

For use with R410A-compatible units



CITY MULTI OPTIONAL PARTS



Caution
The incorrect selection of the type of branch pipe and the size of connecting pipe does not allow the air conditioner to provide the rated capacity. Please read this instruction manual carefully for correct mounting work.

2-BRANCH JOINT PIPE

(CMY-R201S-G, CMY-R202S-G, CMY-R203S-G, CMY-R204S-G, CMY-R205S-G)

INSTALLATION MANUAL

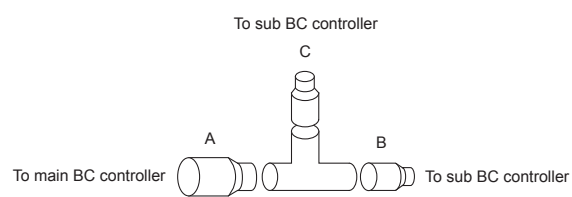
1 The following parts are contained in this box. Please identify the quantity with types.

Part name	1. INSTRUCTION	2. 2-BRANCH JOINT	3. 2-BRANCH JOINT	4. 2-BRANCH JOINT	5. 2-BRANCH JOINT	6. 2-BRANCH JOINT	7. COVER 1	8. COVER 2	9. COVER 3	10. PIPE 1	11. PIPE 2	12. PIPE 3	13. PIPE 4
Shape													
	This sheet 1 sheet	ID12.7-ID12.7-ID9.52	ID15.88-ID15.88-ID12.7	ID19.05-ID19.05-ID15.88	ID25.4-ID25.4-ID19.05	ID31.75-ID31.75-ID25.4				OD19.05-ID15.88	OD25.4-ID19.05	OD25.4-ID22.2	OD25.4-ID28.6
CMY-R201S-G	1	1 (For Liquid line)	-	1 (For High pressure)	1 (For Low pressure)	-	1 (For Liquid line)	2 (For High pressure, Low pressure)	-	2	2	2	2
CMY-R202S-G	1	-	1 (For Liquid line)	-	2 (For High pressure, Low pressure)	-	1 (For Liquid line)	2 (For High pressure, Low pressure)	-	1	2	3	2
CMY-R203S-G	1	-	1 (For Liquid line)	-	1 (For High pressure)	1 (For Low pressure)	1 (For Liquid line)	1 (For High pressure)	1 (For Low pressure)	1	2	2	3
CMY-R204S-G	1	-	-	1 (For Liquid line)	1 (For High pressure)	1 (For Low pressure)	1 (For Liquid line)	1 (For High pressure)	1 (For Low pressure)	2	2	2	3
CMY-R205S-G	1	-	-	-	1 (For Liquid line)	2 (For High pressure, Low pressure)	1 (For Liquid line)	2 (For High pressure, Low pressure)	-	1	4	3	2

Part name	14. PIPE 5	15. PIPE 6	16. PIPE 7	17. PIPE 8	18. PIPE 9	19. PIPE 10	20. PIPE 11	21. PIPE 12	22. PIPE 13	23. PIPE 14	24. PIPE 15
Shape											
	OD12.7-ID9.52	OD25.4-ID15.88	OD19.05-ID22.2	OD15.88-ID12.7	OD15.88-ID9.52	OD31.75-ID28.6	OD31.75-ID25.4	OD19.05-ID12.7	OD31.75-ID34.93	OD31.75-ID41.28	OD25.4-ID31.75
CMY-R201S-G	2	-	-	-	-	-	-	-	-	-	-
CMY-R202S-G	1	1	1	2	1	-	-	-	-	-	-
CMY-R203S-G	1	-	-	1	-	2	-	-	-	-	-
CMY-R204S-G	-	-	1	1	1	1	-	1	2	2	-
CMY-R205S-G	1	2	-	-	-	2	1	1	4	3	2

2 Please observe the items below for the mounting work.

- Observe the restrictions on refrigerant piping length in Table-1.
- Brace the pipes under nitrogen purge.
- The 2-branch joint is equipped with a stopper. Push in the pipes into the branch joint until they stop.
- Be careful that foreign materials like dust do not enter into the piping when connecting pipes.
- Apply insulation material to all refrigerant pipings.
- Restriction on installing the 2-Branch Joint Pipe CMY-R201/202/203/204/205S-G on the high-pressure piping, low-pressure piping, and liquid piping.



- Regarding the 2-Branch Joint Pipe on the high-pressure/low-pressure/liquid piping, A and B must be installed horizontally, and C must be installed upward higher than the horizontal plane of A and B.

Limitation on Refrigerant Piping Length

(In the case of PURY)

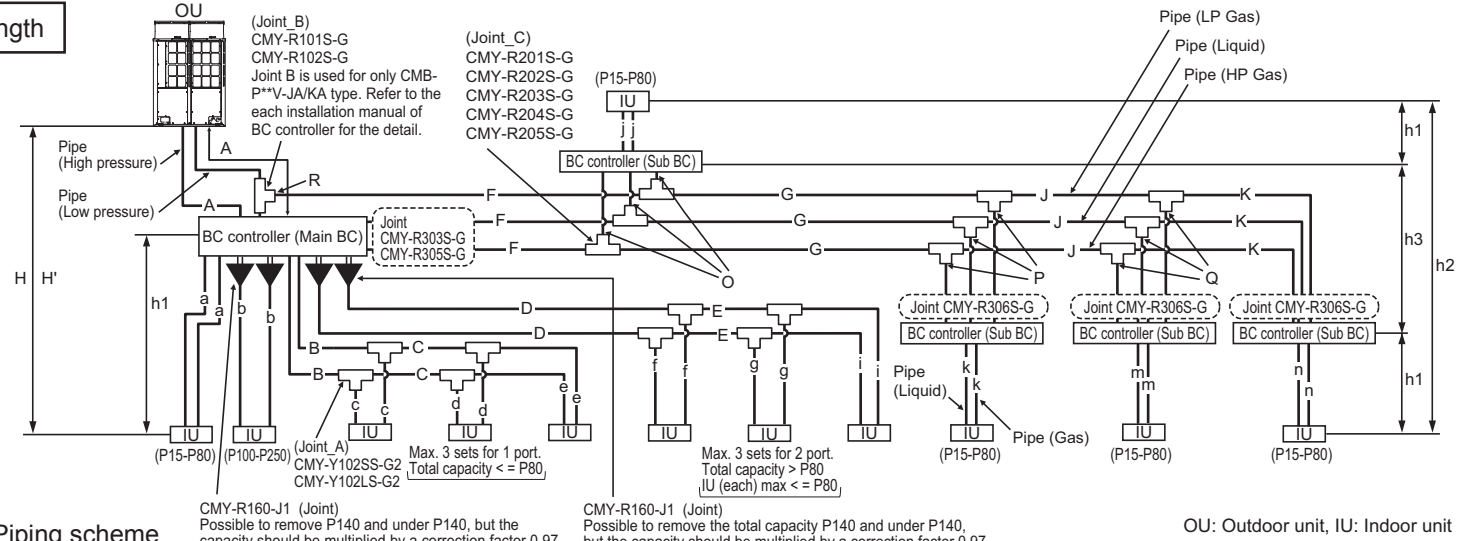


Fig. 1 Piping scheme

Refer to the installation manual of the BC controller for details about the maximum piping length.

Table-1

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length (Total length of high pressure and liquid pipes)	A+B+C+D+E+F+G+J+K+a+b+c+d+e+f+g+h+i+j+k+m+n	Refer to the DATA BOOK of outdoor unit.	-
Farthest IU from OU	A+F+G+J+K+n	165 [541']	190 [623']
Distance between OU and BC	A	110 [360']	110 [360']
Farthest IU from BC controller	D+E+H	60 [197']	60 [197']
Farthest IU from BC controller via Sub BC controller	F+G+J+K+n	90 [295']	90 [295']
Height between OU and IU (OU above IU)	H	50 [164']	-
Height between OU and IU (OU under IU)	H'	40 [131']	-
Height between IU and BC	h1	15 [49'] (10 [32'])	-
Height between IU and IU	h2	30 [98'] (20 [65'])	-
Height between BC (Main or Sub) and BC (Sub)	h3	15 [49'] (10 [32'])	-

3 Selection of refrigerant piping size and use of 2-branch joint

- Determine the piping sizes of each part from Table-2. Refer to the installation manual of outdoor unit or Databook for the piping size between the outdoor unit and the BC controller.
- Prepare the pipe to be connected in the field.
- Connect the piping so that the piping size selected in step 1 will fit. Conduct actual work by referring to Fig.2 and Table-3-6.
- When pipe is cut with a pipe cutter or the like, remove burr, dust and foreign materials inside the pipe, and connect the pipe.

Table-3. Between branching (Fig.1-F, G, J)

Pipe types	Down stream capacity		Non-US model									
	US model	US model	~200	201~300	301~350	351~400	401~600	601~650	651~800	801~1000	1001~	
CMY-R201S-G	High pressure pipe	Pipe 1	No need pipe	No need pipe	No need pipe	-	-	-	-	-	-	
	Low pressure pipe	Pipe 2	Pipe 3	Pipe 3	-	-	-	-	-	-	-	
	Liquid pipe	Pipe 5	Pipe 5	No need pipe	-	-	-	-	-	-	-	
CMY-R202S-G	High pressure pipe	-	-	-	Pipe 3	Pipe 3	-	-	-	-	-	
	Low pressure pipe	-	-	-	Pipe 4	Pipe 4	-	-	-	-	-	
	Liquid pipe	-	-	-	Pipe 8	No need pipe	-	-	-	-	-	
CMY-R203S-G	High pressure pipe	-	-	-	-	-	Pipe 4	-	-	-	-	
	Low pressure pipe	-	-	-	-	-	Pipe 10	-	-	-	-	
	Liquid pipe	-	-	-	-	-	No need pipe	-	-	-	-	
CMY-R204S-G	High pressure pipe	-	-	-	-	-	-	Pipe 4	Pipe 4	-	-	
	Low pressure pipe	-	-	-	-	-	-	Pipe 13	Pipe 14	-	-	
	Liquid pipe	-	-	-	-	-	-	No need pipe	No need pipe	-	-	
CMY-R205S-G	High pressure pipe	-	-	-	-	-	-	-	-	Pipe 13	-	
	Low pressure pipe	-	-	-	-	-	-	-	-	Pipe 14	-	
	Liquid pipe	-	-	-	-	-	-	-	-	-	Pipe 2	

Table-6

Pipe types	Dimension	A B C		
		A	B	C
CMY-R201S-G	High pressure pipe	ø19.05	ø19.05	ø15.88
	Low pressure pipe	ø25.4	ø25.4	ø19.05
	Liquid pipe	ø12.7	ø12.7	ø9.52
CMY-R202S-G	High pressure pipe	ø25.4	ø25.4	ø19.05
	Low pressure pipe	ø25.4	ø25.4	ø19.05
	Liquid pipe	ø15.88	ø15.88	ø12.7
CMY-R203S-G	High pressure pipe	ø25.4	ø25.4	ø19.05
	Low pressure pipe	ø31.5	ø31.5	ø25.4
	Liquid pipe	ø15.88	ø15.88	ø12.7
CMY-R204S-G	High pressure pipe	ø25.4	ø25.4	ø19.05
	Low pressure pipe	ø31.5	ø31.5	ø25.4
	Liquid pipe	ø19.05	ø19.05	ø15.88
CMY-R205S-G	High pressure pipe	ø31.5	ø31.5	ø25.4
	Low pressure pipe	ø31.5	ø31.5	ø25.4
	Liquid pipe	ø25.4	ø25.4	ø19.05

Table-2. Piping size between BC controller (Main or Sub) and BC controller (Sub) (Fig.1-F, G, J, K)

Total capacity of indoor units		High pressure pipe	Low pressure pipe	Liquid pipe
Non-US model	US model			
~200	~72	ø15.88	ø19.05	ø9.52
201~300	73~108	ø19.05	ø22.2	ø9.52
301~350	109~126	ø19.05	ø28.58	ø12.7
351~400	127~144	ø22.2	ø28.58	ø12.7
401~600	145~216	ø22.2	ø28.58	ø15.88
601~650	217~240	ø28.58	ø28.58	ø15.88
651~800	241~288	ø28.58	ø34.93	ø19.05
801~1000	289~360	ø28.58	ø41.28	ø19.05
1001~	361~	ø34.93	ø41.28	ø19.05

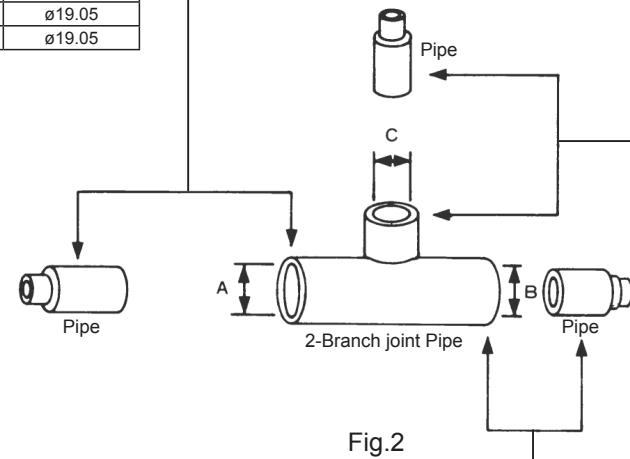


Table-5. Between branching (Fig.1-O, P, Q, R)

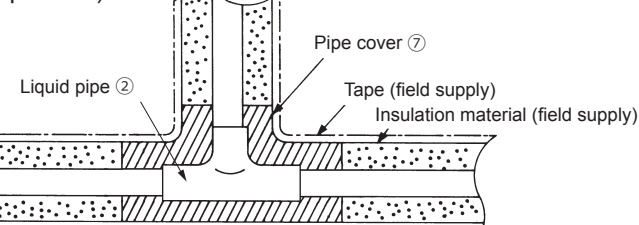
Pipe types	Down stream capacity		Non-US model									
	US model	US model	~200	201~300	301~350	351~400	401~600	601~650	651~800	801~1000	1001~	
CMY-R201S-G	High pressure pipe	-	No need pipe	-	-	-	-	-	-	-	-	
	Low pressure pipe	-	No need pipe	-	-	-	-	-	-	-	-	
	Liquid pipe	-	No need pipe	-	-	-	-	-	-	-	-	
CMY-R202S-G	High pressure pipe	Pipe 1	No need pipe	-	-	-	-	-	-	-	-	
	Low pressure pipe	No need pipe	Pipe 7	-	-	-	-	-	-	-	-	
	Liquid pipe	Pipe 5	Pipe 5	-	-	-	-	-	-	-	-	
CMY-R203S-G	High pressure pipe	Pipe 1	No need pipe	No need pipe	-	-	-	-	-	-	-	
	Low pressure pipe	Pipe 2	Pipe 3	Pipe 4	-	-	-	-	-	-	-	
	Liquid pipe	Pipe 5	Pipe 5	No need pipe	-	-	-	-	-	-	-	
CMY-R204S-G	High pressure pipe	Pipe 1	No need pipe	No need pipe	Pipe 7	Pipe 7	-	-	-	-	-	
	Low pressure pipe	Pipe 2	Pipe 3	Pipe 4	Pipe 4	Pipe 4	-	-	-	-	-	
	Liquid pipe	Pipe 9	Pipe 9	Pipe 8	Pipe 8	No need pipe	-	-	-	-	-	
CMY-R205S-G	High pressure pipe	Pipe 6	Pipe 2	Pipe 2	Pipe 3	Pipe 3	Pipe 4	Pipe 4	Pipe 4	Pipe 4	-	
	Low pressure pipe	Pipe 2	Pipe 3	Pipe 4	Pipe 4	Pipe 4	Pipe 4	Pipe 4	Pipe 13, 15	Pipe 14, 15	-	
	Liquid pipe	Pipe 5, 12	Pipe 5, 12	Pipe 12	Pipe 12	Pipe 1	Pipe 1	No need pipe	No need pipe	-	-	

Table-4. Between branching (Fig.1-G, J, K)

Pipe types	Down stream capacity		Non-US model									
	US model	US model	~200	201~300	301~350	351~400	401~600	601~650	651~800	801~1000	1001~	
CMY-R201S-G	High pressure pipe	Pipe 1	No need pipe	-	-	-	-	-	-	-	-	
	Low pressure pipe	Pipe 2	Pipe 3	Pipe 4	-	-	-	-	-	-	-	
	Liquid pipe	Pipe 5	Pipe 5	No need pipe	-	-	-	-	-	-	-	
CMY-R202S-G	High pressure pipe	Pipe 6	Pipe 2	Pipe 2	Pipe 3	Pipe 3	-	-	-	-	-	
	Low pressure pipe	Pipe 2	Pipe 3	Pipe 4	Pipe 4	Pipe 4	-	-	-	-	-	
	Liquid pipe	Pipe 9	Pipe 9	Pipe 8	Pipe 8	No need pipe	-	-	-	-	-	
CMY-R203S-G	High pressure pipe	-	-	-	Pipe 3	Pipe 3	-	-	-	-	-	
	Low pressure pipe	-	-	-	Pipe 10	Pipe 10	-	-	-	-	-	
	Liquid pipe	-	-	-	Pipe 8	Pipe 8	No need pipe	No need pipe	-	-	-	
CMY-R204S-G	High pressure pipe	-	-	-	Pipe 2	Pipe 3	Pipe 4	Pipe 4	Pipe 4	Pipe 4	-	
	Low pressure pipe	-	-	-	Pipe 10	Pipe 10	Pipe 10	Pipe 10	Pipe 13	Pipe 14	-	
	Liquid pipe	-	-	-	Pipe 12	Pipe 12	Pipe 1	Pipe 1	No need pipe	No need pipe	-	
CMY-R205S-G	High pressure pipe	-	-	-	-	Pipe 3, 11	Pipe 10	Pipe 10	Pipe 10	Pipe 10	Pipe 13	
	Low pressure pipe	-	-	-	-	Pipe 10	Pipe 10	Pipe 10	Pipe 13	Pipe 14	Pipe 14	
	Liquid pipe	-	-	-	-	Pipe 6	Pipe 6	Pipe 2	Pipe 2	Pipe 2	-	

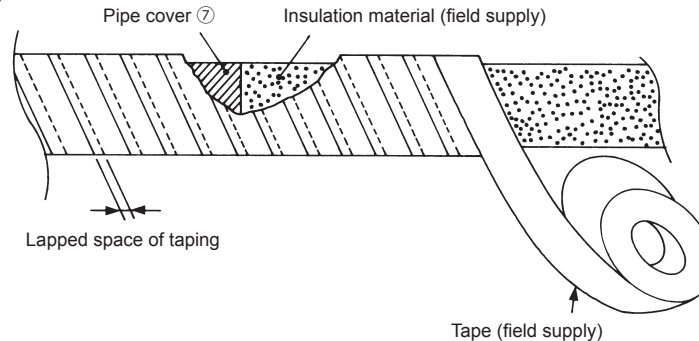
4 Installing the cover (insulation material)

Fig.3 (Example for liquid line)



- Install the pipe cover ⑦ along the liquid pipe ②.
- Seal the joint section of pipe cover ⑦ with insulated sealing tape (field supply). (Refer to Fig.3.)
- Apply the same procedures to the high pressure pipe and low pressure pipe also.

Fig.4



- Note1. Apply insulation to all refrigerant piping (field supply). When using a commercially available insulation material, make sure to use the heat-resistant insulation material (heat resistant 120°C minimum).
- Note2. The insulation cover shrinks slightly, so wrap the pipe cover ⑦ and the field-installed insulation material securely with tape by overlapping the tape as shown in Fig. 4.