



2-BRANCH JOINT PIPE

(CMY-Y102S-G2, CMY-Y102L-G2, CMY-Y202-G2, CMY-Y302-G2)

INSTALLATION MANUAL

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.

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

Part name	1. Instruction	2. 2-branch joint (small) For liquid line	3. 2-branch joint (large) For gas line	4. Cover 1 For liquid line	5. Cover 2 For gas line	6. Pipe 1	7. Pipe 2	8. Pipe 3	9. Pipe 4	10. Pipe 5	11. Pipe 6	12. Pipe 7	13. Pipe 8
Shape													
	This sheet 1 sheet					OD9.52-ID6.35	OD15.88-ID12.7	OD19.05-ID12.7	OD19.05-ID15.88	OD12.7-ID9.52	OD19.05-ID22.2	OD25.4-ID22.2	OD25.4-ID12.7
CMY-Y102S-G2	1	1	1	1	1	2	1	1	2	-	-	-	-
CMY-Y102L-G2	1	1	1	1	1	1	-	1	1	2	1	2	-
CMY-Y202-G2	1	1	1	1	1	-	1	1	1	1	1	1	-
CMY-Y302-G2	1	1	1	1	1	-	1	1	1	-	-	1	1

Part name	14. Pipe 9	15. Pipe 10	16. Pipe 11	17. Pipe 12	18. Pipe 13	19. Pipe 14	20. Pipe 17	21. Pipe 19	22. Pipe 20	23. Pipe 21
Shape										
	OD12.7-ID6.35	OD25.4-ID28.58	OD19.05-ID25.4	OD15.88-ID9.52	OD15.88-ID6.35	OD31.75-ID28.58	OD25.4-ID19.05	OD25.4-ID15.88	OD31.75-ID34.93	OD31.75-ID41.28
CMY-Y102S-G2	-	-	-	-	-	-	-	-	-	-
CMY-Y102L-G2	-	2	-	-	-	-	2	1	-	-
CMY-Y202-G2	1	3	1	1	-	-	-	-	-	-
CMY-Y302-G2	-	1	-	1	1	1	1	1	2	2

2 Please observe the items below for the mounting work.

- Observe the restrictions on refrigerant piping length in Table-1.
- Observe the restrictions regarding the connection of indoor units in Table-2.
- 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.
- When attaching the branch joint to the gas side of the CMY-Y202-G2, CMY-Y302-G2 make sure that it is either horizontal or vertical as shown in the illustrations below. There are no restrictions on the installation of other joints.

Limitation on Refrigerant Piping Length (In the case of PUHY)

Items	Pipe Section	Allowable Length
Total pipe length	A + B + C + D + a + b + c + d + e + f + g	300 m or less
Farthest pipe length (L)	A + B + D + g	150 m or less
	A + B + c	
Farthest pipe length after the first branch (ℓ)	C + D + g	40 m or less
	B + d	
Height difference between outdoor and indoor units	Outdoor unit above (H)	50 m or less
	Outdoor unit below (H')	40 m or less
Height difference between indoor units (h)	-	15 m or less

Fig.1

Limitation on indoor unit connection

<Example: PUHY>

Model Condition	Model 200	Model 250	Model 300	Model 350	Model 400	Model 450	Model 500	Model 550	Model 600	Model 650	Model 700	Model 750	Model 800
Connectable indoor unit	1~13	1~16	1~16	1~20	1~22	1~24	1~24	1~24	1~32	1~32	1~34	1~34	1~34
Connectable indoor unit Capacity	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250	Model 20~250
Total indoor unit capacity	100~260	125~325	150~390	175~455	200~520	225~585	250~650	275~715	300~780	325~845	350~910	375~910	400~1040

Example 1

Outdoor unit Total indoor unit capacity 25 + 32 × 2 + 40 + 50 + 63 = 242

Indoor unit Model 200 25, 32, 32, 40, 50, 63

Example 2

Outdoor unit Total capacity of indoor units 25 × 2 + 32 + 40 + 50 + 63 + 80 = 315

Indoor unit 25, 25, 32, 40, 50, 63, 80

Fig.2

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

- Prepare the pipe to be connected in the field.
- Determine the piping sizes of each part from Table-3, 4 and 5.
- The 2-branch joint can be connected to all piping sizes selected in the item 2. to match a specified piping size.
 - use the joint as standard. (no auxiliary pipe is necessary. Direct connection available)
 - use it by connecting the auxiliary pipe.
 Please conduct actual work by referring Fig.3, and Table-6~12.
- 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 Piping size between outdoor unit and 1st branching (Fig. 1-A)*

Outdoor unit model	Liquid pipe	Gas pipe
Model 200	ø9.52	ø19.05
Model 250	ø9.52 *1	ø22.2
Model 300	ø9.52 *2	ø22.2
Model 350	ø12.7	ø28.58
Model 400	ø12.7	ø28.58
Model 450	ø15.88	ø28.58
Model 500	ø15.88	ø28.58
Model 550	ø15.88	ø28.58
Model 600	ø15.88	ø28.58
Model 650	ø15.88	ø28.58
Model 700	ø19.05	ø34.93
Model 750	ø19.05	ø34.93
Model 800	ø19.05	ø34.93
Model 800 over	ø19.05	ø41.28

* As the values for some models differ from those in the above table, refer to the Installation Manual for the outdoor unit.
 *1 ø12.7 for over 90m
 *2 ø12.7 for over 40m

Table-4 Piping size between branching (Fig. 1-B-C-D)

Total capacity of indoor units	Liquid pipe	Gas pipe
~140	ø9.52	ø15.88
141~200	ø9.52	ø19.05
201~300	ø9.52	ø22.2
301~400	ø12.7	ø28.58
401~650	ø15.88	ø28.58
651~800	ø19.05	ø34.93
801~	ø19.05	ø41.28

Table-5 Piping size branching (Fig. 1-a-g)

Indoor unit model	Liquid pipe	Gas pipe
20, 25, 32, 40, 50	ø6.35	ø12.7
63, 71, 80, 100, 125, 140	ø9.52	ø15.88
200	ø9.52	ø19.05
250	ø9.52	ø22.2

Table-6 Between branching (Fig. 1-C)

Pipe types	Down stream capacity	~140	141~200	201~300	301~400	401~650	651~800	801~
CMY-Y102S-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	-	-	-	-
	Gas pipe	ø19.05	no need pipe	no need pipe	-	-	-	-
CMY-Y102L-G2	Liquid pipe	ø12.7	pipe 4	no need pipe	-	-	-	-
	Gas pipe	ø25.4	no need pipe	pipe 5	no need pipe	-	-	-
CMY-Y202-G2	Liquid pipe	ø15.88	-	-	pipe 10	-	-	-
	Gas pipe	ø25.4	-	-	-	no need pipe	pipe 10	-
CMY-Y302-G2	Liquid pipe	ø19.05	-	-	-	-	no need pipe	pipe 20
	Gas pipe	ø31.75	-	-	-	-	-	pipe 21

Fig.3

Table-7 Between outdoor unit and 1st branching (Fig. 1-A)

Pipe types	Outdoor unit	Model 200	Model 250,300	Model 350,400	Model 450~500	Model 550~650	Model 700~800	Model 800 over
CMY-Y102S-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	-	-	-	-
	Gas pipe	ø19.05	no need pipe	no need pipe	-	-	-	-
CMY-Y102L-G2	Liquid pipe	ø12.7	pipe 5 *1	no need pipe	-	-	-	-
	Gas pipe	ø25.4	pipe 7	pipe 10	-	-	-	-
CMY-Y202-G2	Liquid pipe	ø15.88	-	-	no need pipe	no need pipe	-	-
	Gas pipe	ø25.4	-	-	pipe 10	pipe 10	-	-
CMY-Y302-G2	Liquid pipe	ø19.05	-	-	-	-	no need pipe	pipe 20
	Gas pipe	ø31.75	-	-	-	-	-	pipe 21

*1 If the pipe is over 90m for Model 250, it is not necessary to change the pipe.
 *1 If the pipe is over 40m for Model 300, it is not necessary to change the pipe.

Table-8 Between branching (Fig. 1-C)

Pipe types	Down stream capacity	~140	141~200	201~300	301~400	401~650	651~800	801~
CMY-Y102S-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	-	-	-	-
	Gas pipe	ø15.88	no need pipe	no need pipe	-	-	-	-
CMY-Y102L-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	pipe 6	-	-	-
	Gas pipe	ø19.05	pipe 4	no need pipe	pipe 5	-	-	-
CMY-Y202-G2	Liquid pipe	ø12.7	pipe 5	pipe 5	pipe 5	no need pipe	-	-
	Gas pipe	ø19.05	pipe 4	no need pipe	pipe 6	pipe 11, 10	-	-
CMY-Y302-G2	Liquid pipe	ø15.88	pipe 12	pipe 12	pipe 2	no need pipe	-	-
	Gas pipe	ø25.4	pipe 19	pipe 17	pipe 7	pipe 10	pipe 10	-

Table-9 Between branching and indoor unit (Fig. 1-e-f)

Pipe types	Indoor unit	Model 20~50	Model 63~140	Model 200	Model 250
CMY-Y102S-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	-
	Gas pipe	ø15.88	pipe 2	no need pipe	-
CMY-Y102L-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	no need pipe
	Gas pipe	ø19.05	pipe 3	pipe 4	pipe 6
CMY-Y202-G2	Liquid pipe	ø12.7	pipe 9	pipe 5	pipe 5
	Gas pipe	ø19.05	pipe 3	pipe 4	pipe 6
CMY-Y302-G2	Liquid pipe	ø15.88	pipe 13	pipe 12	pipe 12
	Gas pipe	ø25.4	pipe 8	pipe 19	pipe 17

Table-10 Between branching (Fig. 1-D)

Pipe types	Down stream capacity	~140	141~200	201~300	301~400	401~650	651~800	801~
CMY-Y102S-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	-	-	-	-
	Gas pipe	ø19.05	pipe 4	no need pipe	-	-	-	-
CMY-Y102L-G2	Liquid pipe	ø12.7	pipe 5	pipe 5	no need pipe	-	-	-
	Gas pipe	ø25.4	pipe 19	pipe 17	pipe 10	-	-	-
CMY-Y202-G2	Liquid pipe	ø15.88	-	-	pipe 2	no need pipe	-	-
	Gas pipe	ø25.4	-	-	pipe 7	pipe 10	pipe 10	-
CMY-Y302-G2	Liquid pipe	ø19.05	-	-	pipe 3	pipe 4	no need pipe	no need pipe
	Gas pipe	ø31.75	-	-	-	pipe 14	pipe 20	pipe 21

Table-11 Between branching and indoor unit (Fig. 1-g)

Pipe types	Indoor unit	Model 20~50	Model 63~140	Model 200	Model 250
CMY-Y102S-G2	Liquid pipe	ø9.52	no need pipe	no need pipe	-
	Gas pipe	ø19.05	pipe 3	pipe 4	pipe 5
CMY-Y102L-G2	Liquid pipe	ø12.7	pipe 5	pipe 5	pipe 5
	Gas pipe	ø25.4	pipe 19	pipe 17	pipe 7
CMY-Y202-G2	Liquid pipe	ø15.88	-	-	pipe 12
	Gas pipe	ø25.4	-	-	pipe 7
CMY-Y302-G2	Liquid pipe	ø19.05	-	-	-
	Gas pipe	ø31.75	-	-	-

Note 1: The diameter of the pipes after the first branch does not need to be greater than that of the main pipe.

4 Installing the cover (insulation material)

Fig.4 (Example for liquid line)

- Install the pipe cover ④ along the liquid pipe ②.
- Seal the joint section of pipe cover ④ with insulated sealing tape (field supply). (Refer to Fig.4.)
- Apply the same procedures to the gas pipe ③ also.

Fig.5

- Note 1. 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).
- Note 2. The insulation cover shrinks slightly, so wrap the pipe cover ④ and the field-installed insulation material securely with tape by overlapping the tape as shown in Fig. 5.