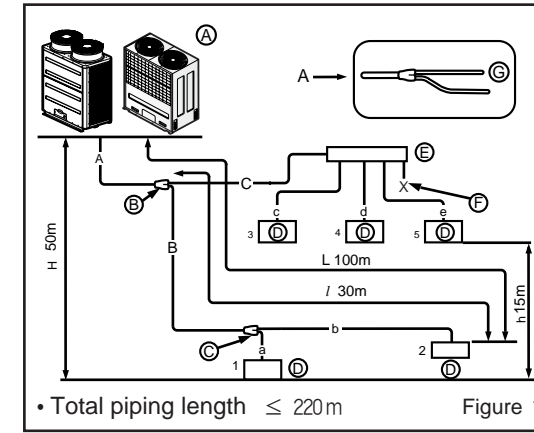
1. Parts of Model

► Be sure to include shown below supplied parts

(Unit : mm)

ARBL054	Gas Side Header		Liquid Side Header		Instaltn Manual
	Insulation For Header 1 each for gas/liquid sides				
ARBL104	Gas Side Header		Liquid Side Header		3/4 branches
	Insulation For Header 1 each for gas/liquid sides				
ARBL057	Gas Side Header		Liquid Side Header		5/6/7 branches
	Insulation For Header 1 each for gas/liquid sides	Plugging Tubes ø 6.35 : 2 each ø 12.7 : 2 each	Insulaion For Enclosed Piping 4 PCS		
ARBL107	Gas Side Header		Liquid Side Header		5/6/7 branches
	Insulation For Header 1 each for gas/liquid sides	Plugging Tubes ø 6.35 : 2 each ø 12.7 : 2 each ø 15.88 : 2 each	Insulaion For Enclosed Piping 6 PCS		
ARBL1010	Gas Side Header		Liquid Side Header		8/9/10 branches
	Insulation For Header 1 each for gas/liquid sides	Plugging Tubes ø 6.35 : 2 each ø 12.7 : 2 each ø 15.88 : 2 each	Insulaion For Enclosed Piping 6 PCS		
ARBL2010	Gas Side Header		Liquid Side Header		8/9/10 branches
	Insulation For Header 1 each for gas/liquid sides	Plugging Tubes ø 6.35 : 2 each ø 12.7 : 2 each ø 15.88 : 2 each	Insulaion For Enclosed Piping 6 PCS		

2. Restrictions of piping length and high/low difference

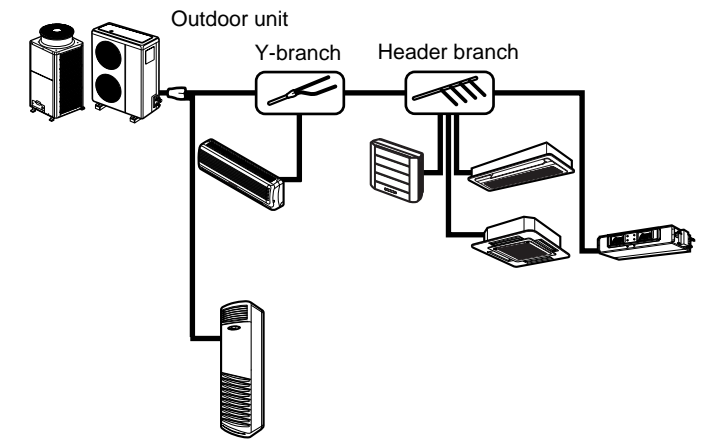
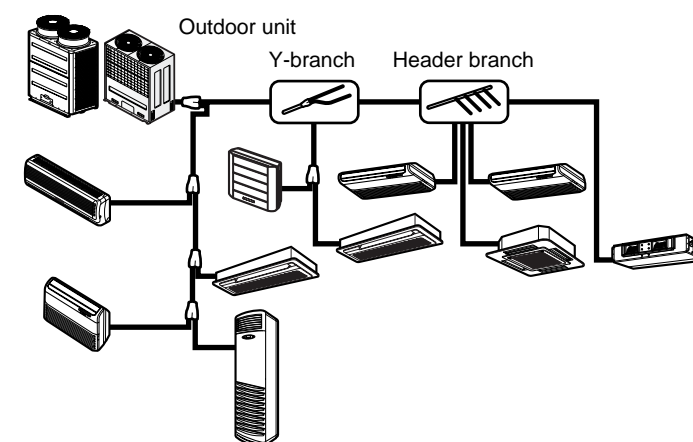


- Ⓐ Outdoor unit
- Ⓑ First branch
- Ⓒ Y-branch
- Ⓓ Indoor unit
- Ⓔ Header branch
- Ⓕ Plugging tube (sealing)
- Ⓖ To downward indoor unit

Item		Permissible values	
		Figure 1.	Figure 2.
Length	Farthest piping length	100m	70m
	Farthest piping length after first branch (ℓ)	30m	30m
High/Low difference	High/Low difference in indoor/outdoor section(H)	50m(40m)*	30m(20m)*
	High/Low difference in indoor/indoor section(h)	15m	12m

※ If the outdoor unit is lower than indoor unit, a parenthesized passage is permissible value.

3. Restrictions of connected indoor unit



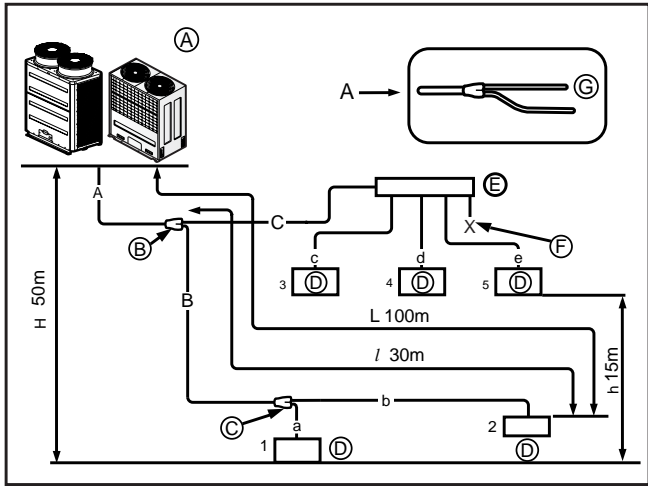
CAUTION
A Second branch cannot be made after a header branch

4. Selection of pipe diameter and header branch

Table 1. Refrigerant pipe diameter from branch to branch (Fig1.-A, B, C)

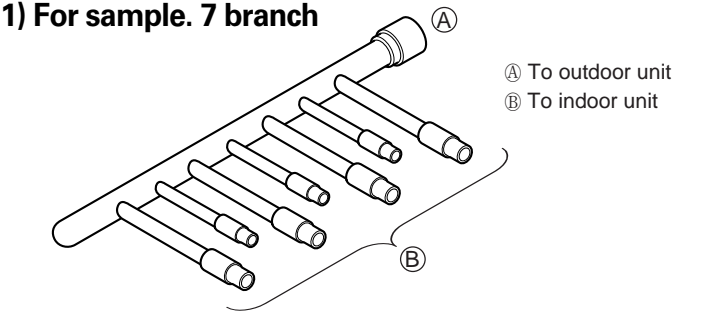
Downward Indoor unit total capacity [kW(Btu/h)]	Liquid pipe (mm)	Gas pipe (mm)
~8.3(28,300)	ø 9.52(3/8 inch)	ø 15.88(5/8 inch)
~17.8(60,700)	ø 12.7(1/2 inch)	ø 19.05(3/4 inch)
~27.9(95,200)	ø 12.7(1/2 inch)	ø 25.4(1 inch)
~42.4(144,700)	ø 12.7(1/2 inch)	ø 28.58(9/8 inch)
~58.5(199,600)	ø 15.88(5/8 inch)	ø 31.8(1 1/4 inch)
~75.4(257,300)	ø 19.05(3/4 inch)	ø 38.1(1 1/2 inch)

- ① Prepare the sealing tape to insulation and pipe to be connected
- ② Select piping size of each part that refer to the below figure
- ③ If the diameter of branch pipe is different from the size of field piping, match sizes that refer to right figure after cutting with a pipe cutter in the center of the connections.
- ④ For non-connected piping at the indoor unit side for refrigerant branching, install the supplied plugging tubes.
- ⑤ Refer to the outdoor unit and Y-branch installation manual by using the Y and header branch at the same time.



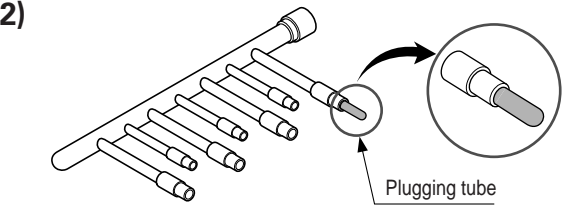
5. Installation of header branch

1) For sample. 7 branch



- The indoor unit having larger capacity must be installed closer to (A) than smaller one.

2)

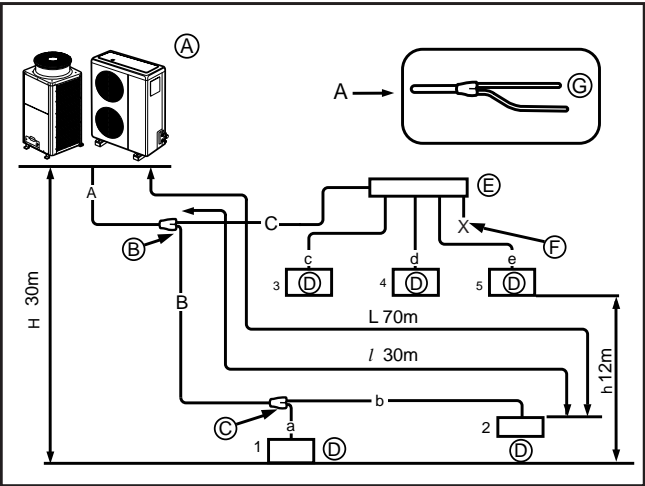
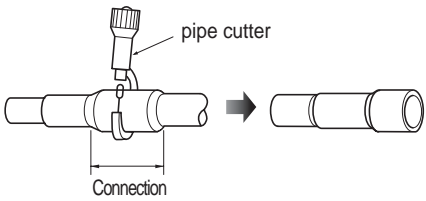


- For non-connected piping at the indoor unit side for refrigerant branching, install the supplied plugging tubes.

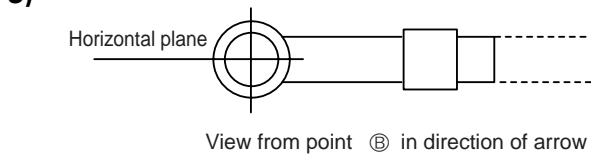
Table 2. Between branching and Indoor unit (Fig1.-a, b, c, d, e)

Indoor Unit capacity [kW(Btu/h)]	Liquid pipe [mm(inch)]	Gas pipe [mm(inch)]
~4.0(13,600)	ø 6.35(1/4 inch)	ø 12.7(1/2 inch)
~9.0(30,700)	ø 9.52(3/8 inch)	ø 15.88(5/8 inch)
~15.0(51,200)	ø 9.52(3/8 inch)	ø 19.05(3/4 inch)

※ Exception
Wide Art Cool 4.0 kW (13,600 Btu/h) : Liquid pipe ø 9.52 (3/8 inch)
Gas pipe ø 15.88 (5/8 inch)

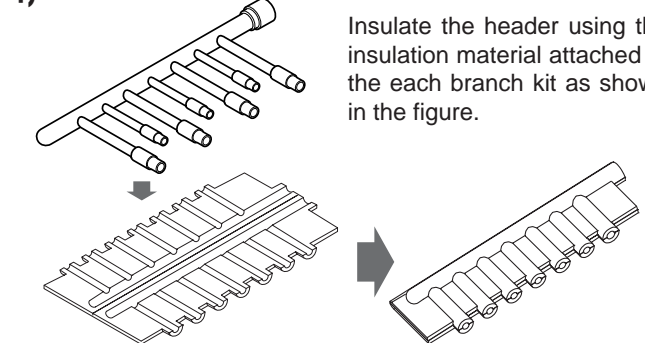


3)



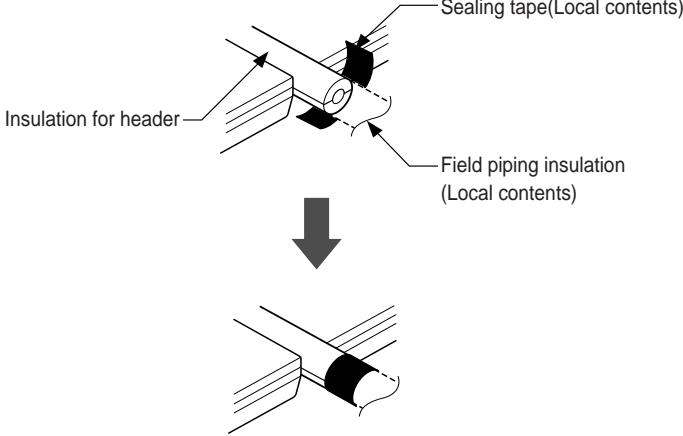
- Header branch pipe must install according to the above figure.

4)



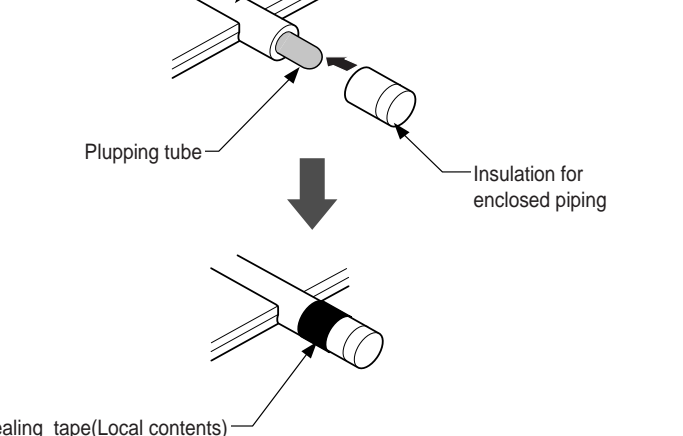
- Be sure to insulate the header branch with the supplied insulation.

5)



- Be sure to seal a branch and field piping insulation with the sealing tape of local contents.

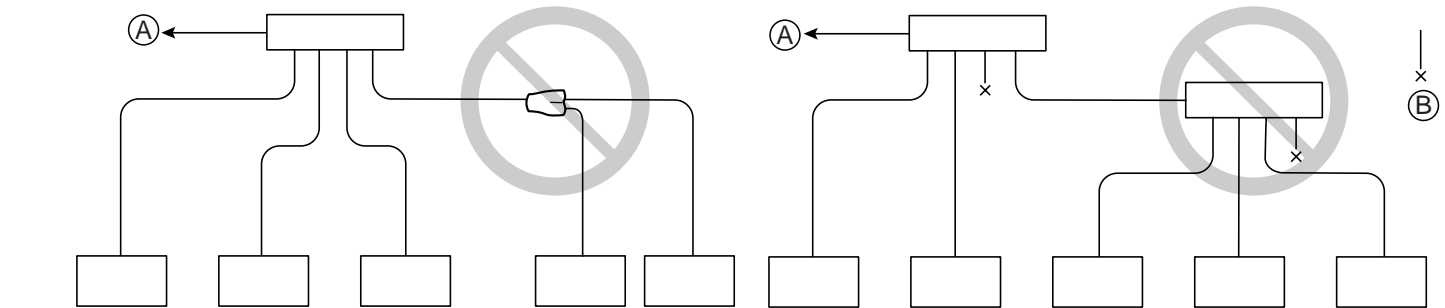
6)



- Be sure to seal a branch insulation and insulation for enclosed piping with the sealing tape of local contents .

6. Installation precaution

- ① For **MULTIV** installation, Be sure to use the supplied branch kit by LG. Otherwise LG is not responsible for all the insufficient installation.
- ② Commercially available piping often contain dust and other materials. Always blow it clean with a dry inert gas. Use care to prevent dust, water or other contaminants from entering the piping during installation .
- ③ Reduce the number of bending portions as much as possible, and make bending radius as big as possible.
- ④ Always observe the restrictions on the refrigerant piping. (such as rated length. The difference between high/low pressures, and piping diameter)
- ⑤ A second branch cannot made after a header branch.(There are shown by B)



- ⑥ Always use a non-oxidizing brazing material for brazing the parts. If a non-oxidizing brazing material is not used, It could cause clogging or damage to the compressor unit.