For use with R410A-compatible units

MITSUBISHI ELECTRIC CITY MULTI OPTIONAL PARTS

HEADER FOR 4 BRANCHING (CMY-Y104-G)
HEADER FOR 8 BRANCHING (CMY-Y108-G)
HEADER FOR 10 BRANCHING (CMY-Y1010-G)

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.

Header for 4 branching (CMY-Y104-G)

① Instruction	② Header	③ Header	④ Pipe cover - 1	⑤ Pipe cover - 2	⑥ Band
This sheet 1 sheet	For liquid line 1 pc.	For gas line 1pc.	2 pcs.	2 pcs.	4 pcs.

Usable for 3/4 branching
(* For 2 branching, use the optional header for 2 branching.)

Header for 8 branching (CMY-Y108-G)

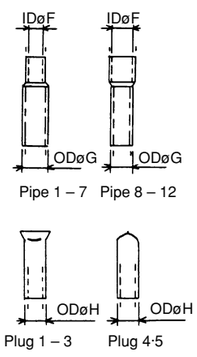
① Instruction	② Header	③ Header	④ Pipe cover - 1	⑤ Pipe cover - 2	⑥ Band	⑦ Sealing material
This sheet 1 sheet	For liquid line 1 pc.	For gas line 1pc.	Each 2 pcs.	4 pcs.	6 pcs.	Each 1 pc.

Usable for 5/6/7/8 branching

Header for 10 branching (CMY-Y1010-G)

① Instruction	② Header	③ Header	④ Pipe cover - 1	⑤ Pipe cover - 2	⑥ Band	⑦ Sealing material
This sheet 1 sheet	For liquid line 1 pc.	For gas line 1pc.	Each 2 pcs.	4 pcs.	6 pcs.	Each 1 pc.

Usable for 9/10 branching



Note: When the number of connecting pipes is less than the number of header branches, insert a plug of the appropriate size into each branch that does not have piping connected to it.

Table-1 Accesorry pipes

	Pipe Connection Specification		Quantity		
	F (Connecting Pipe Size)	G (Outer Diameter)	CMY-Y104-G	CMY-Y108-G	CMY-Y1010-G
Pipe 1	ø9.52	ø12.7	1	1	1
Pipe 2	ø15.88	ø19.05	1	1	2
Pipe 3	ø12.7	ø19.05	–	1	2
Pipe 4	ø6.35	ø9.52	3	6	5
Pipe 5	ø12.7	ø15.88	3	5	6
Pipe 6	ø19.05	ø25.4	–	1	1
Pipe 7	ø22.2	ø25.4	–	1	1
Pipe 8	ø28.58	ø25.4	–	1	1
Pipe 9	ø15.88	ø12.7	–	–	3
Pipe 10	ø9.52	ø6.35	–	–	5
Pipe 11	ø19.05	ø15.88	–	2	1
Pipe 12	ø22.2	ø19.05	–	1	1

Table-2 Accesorry plugs

	Pipe Connection Specification	Quantity		
	H (Connecting Pipe Size)	CMY-Y104-G	CMY-Y108-G	CMY-Y1010-G
Plug 1	ø6.35	1	2	2
Plug 2	ø9.52	1	2	2
Plug 3	ø12.7	1	2	2
Plug 4	ø15.88	1	2	2
Plug 5	ø19.05	–	1	1

Note 1) Please prepare the following materials in addition to the items above. (1) Tape for sealing of insulation material (2) Extension pipe for refrigerant circuit.

2 Please observe the items below for the mounting work.

1. Observe the limit on refrigerant piping length in Table-3.
2. Observe the limit on the connection of indoor units in Table-4.
3. Connect the header to piping or plug/pipe by brazing. Non-oxidized brazing should be applied.
4. The header is equipped with stopper. Push in the stopper until the pipe to be connected stops.
5. No limitation is applied to the mounting posture.
6. Be careful that foreign materials like dust will not enter into the piping at the connection work.
7. Apply insulation material to all refrigerant pipings.
8. The piping after the header branching can not be branched again.
   Be sure to connect it to the indoor unit.

Limitation on refrigerant piping length

Table-3

Item		Pipe section	Allowable value
Length	Total piping length	A + B + C + D + a + b + c + d + e + f + g	300 m or less
	Farthest piping length (L)	A + C + D + g or A + B + d	150 m or less
	Farthest piping length after 1st branching (ℓ)	C + D + g or B + d	40 m or less
Height difference	Height difference between indoor and outdoor units (H)	—	50 m or less
	Height difference between indoor units (h)	—	15 m or less

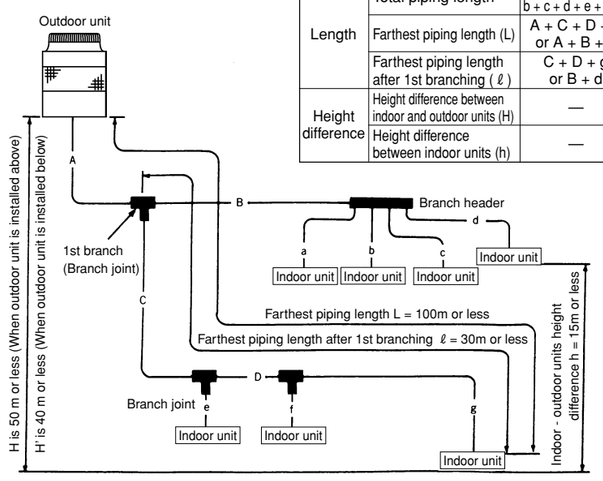


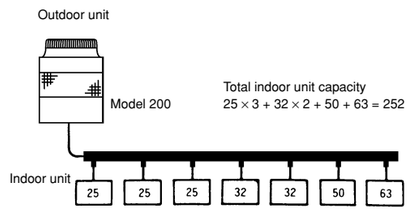
Fig. 1 Note : Branch piping can not be applied after header branching.

Limitation on indoor unit connection

Table-4

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



Example 2

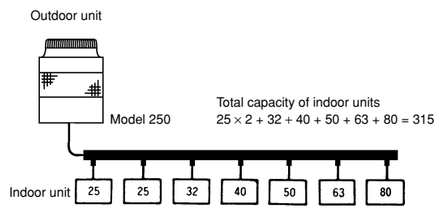


Fig. 2

3 Selection of refrigerant piping size and use of header

1. Prepare the pipe to be connected in the field.
2. Determine the piping sizes of each part from Table-5, 6 and 7.
3. The header can be connected to all piping sizes selected in the item
   2. To match a specified piping size.
   (1) use the joint as it is.
   (2) use it by connecting the auxiliary pipe.
   Please conduct actual work by referring Fig 3 and Table-5 ~ 12.
4. Cover the branch pipe end of the header, which are not in use, with the plugs 1 ~ 5 provided.

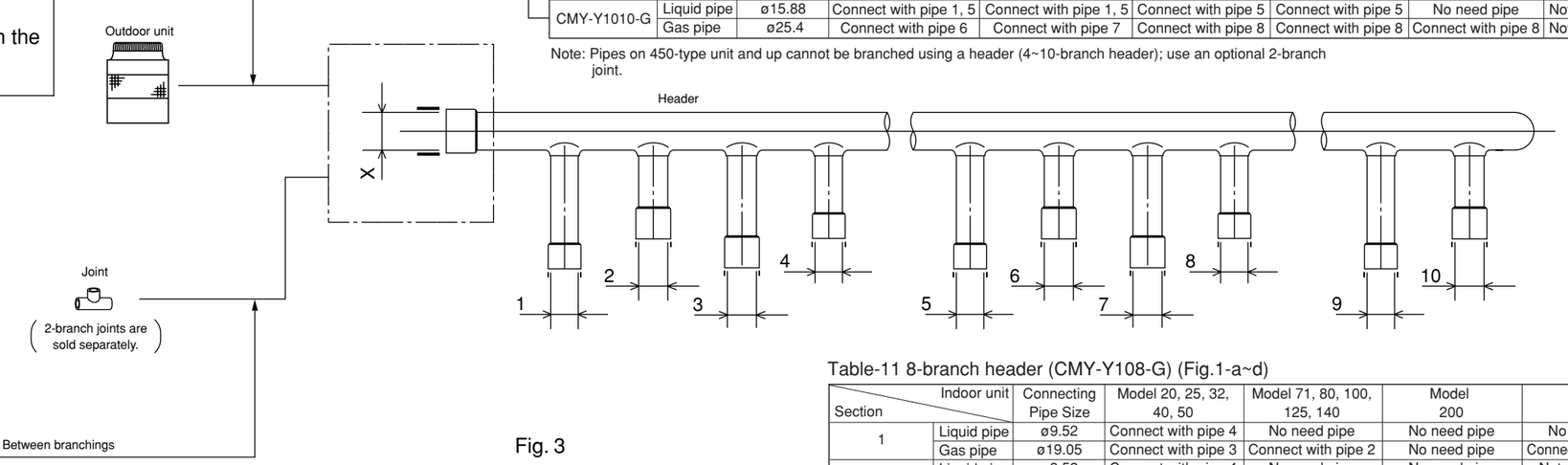


Fig. 3

Table-5 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

*1 ø12.7 for over 90m
*2 ø12.7 for over 40m

Table-6 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

Note: If Indoor unit capacity is 651 or more, it can't connect to Fig.1-B directly. Then use the 2-branch joints. (Fig.1-C·D)

Table-7 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

Note: If indoor unit model is 200 and 250, it can't use the CMY-Y104, Y108 and Y1010-G.
Then use the 2-branch joints.

Table-8 Between First branching and outdoor unit (Fig.1-A)

Pipe types \ Outdoor unit		Connecting Pipe Size (X)	Model 200	Model 250, 300	Model 350	Model 400	Model 450, 500, 550, 600, 650	Model 700, 750, 800
CMY-Y104-G	Liquid pipe	ø12.7	Connect with pipe 1	Not connectable	Not connectable	Not connectable	Not connectable	Not connectable
	Gas pipe	ø19.05	No need pipe	Not connectable	Not connectable	Not connectable	Not connectable	Not connectable
CMY-Y108-G	Liquid pipe	ø12.7	Connect with pipe 1	Connect with pipe 1	No need pipe	No need pipe	Not connectable	Not connectable
	Gas pipe	ø 25.4	Connect with pipe 6	Connect with pipe 7	Connect with pipe 8	Connect with pipe 8	Not connectable	Not connectable
CMY-Y1010-G	Liquid pipe	ø15.88	Connect with pipe 1, 5	Connect with pipe 1, 5	Connect with pipe 5	Connect with pipe 5	No need pipe	Not connectable
	Gas pipe	ø25.4	Connect with pipe 6	Connect with pipe 7	Connect with pipe 8	Connect with pipe 8	Connect with pipe 8	Not connectable

Note: Pipes on 450-type unit and up cannot be branched using a header (4~10-branch header); use an optional 2-branch joint.

Table-9 Between branching (Fig.1-B)

Pipe types \ Down stream capacity		Connecting Pipe Size (X)	Model 140	Model 141~200	Model 201~300	Model 301~400	Model 401~650	Model 651~800	Model 801 or more
CMY-Y104-G	Liquid pipe	ø12.7	Connect with pipe 1	Connect with pipe 1	Not connectable	Not connectable	Not connectable	Not connectable	Not connectable
	Gas pipe	ø19.05	Connect with pipe 2	No need pipe	Not connectable	Not connectable	Not connectable	Not connectable	Not connectable
CMY-Y108-G	Liquid pipe	ø12.7	Connect with pipe 1	Connect with pipe 1	Connect with pipe 1	No need pipe	Not connectable	Not connectable	Not connectable
	Gas pipe	ø 25.4	Connect with pipe 2, 6	Connect with pipe 6	Connect with pipe 7	No need pipe	Not connectable	Not connectable	Not connectable
CMY-Y1010-G	Liquid pipe	ø15.88	Not connectable	Connect with pipe 1, 5	Connect with pipe 1, 5	Connect with pipe 5	No need pipe	Not connectable	Not connectable
	Gas pipe	ø25.4	Not connectable	Connect with pipe 6	Connect with pipe 7	Connect with pipe 8	Connect with pipe 8	Not connectable	Not connectable

Table-10 4-branch header (CMY-Y104-G) (Fig.1-a~d)

Section \ Indoor unit		Connecting Pipe Size	Model 20, 25, 32, 40, 50	Model 71, 80, 100, 125, 400	Model 200	Model 250
1	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
2	Liquid pipe	ø6.35	No need pipe	Not connectable	Not connectable	Not connectable
	Gas pipe	ø12.7	No need pipe	Not connectable	Not connectable	Not connectable
3	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
4	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable

Table-11 8-branch header (CMY-Y108-G) (Fig.1-a~d)

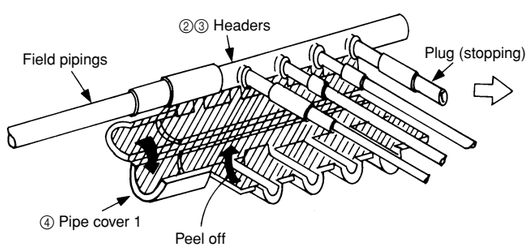
Section \ Indoor unit		Connecting Pipe Size	Model 20, 25, 32, 40, 50	Model 71, 80, 100, 125, 140	Model 200	Model 250
1	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	No need pipe	No need pipe
	Gas pipe	ø19.05	Connect with pipe 3	Connect with pipe 2	No need pipe	Connect with pipe 12
2	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	No need pipe	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Connect with pipe 11	Not connectable
3	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	No need pipe	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Connect with pipe 11	Not connectable
4	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
5	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
6	Liquid pipe	ø6.35	No need pipe	Not connectable	Not connectable	Not connectable
	Gas pipe	ø12.7	No need pipe	Not connectable	Not connectable	Not connectable
7	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
8	Liquid pipe	ø6.35	No need pipe	Not connectable	Not connectable	Not connectable
	Gas pipe	ø12.7	No need pipe	Not connectable	Not connectable	Not connectable

Table-12 10-branch header (CMY-Y1010-G) (Fig.1-a~d)

Section \ Indoor unit		Connecting Pipe Size	Model 20, 25, 32, 40, 50	Model 71, 80, 100, 125, 140	Model 200	Model 250
1	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	No need pipe	No need pipe
	Gas pipe	ø19.05	Connect with pipe 3	Connect with pipe 2	No need pipe	Connect with pipe 12
2	Liquid pipe	ø6.35	No need pipe	Connect with pipe 10	Connect with pipe 10	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Connect with pipe 11	Not connectable
3	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	No need pipe	Not connectable
	Gas pipe	ø19.05	Connect with pipe 3	Connect with pipe 2	No need pipe	Not connectable
4	Liquid pipe	ø6.35	No need pipe	Connect with pipe 10	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
5	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
6	Liquid pipe	ø6.35	No need pipe	Connect with pipe 10	Not connectable	Not connectable
	Gas pipe	ø12.7	No need pipe	Connect with pipe 9	Not connectable	Not connectable
7	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
8	Liquid pipe	ø6.35	No need pipe	Connect with pipe 10	Not connectable	Not connectable
	Gas pipe	ø12.7	No need pipe	Connect with pipe 9	Not connectable	Not connectable
9	Liquid pipe	ø9.52	Connect with pipe 4	No need pipe	Not connectable	Not connectable
	Gas pipe	ø15.88	Connect with pipe 5	No need pipe	Not connectable	Not connectable
10	Liquid pipe	ø6.35	No need pipe	Connect with pipe 10	Not connectable	Not connectable
	Gas pipe	ø12.7	No need pipe	Connect with pipe 9	Not connectable	Not connectable

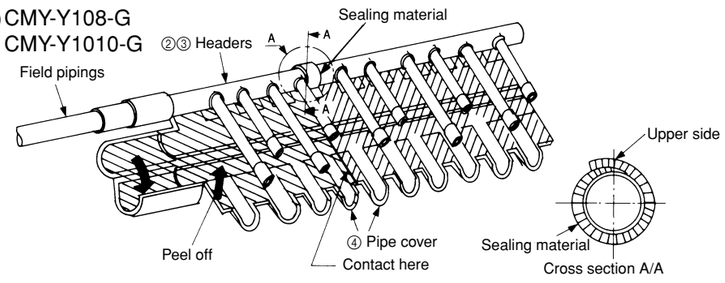
4 Mounting of cover (insulation material)

(i) CMY-Y104-G



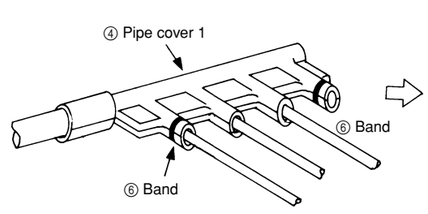
(1) Insert the ②③ headers into the pipe cover 1 (2 pcs.) respectively, peel off the paper pasted on the inner surface of the ④ pipe cover, and catch the ②③ headers with the ④ pipe cover 1.

(ii) CMY-Y108-G
CMY-Y1010-G

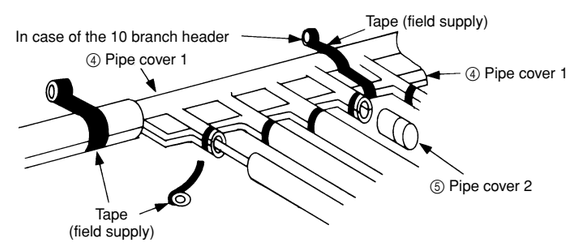


(1) Wind sealing material onto A-section of ②③ headers, [thin piping-small sealing material, thick piping-large sealing material], insert each header into ④ pipe cover 1, and put ②③ headers between ④ pipe cover 1.

Note) For a part where sealing material is overlapped, wind sealing material onto the header so that the overlapped part locates at the upper side when the 10 branch header is installed.



(2) Fasten both ends of the indoor side branching of the ④ pipe cover 1 with the ⑥ band as shown in the figure above. Cut off the surplus of the band.



(3) Mount the ⑤ pipe cover 2 onto the positions stopped with the plugs 1 ~ 5 provided.
Fully seal the butting section of the pipe cover with a tape (field supply). (Insufficient sealing causes condensation dripping.)