



# INSTALLATION MANUAL

## Outdoor unit multi connection piping kit

BHFQ23P907  
BHFQ23P1357

**!** IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO THE EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL. IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DAIKIN DEALER FOR ADVICE AND INFORMATION.

This kit includes the following parts

Table 1

Kit name	Suction gas joint	HP/LP gas joint	Liquid joint	Equalizer joint	Shape						Insulation		
					Suction gas reducer			HP/LP gas reducer		Liquid reducer	Gas <sup>(a)</sup>	Liquid	
BHFQ23P907				—	(1)	(2)	(3)	(1)	(2)	(1)			
	1x	1x	1x		1x	1x	1x	1x	1x	1x	2x	1x	
BHFQ23P1357	(1)	(1)	(1)		(1)	(2)	(3)	(1)	(2)	(1)			
	1x	1x	1x		2x	1x	1x	2x	2x	2x			
	(2)	(2)	(2)	1x	(4)	(5)		(3)				4x	2x
	1x	1x	1x	1x	1x	3x		1x		2x			

(a) For both suction gas pipes and HP/LP gas pipes

NOTE



- Do not throw away any of the accessories until installation is completed.
- Be sure to read this manual before installation and follow the instructions carefully when performing installation.
- For installation of the outdoor units, refer to the installation manual of the outdoor unit.
- The installation of refrigerant pipes between outdoor and indoor units needs to be arranged by refnet joints and refnet headers, and is to be purchased separately.
- For combination of outdoor units follow Engineering Data.

Field supply parts

Table 2

Parts	Quantity		Selection procedure
	907	1357	
Insulation for pipes	1 set		See "Pipe size selection and cutting position of the joint" on page 3 and on page 10.
Connection pipes			

Parts	Quantity			Selection procedure
	907	1357		
Joint (angle of 90°)	Suction gas pipes	1x	1x	The joint size must be the same as the gas pipe size of the outermost outdoor unit. Refer to "Pipe size selection and cutting position of the joint" on page 3 and page 10.
	HP/LP gas pipes	2x	2x	
	Equalizer pipes	4x	5x	
Tape	1 set			For insulation.

## Selection procedure

Table 3

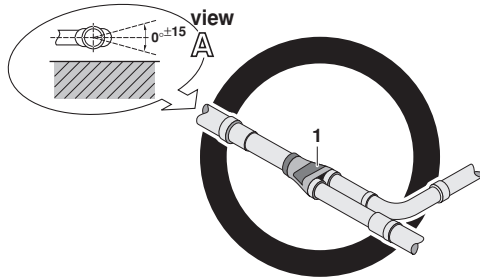
Number of outdoor units	Kit name
2 units	BHFQ23P907
3 units	BHFQ23P1357



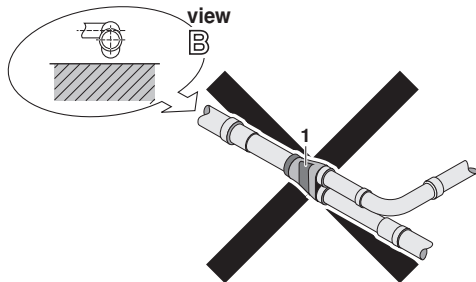
- The quantity and selection procedure for use of joints with an angle of 90° only apply to front connection installations.
- For lower front connection and bottom connection installations, the quantity and selection procedure are different. Please refer to the dedicated instructions.
- Joints for pipes with the same diameter are only needed for bottom connection installations. See dedicated instructions for quantities and specifications.

## RESTRICTIONS ON INSTALLING THE MULTI CONNECTION PIPING KIT

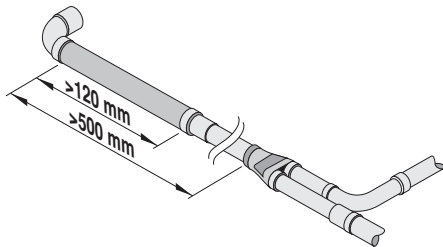
- Install the joints horizontally, so that the caution label (1) attached to the joint comes to the top. Do not tilt the joint more than  $\pm 15^\circ$  (see view A).



Do not install the joint vertically (see view B).



- Make sure that the total length of the piping connected to the joint is absolute straight for more than 500 mm. Only if a straight field piping of more than 120 mm is connected, more than 500 mm of straight section can be ensured.



- Improper installation may lead to malfunction of the outdoor unit.



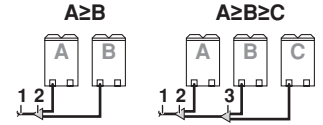
- When installing the multi outdoor system, connect the units as shown in the figure below. If installed in a different order, the outdoor unit multi connection piping kit may not fit properly and some additional field supplied pipe size reducers may be required.

Outdoor unit multi connection piping kit type:

BHFQ23P907

BHFQ23P1357

Unit capacity:



- 1 To indoor unit
- 2 Outdoor unit multi connection piping kit (first branch)
- 3 Outdoor unit multi connection piping kit (second branch)

- If the total capacity of the connected indoor units exceeds the total capacity of the outdoor units, cooling and heating performance may be reduced when running the indoor units. Refer to the capacity table in the Engineering Data Book for more details.



- Use piping with temper grade in function of the pipe diameter as listed in the table below.
- The pipe thickness of the refrigerant piping must comply with relevant local and national regulations. The minimum pipe thickness for R410A piping must be in accordance with the table below (for design pressure of 4.0 MPa (40 bar)).

Pipe Ø	Temper grade											
	O type						1/2H type					
6.4	9.5	12.7	15.9	19.1	22.2	25.4	28.6	31.8	34.9	38.1	41.3	
Minimum thickness t (mm)	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.10	1.21	1.32	1.43	

O = Annealed  
1/2H = Half hard

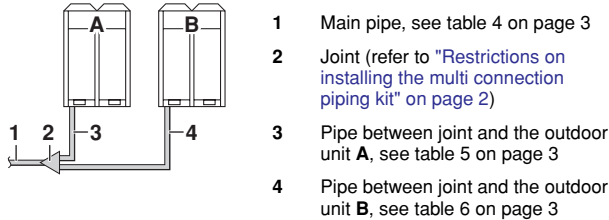
# FOR BHFQ23P907

# IN CASE OF FRONT PIPING

**!** Refer to the installation manual of the outdoor unit for selection and restrictions for the piping between outdoor branches. Not observing restrictions on the interconnecting piping may result in malfunctioning of the unit.

## Pipe size selection and cutting position of the joint

Select the correct pipe size according the tables below and cut the joints and reducers on the correct cutting point with a pipe cutter.



**Table 4**

■ Select the pipe size in function of the total capacity of the outdoor unit.

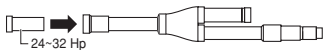
Total capacity of outdoor units	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
18 Hp	Ø28.6x1.0 (1/2H)	Ø22.2x1.0 (1/2H)	Ø15.9x1.0 (O)
20~22 Hp	Ø28.6x1.0 (1/2H)	Ø28.6x1.0 (1/2H)	Ø15.9x1.0 (O)
24 Hp	Ø34.9x1.21 (1/2H)	Ø28.6x1.0 (1/2H)	Ø15.9x1.0 (O)
26~32 Hp	Ø34.9x1.21 (1/2H)	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)

(a) OD x minimum wall thickness (temper grade type)

- When upsizing the main pipe, use gas reducer (3).
- When using pipes of Ø19.1 or larger, make sure to use pipes with 1/2H temper grade with a wall thickness of 1.0 mm. In case there is no alternative and you use the O temper grade for pipes with Ø19.1, a minimal wall thickness of 1.2 mm or more is required and connections need to be brazed.

## Upsizing main pipe

For units with total capacity of 24~32 Hp, the suction gas reducer (3) has to be used. Connect the reducer to the suction gas joint as shown in the figure below.



**Table 5**

Total capacity of outdoor units	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
18 Hp	Ø22.2x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø9.5x0.80 (O)
20~24 Hp	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø12.7x0.80 (O)
26~32 Hp	Ø28.6x1.0 (1/2H)	Ø22.2x1.0 (1/2H)	Ø12.7x0.80 (O)

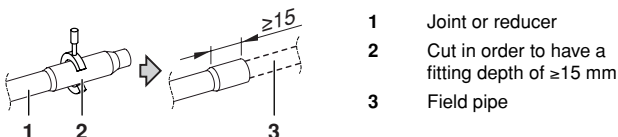
(a) OD x minimum wall thickness (temper grade type)

**Table 6**

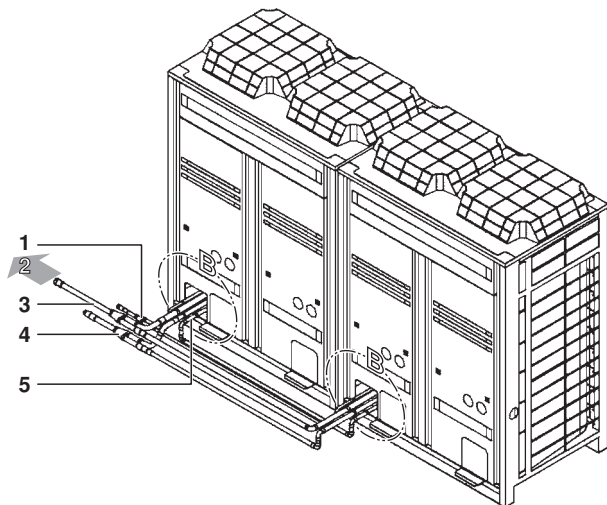
Total capacity of outdoor units	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
18 ~22 Hp	Ø22.2x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø9.5x0.80 (O)
24+28 Hp	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø12.7x0.80 (O)
26 Hp	Ø22.2x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø9.5x0.80 (O)
30+32 Hp	Ø28.6x1.0 (1/2H)	Ø22.2x1.0 (1/2H)	Ø12.7x0.80 (O)

(a) OD x minimum wall thickness (temper grade type)

- Cut the pipe with a pipe cutter.

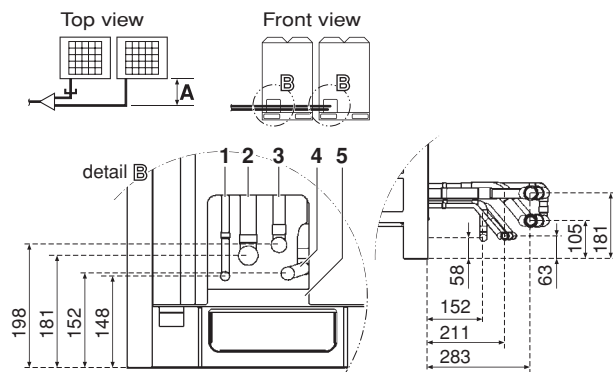


## 1. EXTERIOR



- 1 Liquid joint
- 2 To indoor unit
- 3 Suction gas joint
- 4 HP/LP gas joint
- 5 Equalizer pipe

## 2. DIMENSIONS FOR INSTALLATION



- A 300 mm (standard)
- 1 Liquid pipe
- 2 Suction gas pipe
- 3 HP/LP gas pipe
- 4 Equalizer pipe
- 5 Bottom frame

**NOTE** In case dimension A exceeds 300 mm, extend the field supplied interconnection piping between the joint and the outdoor unit.

### 3. INSTALLATION OF SUCTION GAS AND HP/LP GAS PIPES

#### Cutting the field supplied gas pipes

Use the following tables in case dimension A is 300 mm (refer to "Dimensions for installation" on page 3).

If dimension A exceeds 300 mm, extend the L dimension of the suction gas pipes 1 and 2 and HP/LP gas pipes accordingly.

##### ■ For suction gas pipes only

For L dimension of suction gas pipes 1 and 2, dimension B of the field supplied angled joint as in table 8 on page 4 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of suction gas pipes 1 and 2 accordingly.

Table 7

Outdoor unit	Pipe 1 L (mm)	Pipe 2 L (mm)
18 Hp	61	238
20+22 Hp	135	238
24 Hp	135	234
26 Hp	135	238
28~32 Hp	135	234

Table 8

Joint (angle of 90°) (field supply)	
Outdoor unit	B (mm)
18~22 Hp	23
24 Hp	29
26 Hp	23
28~32 Hp	29

##### ■ For HP/LP gas pipes only

For L dimension of HP/LP gas pipes 1, 2 and 3, dimension B of the field supplied angled joint as in table 10 on page 4 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of HP/LP gas pipes 1, 2 and 3 accordingly.

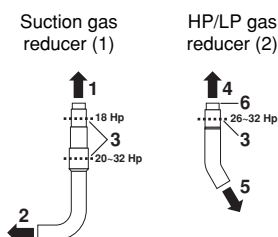
Table 9

Outdoor unit	Pipe 1 L (mm)	Pipe 2 L (mm)	Pipe 3 L (mm)
18~24 Hp	50	245	59
26+28 Hp	80	245	59
30+32 Hp	80	239	47

Table 10

Joint (angle of 90°) (field supply)	
Outdoor unit	B (mm)
18~28 Hp	17
30+32 Hp	23

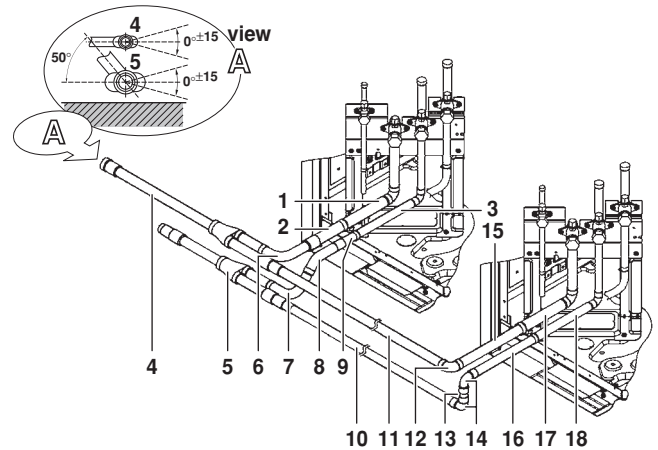
#### Cutting suction gas reducer (1) and HP/LP gas reducer (2)



- 1 Connection to suction gas pipe 1 (field supply)
- 2 Connection to suction gas joint
- 3 Cutting position
- 4 Connection to HP/LP gas pipe 1 (field supply)
- 5 Connection to HP/LP gas reducer (1)
- 6 No cutting for 18~24 Hp

#### Connection piping

- Connect the suction gas and HP/LP gas pipes as shown in the figure below.  
Before connecting the pipes, first connect the suction gas joint and the suction gas reducer (1), the HP/LP gas joint and the HP/LP gas reducers (1) and (2).
- See "Dimensions for installation" on page 3 for the location (height) of the joint.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Keep the joint in a horizontal position, see view A in the figure below.
- Connect the HP/LP gas reducer (1) by tilting it  $\pm 50^\circ$  and connect the HP/LP gas reducer (2), see view A in the figure below.
- Refer to "Pipe size selection and cutting position of the joint" on page 3 for the cutting requirements.



- 1 Suction gas accessory pipe (1) supplied with the outdoor unit
- 2 Suction gas pipe (1) (field supply) refer to table 7 on page 4
- 3 HP/LP gas accessory pipe (1) supplied with the outdoor unit
- 4 Suction gas joint
- 5 HP/LP gas joint
- 6 Suction gas reducer (1)
- 7 HP/LP gas reducer (1)
- 8 HP/LP gas reducer (2)
- 9 HP/LP gas pipe (1) (field supply) refer to table 9 on page 4
- 10 HP/LP gas pipe (field supply) (select the pipe length on site)
- 11 Suction gas pipe (field supply) (select the pipe length on site)
- 12 Joint (1) (angle of 90°) (field supply) refer to table 8 on page 4
- 13 HP/LP gas pipe (3) (field supply) refer to table 9 on page 4
- 14 Joint (2) (angle of 90°) (field supply) refer to table 10 on page 4
- 15 Suction gas pipe (2) (field supply) refer to table 7 on page 4
- 16 HP/LP gas pipe (2) (field supply) refer to table 9 on page 4
- 17 Suction gas accessory pipe (2) supplied with the outdoor unit
- 18 HP/LP gas accessory pipe (2) supplied with the outdoor unit

## 4. INSTALLATION OF LIQUID PIPES AND EQUALIZER PIPES

### Cutting the field supplied equalizer pipes

Use the following tables in case dimension A is 300 mm (refer to "Dimensions for installation" on page 3).

If dimension A exceeds 300 mm, extend the L dimension of the equalizer pipes 1 and 2 accordingly.

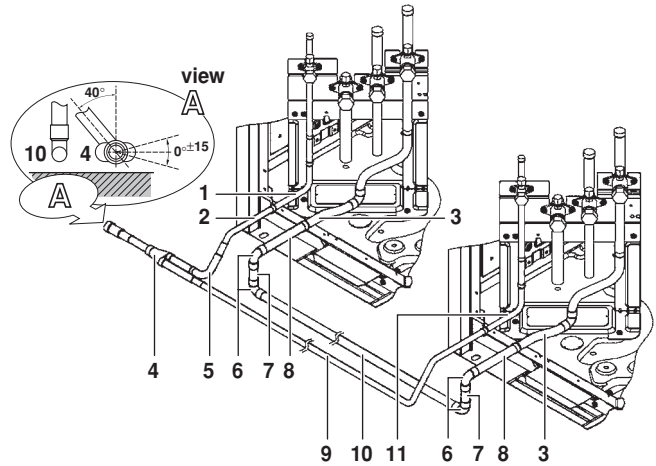
For L dimension of equalizer pipes 1 and 2, dimension B of the field supplied angled joint as in table 12 on page 5 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of the equalizer pipes 1 and 2 accordingly.

Table 11

Equalizer pipe		L
Pipe 1 (L mm)	Pipe 2 (L mm)	
95	60	

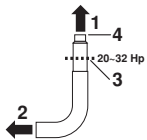
Table 12

Joint (angle of 90°)	B (mm)
B (mm)	
17	



- 1 Liquid accessory pipe (1) supplied with the outdoor unit
- 2 Liquid pipe (1) (field supply) (select the pipe length on site)
- 3 Equalizer accessory pipe (1) supplied with the outdoor unit
- 4 Liquid joint
- 5 Liquid reducer (1)
- 6 Joint (angle of 90°) (field supply) refer to table 12 on page 5
- 7 Equalizer pipe (2) (field supply) refer to table 11 on page 5
- 8 Equalizer pipe (1) (field supply) refer to table 11 on page 5
- 9 Liquid pipe (field supply) (select the pipe length on site)
- 10 Equalizer pipe (field supply) (select the pipe length on site)
- 11 Liquid accessory pipe (2) supplied with the outdoor unit

### Cutting liquid reducer (1)



- 1 Connection to liquid pipe (field supply)
- 2 Connection to liquid joint
- 3 Cutting position
- 4 No cutting for 18 Hp

### Connection piping

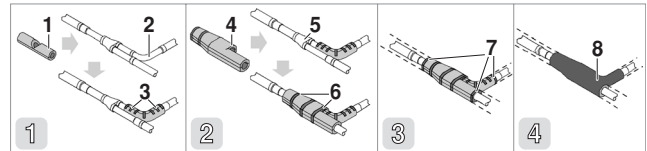
- Connect the liquid pipes and equalizer pipes as shown in the figure below.  
Before connecting the pipes, first connect the liquid joint and the liquid reducer (1).
- Refer to "Dimensions for installation" on page 3.
- Keep the joint in a horizontal position as shown in view A in the figure below
- Connect the liquid reducer (1) in an angle of 40° and bend the field supplied liquid pipe up to the stop valve as shown in the figure, see view A in the figure below.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Refer to "Pipe size selection and cutting position of the joint" on page 3 for the cutting requirements.

## 5. AFTER CONNECTION OF THE PIPING

### Connection piping between the outdoor and indoor unit

All piping must be executed according to instructions in the installation manual of the outdoor unit and an air tight test must be performed after complete installation of the piping.

### Insulation of joints



**Step 1:** Fit the insulation (1) around the reducer (2) and keep it in place with tape (3).

**Step 2:** Fit the insulation (4) around the joint (5) and keep it in place with tape (6) without leaving a gap between the two insulated parts.

**Step 3:** Seal the seam between the insulation and the field piping insulation (7) with tape (7).

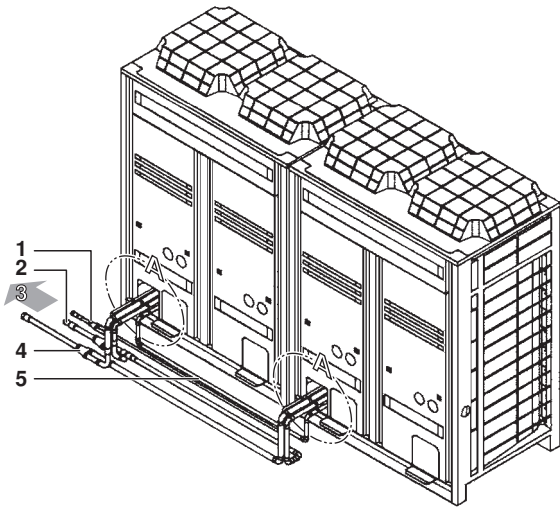
**Step 4:** Cover the insulated parts completely with tape (8) without leaving any gaps (8).



- All required tape is field supply.
- In case of indoor installation, make sure that the tape is of the fireproof type in order to comply with local regulations.

# IN CASE OF LOWER FRONT PIPING

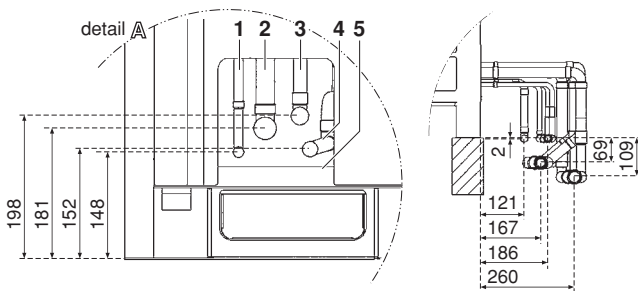
## 1. EXTERIOR



- 1 Liquid joint
- 2 HP/LP gas joint
- 3 To indoor unit
- 4 Suction gas joint
- 5 Equalizer pipe

## 2. DIMENSIONS FOR INSTALLATION

Dimensions for standard installation



- A 300 mm (standard)
- 1 Liquid pipe
- 2 Suction gas pipe
- 3 HP/LP gas pipe
- 4 Equalizer pipe
- 5 Bottom frame

**NOTE** When the dimensions exceed these of the standard installation, extend the pipes between the outdoor unit and the joint accordingly (field supply).

## 3. INSTALLATION OF SUCTION GAS AND HP/LP GAS PIPES

### Cutting the field supplied gas pipes

Use the following tables for standard installation (refer to "Dimensions for installation" on page 6).

If the dimensions exceed these of the standard installation, extend the L dimension of the suction gas pipes 1~4 and HP/LP gas pipes 1~5 accordingly.

#### ■ For suction gas pipes only

For L dimension of suction gas pipes 1~4 dimension B of the field supplied angled joint as in table 14 on page 6 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of suction gas pipes 1~4 accordingly.

Table 13

Outdoor unit	Pipe 1 L (mm)	Pipe 2 L (mm)	Pipe 3 L (mm)	Pipe 4 L (mm)
18 Hp	216	181	102	244
20+22 Hp	212	181	168	244
24 Hp	212	177	168	232
26 Hp	212	181	168	244
28~32 Hp	212	177	168	232

Table 14

Outdoor unit	Joint (angle of 90°) (field supply)	
	Joint 1 B (mm)	Joint 2 B (mm)
18 Hp	23	23
20+22 Hp	29	23
24 Hp	29	29
26 Hp	29	23
28~32 Hp	29	29

#### ■ For HP/LP gas pipes only

For L dimension of HP/LP gas pipes 1~5 dimension B of the field supplied angled joint as in table 16 on page 6 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of HP/LP gas pipes 1~5 accordingly.

Table 15

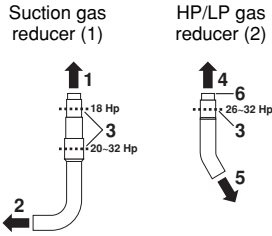
Outdoor unit	Pipe 1 L (mm)	Pipe 2 L (mm)	Pipe 3 L (mm)	Pipe 4 L (mm)	Pipe 5 L (mm)
18~24 Hp	223	193	73	233	64
26+28 Hp	217	193	97	233	64
30+32 Hp	217	187	97	221	52

Table 16

Outdoor unit	Joint (angle of 90°) (field supply)	
	Joint 3 B (mm)	Joint 4 B (mm)
18~24 Hp	17	17
26+28 Hp	23	17
30+32 Hp	23	23



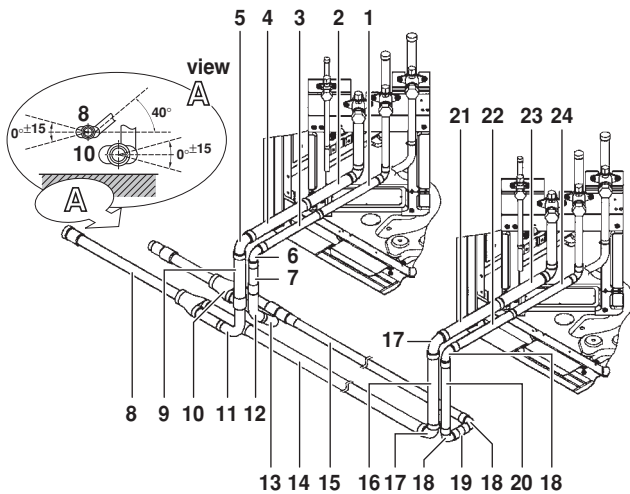
## Cutting suction gas reducer (1) and HP/LP gas reducer (2)



- 1 Connection to suction gas pipe 1 (field supply)
- 2 Connection to suction gas joint
- 3 Cutting position
- 4 Connection to HP/LP gas pipe 1 (field supply)
- 5 Connection to HP/LP gas reducer (1)
- 6 No cutting for 18~24 Hp

### Connection piping

- Connect the suction gas and HP/LP pipes as shown in the figure below. Before connecting the pipes, first connect the suction gas joint and the suction gas reducer (1), the HP/LP joint and the HP/LP reducer (1) and (2).
- See "Dimensions for installation" on page 6 for the location (height) of the joint.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Keep the joint in a horizontal position (see view A).
- Connect the HP/LP gas reducer (1) by tilting it  $\pm 40^\circ$  and connect the HP/LP gas reducer (2), see view A in the figure below.
- Refer to "Pipe size selection and cutting position of the joint" on page 3 for the cutting requirements.



- 1 HP/LP gas accessory pipe (1) supplied with the outdoor unit
- 2 Suction gas accessory pipe (1) supplied with the outdoor unit
- 3 HP/LP gas pipe (1) (field supply) refer to table 15 on page 6
- 4 Suction gas pipe (1) (field supply) refer to table 13 on page 6
- 5 Joint (1) (angle of  $90^\circ$ ) (field supply) refer to table 14 on page 6
- 6 Joint (3) (angle of  $90^\circ$ ) (field supply) refer to table 16 on page 6
- 7 HP/LP gas pipe (3) (field supply) refer to table 15 on page 6
- 8 Suction gas joint
- 9 Suction gas pipe (3) (field supply) refer to table 13 on page 6
- 10 HP/LP gas joint
- 11 Suction gas reducer (1)
- 12 HP/LP gas reducer (2)
- 13 HP/LP gas reducer (1)
- 14 Suction gas pipe (field supply) (select the pipe length on site)
- 15 HP/LP gas pipe (field supply) (select the pipe length on site)
- 16 Suction gas pipe (4) (field supply) refer to table 13 on page 6
- 17 Joint (2) (angle of  $90^\circ$ ) (field supply) refer to table 14 on page 6
- 18 Joint (4) (angle of  $90^\circ$ ) (field supply) refer to table 16 on page 6
- 19 HP/LP gas pipe (5) (field supply) refer to table 15 on page 6
- 20 HP/LP gas pipe (4) (field supply) refer to table 15 on page 6
- 21 Suction gas pipe (2) (field supply) refer to table 13 on page 6
- 22 HP/LP gas pipe (2) (field supply) refer to table 15 on page 6
- 23 Suction gas accessory pipe (2) supplied with the outdoor unit
- 24 HP/LP gas accessory pipe (2) supplied with the outdoor unit

## 4. INSTALLATION OF LIQUID PIPES AND EQUALIZER PIPES

### Cutting the field supplied equalizer pipes

Use the following tables for standard installation (refer to "Dimensions for installation" on page 6).

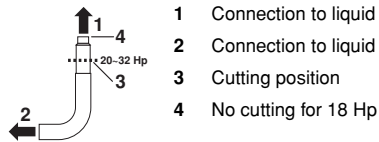
If dimension differ from standard installation, adjust the L dimension of the equalizer pipes 1 and 2 accordingly.

For L dimension of equalizer pipes 1 and 2, dimension B of the field supplied angled joint as in table 12 on page 5 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of the equalizer pipes 1 and 2 accordingly.

Table 17

Equalizer pipe		L
Pipe 1 (L mm)	Pipe 2 (L mm)	
95	120	

### Cutting liquid reducer (1)



- 1 Connection to liquid pipe (field supply)
- 2 Connection to liquid joint
- 3 Cutting position
- 4 No cutting for 18 Hp

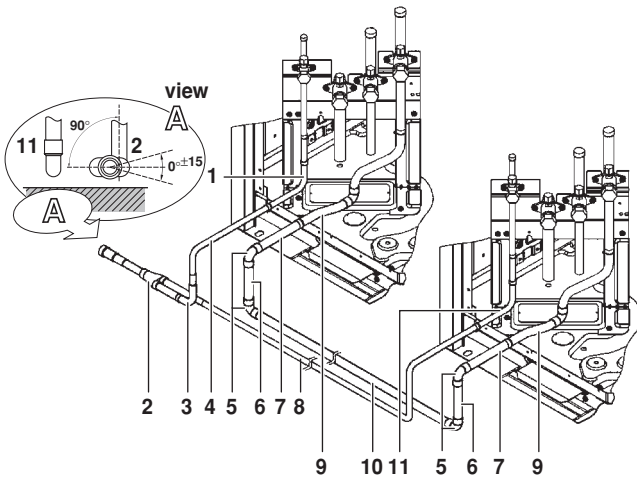
### Connection piping

- Connect the liquid pipes and equalizer pipes as shown in the figure below. Before connecting the pipes, first connect the liquid joint and the liquid reducer (1).
- Refer to "Dimensions for installation" on page 6.
- Keep the joint in a horizontal position as shown in view A in the figure below
- Connect the liquid reducer (1) in an angle of  $\pm 90^\circ$  and bend the field supplied liquid pipe up to the stop valve as shown in the figure.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Refer to "Pipe size selection and cutting position of the joint" on page 3 for the cutting requirements.



## IN CASE OF BOTTOM PIPING

### 1. EXTERIOR



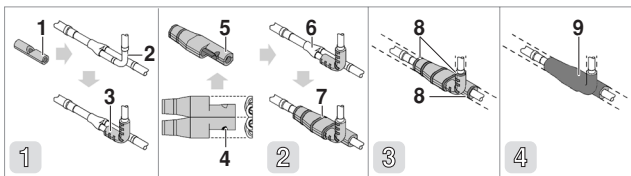
- 1 Liquid accessory pipe (1) supplied with the outdoor unit
- 2 Liquid joint
- 3 Liquid reducer (1)
- 4 Liquid pipe (1) (field supply) (select the pipe length on site)
- 5 Joint (angle of 90°) (field supply) refer to table 12 on page 5
- 6 Equalizer pipe (2) (field supply) refer to table 17 on page 7
- 7 Equalizer pipe (1) (field supply) refer to table 17 on page 7
- 8 Liquid pipe (field supply) (select the pipe length on site)
- 9 Equalizer accessory pipe (1) supplied with the outdoor unit
- 10 Equalizer pipe (field supply) (select the pipe length on site)
- 11 Liquid accessory pipe (2) supplied with the outdoor unit

### 5. AFTER CONNECTION OF THE PIPING

#### Connection piping between the outdoor and indoor unit

All piping must be executed according to instructions in the installation manual of the outdoor unit and an air tight test must be performed after complete installation of the piping.

#### Insulation of joints



**Step 1:** Fit the insulation (1) around the reducer (2) and keep it in place with tape (■) (3).

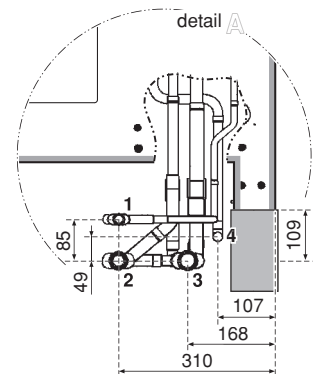
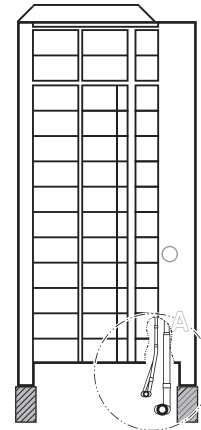
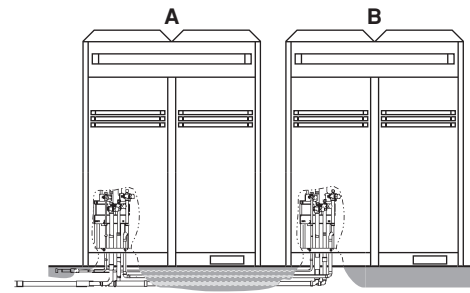
**Step 2:** Cut the insulation (5) along the slit (4). Fit the insulation around the joint (6) and keep it in place with tape (■) (7) without leaving a gap between the two insulated parts.

**Step 3:** Seal the seam between the insulation and the field piping insulation (---) with tape (■) (8).

**Step 4:** Cover the insulated parts completely with tape (■) without leaving any gaps (9).



- All required tape is field supply.
- In case of indoor installation, make sure that the tape is of the fireproof type in order to comply with local regulations.



- 1 Liquid pipe
- 2 HP/LP gas pipe
- 3 Suction gas pipe
- 4 Equalizer pipe

### 2. INSTALLATION OF SUCTION GAS AND HP/LP GAS PIPES

#### Cutting the field supplied and unit supplied gas pipes

##### ■ For suction gas pipes only

For L dimension of suction gas pipe 1, dimension B of the field supplied angled joint as in table 8 on page 4 has been taken into account. Further, connection of gas pipes and the field supplied joints for same diameter are of the type without stoppers. If dimension B of the angled joint you use is different from that dimension B and/or if the joints for same diameter pipes have stoppers, adjust the L dimension of suction gas pipes 1 accordingly.

Table 18 (for outdoor unit B)

Outdoor unit	Suction gas accessory pipe (2) (delivered with the unit)		Suction gas pipe 1 (field supply)	
	B (mm)		L (mm)	
18~22 Hp	0 <sup>(b)</sup>			137
24 Hp	41			98
26 Hp	0 <sup>(b)</sup>			137
28~32 Hp	41			98

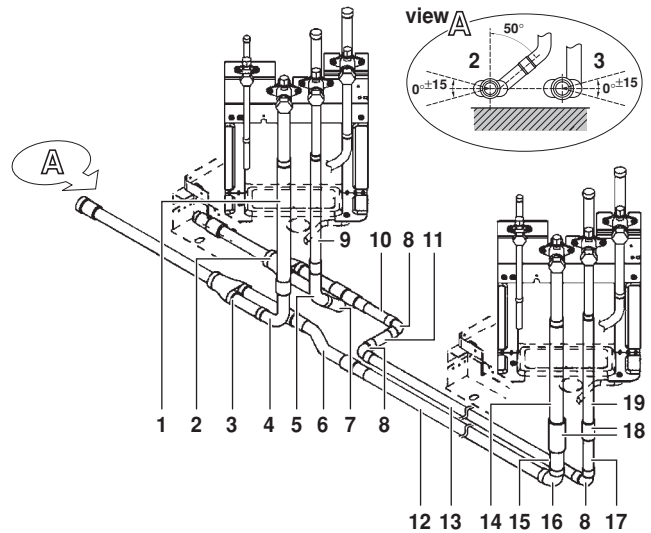
a = cutting position  
b = no cutting required

■ **For HP/LP gas pipes only**

For L dimension of HP/LP gas pipes 1~3, dimension B of the field supplied angled joint as in table 10 on page 4 has been taken into account. Further, connection of gas pipes and the field supplied straight size joints are of the type without stoppers. If dimension B of the angled joint you use is different from that dimension B and/or if the straight size joints have stoppers, adjust the L dimension of HP/LP gas pipes 1~3 accordingly.

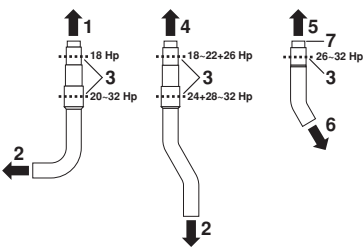
**Table 19**

Outdoor unit	Pipe 1 L (mm) (field supply)	Pipe 2 L (mm) (field supply)	Pipe 3 L (mm) (field supply)
18~28 Hp	155	86	94
30+32 Hp	119	110	82



**Cutting suction gas reducer (1) and (2) and HP/LP gas reducer (2)**

Suction gas reducer (1)      Suction gas reducer (2)      HP/LP gas reducer (2)



- 1 Connection to suction gas pipe 1 (field supply)
- 2 Connection to suction gas joint
- 3 Cutting position
- 4 Connection to suction gas pipe (field supply)
- 5 Connection to HP/LP gas pipe 1 (field supply)
- 6 Connection to HP/LP gas reducer (1)
- 7 No cutting for 18~24 Hp

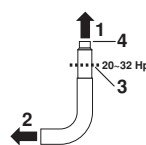
**Connection piping**

- Remove the knockout plate on the bottom frame. Refer to the installation manual delivered with the outdoor unit.
- Connect the suction gas and HP/LP gas pipes as shown in the figure below.  
Before connecting the pipes, first connect the suction gas joint and the suction gas reducer (1), the HP/LP gas joint and the HP/LP gas reducers (1) and (2).
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Keep the joint in a horizontal position, see view A in the figure below.
- Connect the HP/LP gas reducer (1) by tilting it  $\pm 50^\circ$  and connect the HP/LP gas reducer (2) (see view A).
- Refer to "Pipe size selection and cutting position of the joint" on page 3 for the cutting requirements.

- 1 Suction gas accessory pipe (1) supplied with the outdoor unit
- 2 HP/LP gas joint
- 3 Suction gas joint
- 4 Suction gas reducer (1)
- 5 HP/LP gas reducer (2)
- 6 Suction gas reducer (2)
- 7 HP/LP gas reducer (1)
- 8 Joint (4) (angle of  $90^\circ$ ) (field supply) refer to table 10 on page 4
- 9 HP/LP gas accessory pipe (1) supplied with the outdoor unit
- 10 HP/LP gas pipe (2) (field supply) refer to table 19 on page 9
- 11 HP/LP gas pipe (3) (field supply) refer to table 19 on page 9
- 12 Suction gas pipe (field supply) (select the pipe length on site)
- 13 HP/LP gas pipe (field supply) (select the pipe length on site)
- 14 Suction gas accessory pipe (2) supplied with the outdoor unit refer to table 19 on page 9
- 15 Suction gas pipe (1) (field supply) refer to table 18 on page 8
- 16 Joint (2) (angle of  $90^\circ$ ) (field supply) refer to table 8 on page 4
- 17 HP/LP gas pipe (1) (field supply) refer to table 19 on page 9
- 18 Straight size joint (field supply)
- 19 HP/LP gas accessory pipe (2) supplied with the outdoor unit

**3. INSTALLATION OF LIQUID PIPES AND EQUALIZER PIPES**

**Cutting liquid reducer (1)**

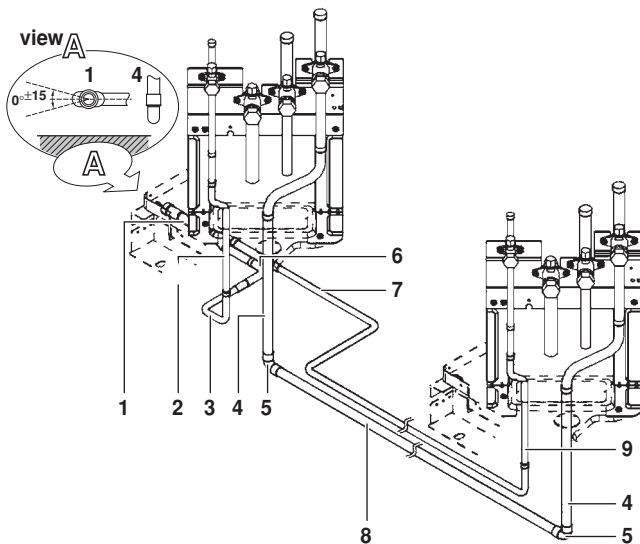


- 1 Connection to liquid pipe (field supply)
- 2 Connection to liquid joint
- 3 Cutting position
- 4 No cutting for 18 Hp

**Connection piping**

- Remove the knockout plate on the bottom frame. Refer to the installation manual delivered with the outdoor unit.
- Connect the liquid pipes and equalizer pipes as shown in the figure below.  
Before connecting the pipes, first connect the liquid joint and the liquid reducer (1).
- Keep the joint in a horizontal position, see view A in the figure below.
- Bend the field supplied liquid pipe up to the stop valve as shown in the figure below.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Refer to "Pipe size selection and cutting position of the joint" on page 3 for the cutting requirements.

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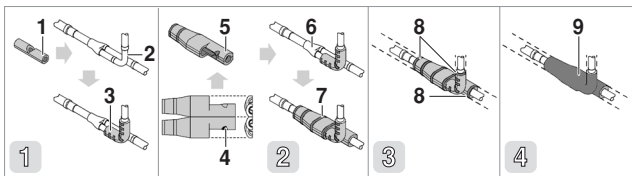
- 1 Liquid joint
- 2 Liquid accessory pipe (1) supplied with the outdoor unit
- 3 Liquid pipe (1) (field supply) (select the pipe length on site)
- 4 Equalizer accessory pipe (1) supplied with the outdoor unit
- 5 Joint (angle of 90°) (field supply) refer to table 12 on page 5
- 6 Liquid reducer (1)
- 7 Liquid pipe (2) (field supply) (select the pipe length on site)
- 8 Equalizer pipe (field supply)(select the pipe length on site)
- 9 Liquid accessory pipe (2) supplied with the outdoor unit

## 4. AFTER CONNECTION OF THE PIPING

### Connection piping between the outdoor and indoor unit

All piping must be executed according to instructions in the installation manual of the outdoor unit and an air tight test must be performed after complete installation of the piping.

### Insulation of joints



**Step 1:** Fit the insulation (1) around the reducer (2) and keep it in place with tape (■) (3).

**Step 2:** Cut the insulation (5) along the slit (4). Fit the insulation around the joint (6) and keep it in place with tape (■) (7) without leaving a gap between the two insulated parts.

**Step 3:** Seal the seam between the insulation and the field piping insulation (---) with tape (■) (8).

**Step 4:** Cover the insulated parts completely with tape (■) without leaving any gaps (9).



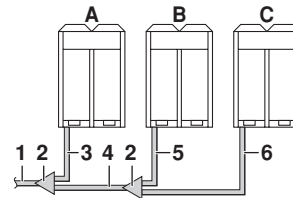
- All required tape is field supply.
- In case of indoor installation, make sure that the tape is of the fireproof type in order to comply with local regulations.



Refer to the installation manual of the outdoor unit for selection and restriction for the piping between outdoor branches. Not observing restrictions on the interconnecting piping may result in malfunctioning of the unit.

### Pipe size selection and cutting position of joints.

Select the correct pipe size according with the tables below and cut the joints and reducers on the correct places with a pipe cutter.



- 1 Main pipe, see table 20 on page 10
- 2 First joint (refer to "Restrictions on installing the multi connection piping kit" on page 2)
- 3 Pipe between the first joint and outdoor unit A, see table 21 on page 10
- 4 Piping inbetween connection joints
- 5 Pipe between the second joint and outdoor unit B, see table 22 on page 10
- 6 Pipe between the second joint and outdoor unit C, see table 23 on page 10

### ■ Main pipe

Select the pipe size in function of the total capacity of the outdoor unit (units A+B+C).

### ■ Connection inbetween connection joints

Select the pipe size in function of the total capacity of the outdoor units to be connected upstream (units B+C).

Table 20

Total capacity outdoor units	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
34 Hp	Ø34.9x1.21 (1/2H)	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)
36 Hp	Ø41.3x1.43 (1/2H)	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)
38~48 Hp	Ø41.3x1.43 (1/2H)	Ø34.9x1.21 (1/2H)	Ø19.1x1.0 (1/2H)

(a) OD x minimum wall thickness (temper grade type)

- When using pipes of Ø19.1 or larger, make sure to use pipes with 1/2H temper grade with a wall thickness of 1.0 mm. In case there is no alternative and you use the O temper grade for pipes with Ø19.1, a minimal wall thickness of 1.2 mm or more is required and connections need to be brazed.

Table 21

Outdoor unit	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
34~48 Hp	Ø28.6x1.0 (1/2H)	Ø22.2x1.0 (1/2H)	Ø12.7x0.80 (O)

(a) OD x minimum wall thickness (temper grade type)

Table 22

Outdoor unit	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
34 Hp	Ø22.2x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø9.5x0.80 (O)
36~40 Hp	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø12.7x0.80 (O)
42~48 Hp	Ø28.6x1.0 (1/2H)	Ø22.2x1.0 (1/2H)	Ø12.7x0.80 (O)

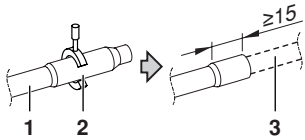
(a) OD x minimum wall thickness (temper grade type)

Table 23

Outdoor unit	Pipe size <sup>(a)</sup>		
	Suction gas	HP/LP gas	Liquid
34~38 Hp	Ø22.2x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø9.5x0.80 (O)
42 Hp	Ø22.2x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø9.5x0.80 (O)
40+44 Hp	Ø28.6x1.0 (1/2H)	Ø19.1x1.0 (1/2H)	Ø12.7x0.80 (O)
46+48 Hp	Ø28.6x1.0 (1/2H)	Ø22.2x1.0 (1/2H)	Ø12.7x0.80 (O)

(a) OD x minimum wall thickness (temper grade type)

- Cut the pipe with a pipe cutter

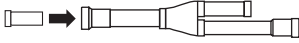


- 1 Joint or reducer
- 2 Cut in order to have a fitting depth of  $\geq 15$  mm
- 3 Field pipe

### How to install the reducers

#### ■ Suction gas pipe

- For 34 Hp, connect the suction gas reducer (5) to the suction gas joint (1) as shown in the figure below.
- For 36~48 Hp, connect the suction gas reducer (4) to the suction gas joint (1) as shown in the figure below



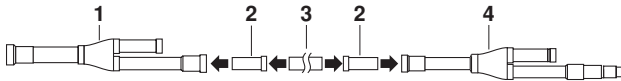
#### ■ HP/LP gas pipe

- For 38~48 Hp, connect the suction gas reducer (5) to the HP/LP gas joint (1) as shown in the figure below.



#### ■ Using piping inbetween connection joints suction gas pipe

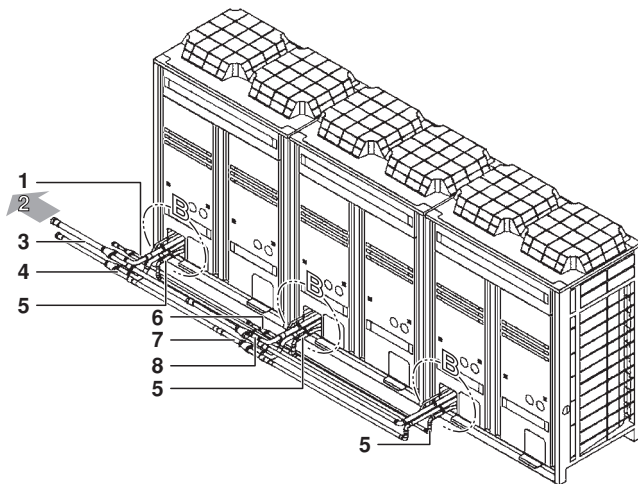
- For 40~48 Hp, connect two times the suction gas reducer (5) to the suction gas joints (1) and (2) as shown in the figure below



- 1 Suction gas joint (1)
- 2 Suction gas reducer (5)
- 3 Field supplied gas pipe ( $\varnothing 34.9$ )
- 4 Suction gas joint (2)

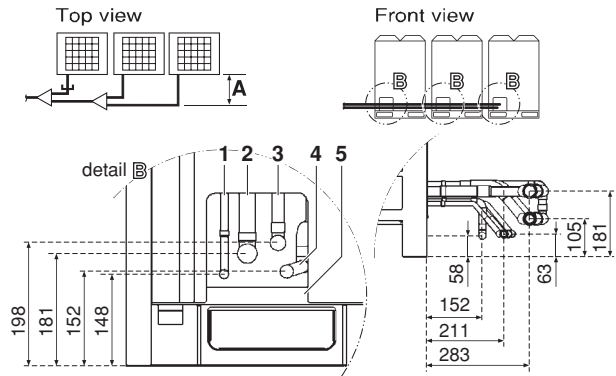
## IN CASE OF FRONT PIPING

### 1. EXTERIOR



- 1 Liquid joint (1)
- 2 To indoor unit
- 3 Suction gas joint (1)
- 4 HP/LP gas joint (1)
- 5 Equalizer pipe
- 6 Liquid joint (2)
- 7 HP/LP gas joint (2)
- 8 Suction gas joint (2)

## 2. DIMENSIONS FOR INSTALLATION



- A 318 mm (standard)
- 1 Liquid pipe
- 2 Suction gas pipe
- 3 HP/LP gas pipe
- 4 Equalizer pipe
- 5 Bottom frame

**NOTE** In case dimension A exceeds 318 mm, extend the field supplied interconnection piping between the joint and the outdoor unit.

## 3. INSTALLATION OF SUCTION GAS AND HP/LP GAS PIPES

### Cutting the field supplied gas pipes

Use the following tables in case dimension A is 318 mm (refer to "Dimensions for installation" on page 11).

If dimension A exceeds 318 mm, extend the L dimension of the gas pipes 1~3 and HP/LP gas pipes 1~4 accordingly.

#### ■ For suction gas pipes only

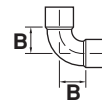
For L dimension of suction gas pipes 1~3, dimension B of the field supplied angled joint as in table 25 on page 11 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of suction gas pipes 1~3 accordingly.

Table 24

Outdoor unit	Pipe 1 L (mm)	Pipe 2 L (mm)	Pipe 3 L (mm)
34 Hp	135	79	256
36+38 Hp	135	153	256
40 Hp	135	153	252
42 Hp	135	153	256
44~48 Hp	135	153	252

Table 25

Joint (angle of 90°) (field supply)	
Outdoor unit	B (mm)
34~38 Hp	23
40 Hp	29
42 Hp	23
44~48 Hp	29



**For HP/LP gas pipes only**

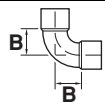
For L dimension of HP/LP gas pipes 1, 2, 3 and 4, dimension B of the field supplied angled joint as in table 27 on page 12 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of HP/LP gas pipes 1, 2, 3 and 4 accordingly.

**Table 26**

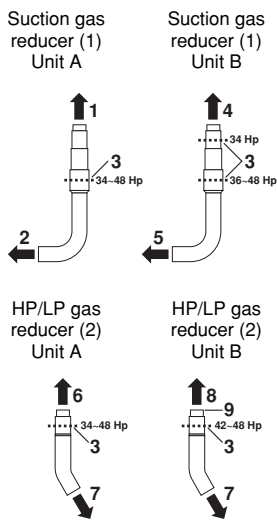
Outdoor unit	Pipe 1 L (mm)	Pipe 2 L (mm)	Pipe 3 L (mm)	Pipe 4 L (mm)
34~40 Hp	80	67	262	59
42+44 Hp	80	97	262	59
46+48 Hp	80	97	256	47

**Table 27**

Joint (angle of 90°) (field supply)	
Outdoor unit	B (mm)
34~44 Hp	17
46+48 Hp	23



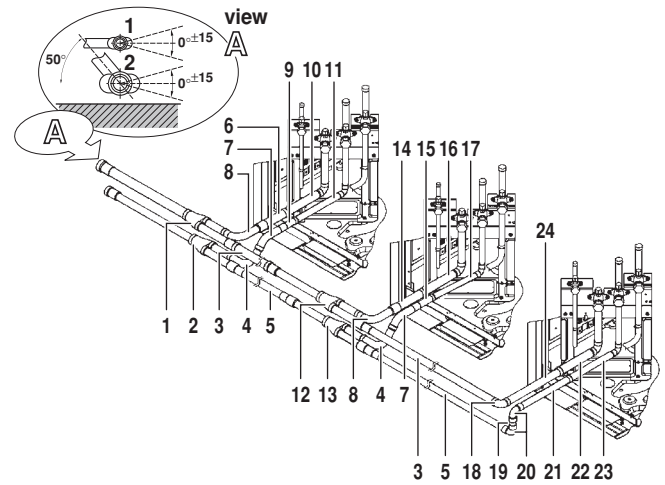
**Cutting suction gas reducer (1) and HP/LP gas reducer (2)**



- 1 Connection to suction gas pipe 1 (field supply)
- 2 Connection to suction gas joint (1)
- 3 Cutting position
- 4 Connection to suction gas pipe 2 (field supply)
- 5 Connection to suction gas joint (2)
- 6 Connection to HP/LP gas pipe 1 (field supply)
- 7 Connection to HP/LP gas reducer (1)
- 8 Connection to HP/LP gas pipe 2 (field supply)
- 9 No cutting for 34~40 Hp

**Connection piping**

- Connect the suction gas and HP/LP gas pipes as shown in the figure below. Before connecting the pipes, first connect the suction gas joint and the suction gas reducer (1), the HP/LP gas joint and the HP/LP gas reducers (1) and (2).
- See "Dimensions for installation" on page 11 for the location (height) of the joint.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes .
- Keep the joint in a horizontal position, see view A in the figure below.
- Connect the HP/LP gas reducer (1) by tilting it  $\pm 50^\circ$  and connect the HP/LP gas reducer (2), see view A in the figure below.
- Refer to "Pipe size selection and cutting position of joints." on page 10 for the cutting requirements.



- 1 Suction gas joint (1)
- 2 HP/LP gas joint (1)
- 3 Suction gas pipe (field supply) (select the pipe length on site)
- 4 HP/LP gas reducer (1)
- 5 HP/LP gas pipe (field supply) (select the pipe length on site)
- 6 Suction gas pipe (1) (field supply) refer to table 24 on page 11
- 7 HP/LP gas reducer (2)
- 8 Suction gas reducer (1)
- 9 HP/LP gas pipe (1) (field supply) refer to table 26 on page 12
- 10 Suction gas accessory pipe (1) supplied with the outdoor unit
- 11 HP/LP gas accessory pipe (1) supplied with the outdoor unit
- 12 Suction gas joint (2)
- 13 HP/LP gas joint (2)
- 14 Suction gas pipe (2) (field supply) refer to table 24 on page 11
- 15 HP/LP gas pipe (2) (field supply) refer to table 26 on page 12
- 16 Suction gas accessory pipe (2) supplied with the outdoor unit
- 17 HP/LP gas accessory pipe (2) supplied with the outdoor unit
- 18 Joint (1) (angle of 90°) (field supply) refer to table 25 on page 11
- 19 HP/LP gas pipe (4) (field supply) refer to table 26 on page 12
- 20 Joint (2) (angle of 90°) (field supply) refer to table 27 on page 12
- 21 HP/LP gas pipe (3) (field supply) refer to table 26 on page 12
- 22 Suction gas accessory pipe (3) supplied with the outdoor unit
- 23 HP/LP gas accessory pipe (3) supplied with the outdoor unit
- 24 Suction gas pipe (3) (field supply) refer to table 24 on page 11

**4. INSTALLATION OF LIQUID PIPES AND EQUALIZER PIPES**

**Cutting the field supplied equalizer pipes**

Use the following tables in case dimension A is 318 mm (refer to "Dimensions for installation" on page 11). If dimension A exceeds 318 mm, extend the L dimension of the equalizer pipes 1 and 2 accordingly.

For L dimension of equalizer pipes 1 and 2, dimension B of the field supplied angled joint as in table 29 on page 12 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of the equalizer pipes 1 and 2 accordingly.

**Table 28**

Equalizer pipe	
Pipe 1 (L mm)	Pipe 2 (L mm)
95	60

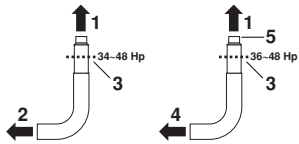
**Table 29**

Joint (angle of 90°)	
B (mm)	
17	



## Cutting liquid reducer (1)

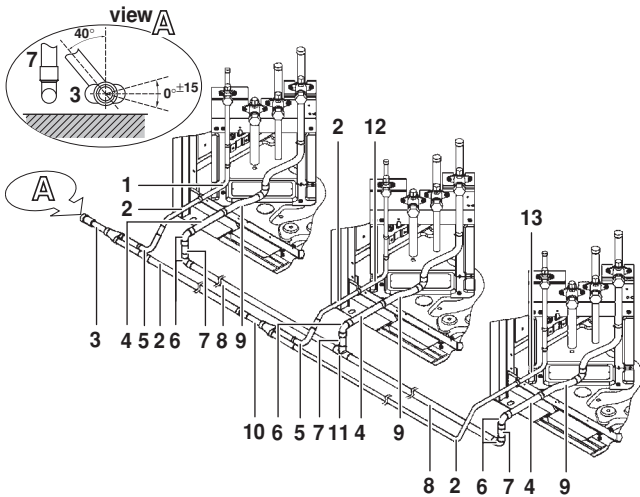
Liquid reducer (1) Unit A      Liquid reducer (1) Unit B



- 1 Connection to liquid pipe (field supply)
- 2 Connection to liquid joint (1)
- 3 Cutting position
- 4 Connection to liquid joint (2)
- 5 No cutting for 34 Hp

## Connection piping

- Connect the liquid pipes and equalizer pipes as shown in the figure below.  
Before connecting the pipes, first connect the liquid joint and the liquid reducer (1).
- Refer to "Dimensions for installation" on page 11.
- Keep the joint in a horizontal position, see view A in the figure below.
- Connect the liquid reducer (1) in an angle of 40° and bend the field supplied liquid pipe up to the stop valve as shown in the figure.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Refer to "Pipe size selection and cutting position of joints." on page 10 for the cutting requirements.



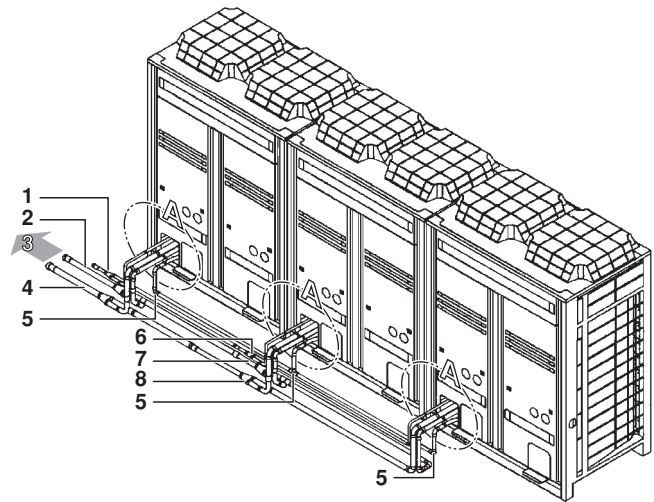
- 1 Liquid pipe accessory (1) supplied with the outdoor unit
- 2 Liquid pipe (field supply) (select the pipe length on site)
- 3 Liquid joint (1)
- 4 Equalizer pipe (1) (field supply) refer to table 28 on page 12
- 5 Liquid reducer (1)
- 6 Joint (angle of 90°) (field supply) refer to table 29 on page 12
- 7 Equalizer pipe (2) (field supply) refer to table 28 on page 12
- 8 Equalizer pipe (field supply) (select the pipe length on site)
- 9 Equalizer accessory pipe (1) supplied with the outdoor unit
- 10 Liquid joint (2)
- 11 Equalizer joint
- 12 Liquid pipe accessory (2) supplied with the outdoor unit
- 13 Liquid pipe accessory (3) supplied with the outdoor unit

## 5. AFTER CONNECTION OF THE PIPING

Follow the instructions in the paragraph "After connection of the piping" on page 5.

## IN CASE OF LOWER FRONT PIPING

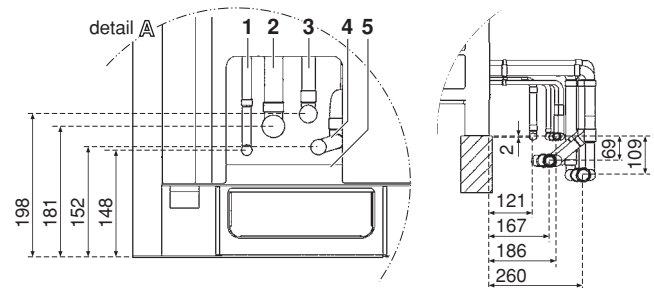
### 1. EXTERIOR



- 1 Liquid joint (1)
- 2 HP/LP gas joint (1)
- 3 To indoor unit
- 4 Suction gas joint (1)
- 5 Equalizer pipe
- 6 Liquid joint (2)
- 7 HP/LP gas joint (2)
- 8 Suction gas joint (2)

### 2. DIMENSIONS FOR INSTALLATION

Dimensions for standard installation



- 1 Liquid pipe
- 2 Suction gas pipe
- 3 HP/LP gas pipe
- 4 Equalizer pipe
- 5 Bottom frame

#### NOTE



When the dimensions exceed these of the standard installation, extend the pipes between the outdoor unit and the joint accordingly (field supply).

### 3. INSTALLATION OF SUCTION GAS AND HP/LP GAS PIPES

#### Cutting the field supplied gas pipes

Use the following tables for standard installation (refer to "Dimensions for installation" on page 13).

If the dimensions exceed these of the standard installation, extend the L dimension of the suction gas pipes 1~6 and HP/LP gas pipes 1~7 accordingly.

##### ■ For suction gas pipes only

For L dimension of suction gas pipes 1~6 dimension B of the field supplied angled joint as in table 31 on page 14 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of suction gas pipes 1~6 accordingly.

Table 30

Outdoor unit (Hp)	Pipe 1 L(mm)	Pipe 2 L(mm)	Pipe 3 L(mm)	Pipe 4 L(mm)	Pipe 5 L(mm)	Pipe 6 L(mm)
34	212	199	164	168	102	244
36+38	212	195	164	168	168	244
40	212	195	160	168	168	232
42	212	195	164	168	168	244
44~48	212	195	160	168	168	232

Table 31

Outdoor unit	Joint (angle of 90°) (field supply)		
	Joint 1 B (mm)	Joint 2 B (mm)	Joint 3 B (mm)
34 Hp	29	23	23
36+38 Hp	29	29	23
40 Hp	29	29	29
42 Hp	29	29	23
44~48 Hp	29	29	29

##### ■ For HP/LP gas pipes only

For L dimension of HP/LP gas pipes 1~7 dimension B of the field supplied angled joint as in table 33 on page 14 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of HP/LP gas pipes 1~7 accordingly.

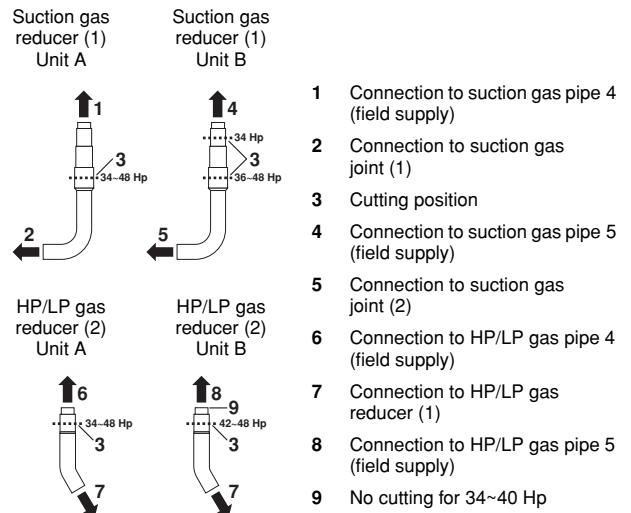
Table 32

Outdoor unit (Hp)	Pipe 1 L (mm)	Pipe 2 L (mm)	Pipe 3 L (mm)	Pipe 4 L (mm)	Pipe 5 L (mm)	Pipe 6 L (mm)	Pipe 7 L (mm)
34~40	217	206	176	97	73	233	64
42+44	217	200	176	97	97	233	64
46+48	217	200	170	97	97	221	52

Table 33

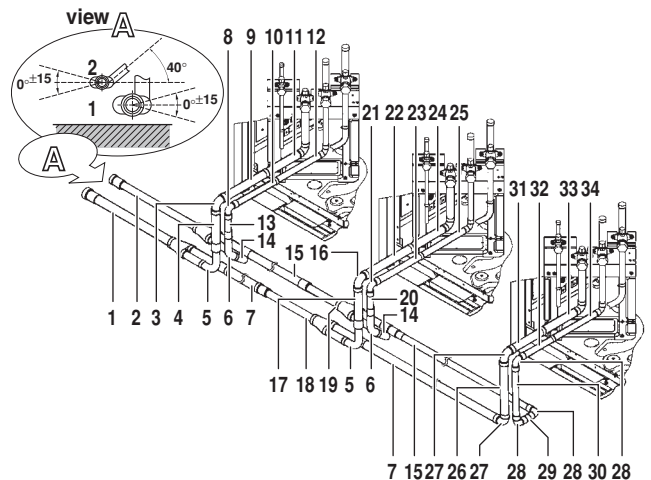
Outdoor unit	Joint (angle of 90°) (field supply)		
	Joint 4 B (mm)	Joint 5 B (mm)	Joint 6 B (mm)
34~40 Hp	23	17	17
42+44 Hp	23	23	17
46+48 Hp	23	23	23

#### Cutting suction gas reducer (1) and HP/LP gas reducer (2)



#### Connection piping

- Connect the suction gas and HP/LP pipes as shown in the figure below.  
 Before connecting the pipes, first connect the suction gas joint and the suction gas reducer (1), the HP/LP gas joint and the HP/LP gas reducer (1) and (2).
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Keep the joint in a horizontal position, see view A in the figure below.
- Refer to "Pipe size selection and cutting position of joints." on page 10 for the cutting requirements.



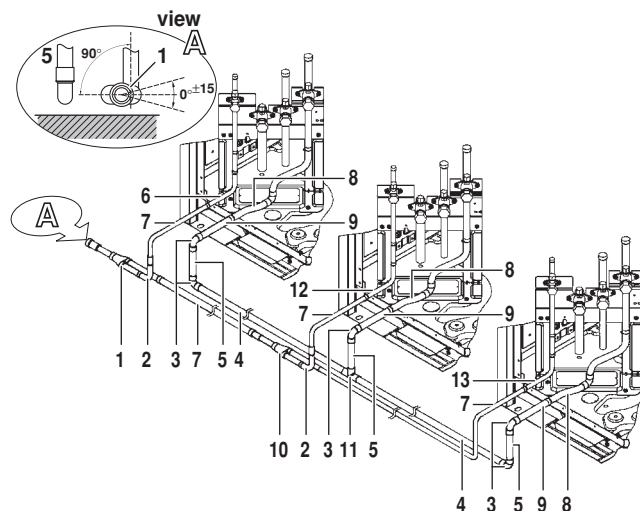
- Suction gas joint (1)
- HP/LP gas joint (1)
- Joint 1 (angle of 90°) (field supply) refer to table 31 on page 14
- Suction gas pipe (4) (field supply) refer to table 30 on page 14
- Suction gas reducer (1)
- HP/LP gas reducer (2)
- Suction gas pipe (field supply) (select the pipe length on site)
- Joint (4) (angle of 90°) (field supply) refer to table 33 on page 14
- Suction gas pipe (1) (field supply) refer to table 30 on page 14
- HP/LP gas pipe (1) (field supply) refer to table 32 on page 14
- Suction gas accessory pipe (1) supplied with the outdoor unit
- HP/LP gas accessory pipe (1) supplied with the outdoor unit
- HP/LP gas pipe (4) (field supply) refer to table 32 on page 14
- HP/LP gas reducer (1)
- HP/LP gas pipe (field supply) (select the pipe length on site)
- Joint (2) (angle of 90°) (field supply) refer to table 31 on page 14



- 17 Suction gas pipe (5) (field supply) refer to table 30 on page 14
- 18 Suction gas joint (2)
- 19 HP/LP gas joint (2)
- 20 HP/LP gas pipe (5) (field supply) refer to table 32 on page 14
- 21 Joint (5) (angle of 90°) (field supply) refer to table 33 on page 14
- 22 Suction gas pipe (2) (field supply) refer to table 30 on page 14
- 23 HP/LP gas pipe (2) (field supply) refer to table 32 on page 14
- 24 Suction gas accessory pipe (2) supplied with the outdoor unit
- 25 HP/LP gas accessory pipe (2) supplied with the outdoor unit
- 26 Suction gas pipe (6) (field supply) refer to table 30 on page 14
- 27 Joint (3) (angle of 90°) (field supply) refer to table 31 on page 14
- 28 Joint (6) (angle of 90°) (field supply) refer to table 33 on page 14
- 29 HP/LP gas pipe (7) (field supply) refer to table 32 on page 14
- 30 HP/LP gas pipe (6) (field supply) refer to table 32 on page 14
- 31 Suction gas pipe (3) (field supply) refer to table 30 on page 14
- 32 HP/LP gas pipe (3) (field supply) refer to table 32 on page 14
- 33 Suction gas accessory pipe (3) supplied with the outdoor unit
- 34 HP/LP gas accessory pipe (3) supplied with the outdoor unit

## Connection piping

- Connect the liquid pipes and equalizer pipes as shown in the figure below.  
Before connecting the pipes, first connect the liquid joint and the liquid reducer (1).
- Refer to "Dimensions for installation" on page 13.
- Keep the joint in a horizontal position as shown in view A in the figure below
- Connect the liquid reducer (1) in an angle of  $\pm 90^\circ$  and bend the field supplied liquid pipe up to the stop valve as shown in the figure, see view A.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Refer to "Pipe size selection and cutting position of joints." on page 10 for the cutting requirements.



- 1 Liquid joint (1)
- 2 Liquid reducer (1)
- 3 Joint (angle of 90°) (field supply) refer to table 29 on page 12
- 4 Equalizer pipe (field supply) (select the pipe length on site)
- 5 Equalizer pipe (2) (field supply) refer to table 34 on page 15
- 6 Liquid accessory pipe (1) supplied with the outdoor unit
- 7 Liquid pipe (field supply) (select the pipe length on site)
- 8 Equalizer accessory pipe (1) supplied with the outdoor unit
- 9 Equalizer pipe (1) (field supply) refer to table 34 on page 15
- 10 Liquid joint (2)
- 11 Equalizer joint
- 12 Liquid pipe accessory (2) supplied with the outdoor unit
- 13 Liquid pipe accessory (3) supplied with the outdoor unit

## 4. INSTALLATION OF LIQUID PIPES AND EQUALIZER PIPES

### Cutting the field supplied equalizer pipes

Use the following tables for standard installation (refer to "Dimensions for installation" on page 13).

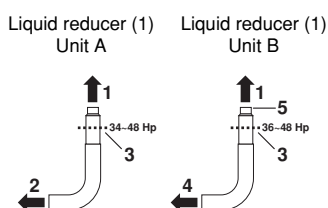
If dimensions differ from standard installation, adjust the L dimension of the equalizer pipes 1 and 2 accordingly.

For L dimension of equalizer pipes 1 and 2, dimension B of the field supplied angled joint as in table 29 on page 12 has been taken into account. If dimension B of the angled joint you use is different from that dimension B, adjust the L dimension of the equalizer pipes 1 and 2 accordingly.

Table 34

Equalizer pipe		L
Pipe 1 (L mm)	Pipe 2 (L mm)	
65	120	

### Cutting liquid reducer (1)



- 1 Connection to liquid pipe (field supply)
- 2 Connection to liquid joint (1)
- 3 Cutting position
- 4 Connection to liquid joint (2)
- 5 No cutting for 34 Hp

## 2. AFTER CONNECTION OF THE PIPING

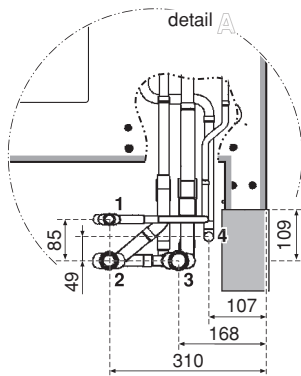
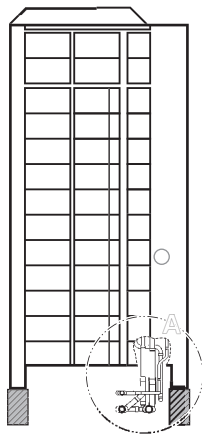
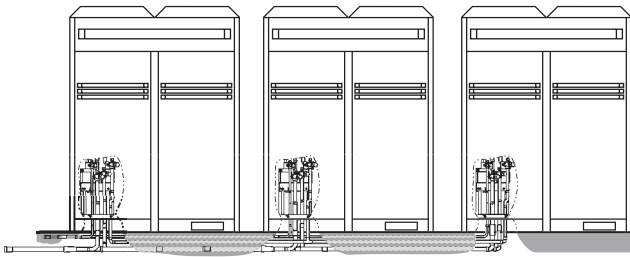
Follow the instructions on "2. After connection of the piping" on page 8.

# IN CASE OF BOTTOM PIPING

## 1. EXTERIOR



Be sure to foresee enough space for brazing and piping work under the unit.



- 1 Liquid pipe
- 2 HP/LP gas pipe
- 3 Suction gas pipe
- 4 Equalizer pipe

## 2. INSTALLATION OF SUCTION GAS AND HP/LP GAS PIPES

### Cutting the field supplied and unit supplied gas pipes

#### ■ For suction gas pipes only

For L dimension of suction gas pipe 1, dimension B of the field supplied angled joint as in table 25 on page 11 has been taken into account. Further, connection of gas pipes and the field supplied straight size joints are of the type without stoppers. If dimension B of the angled joint you use is different from that dimension B and/or if the straight size joints have stoppers, adjust the L dimension of suction gas pipe 1 accordingly.

Table 35 (for outdoor unit C)

Outdoor unit	Suction gas accessory pipe (3) (delivered with the unit)		Suction gas pipe 1 (field supply)	
	B (mm)		L (mm)	
34~38 Hp	0 <sup>(b)</sup>		137	
40~46 Hp	0 <sup>(b)</sup>		102	
48 Hp	41		98	

a = cutting position  
b = no cutting required

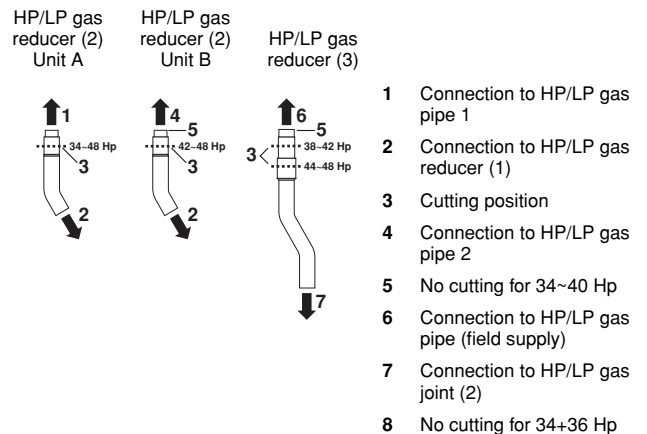
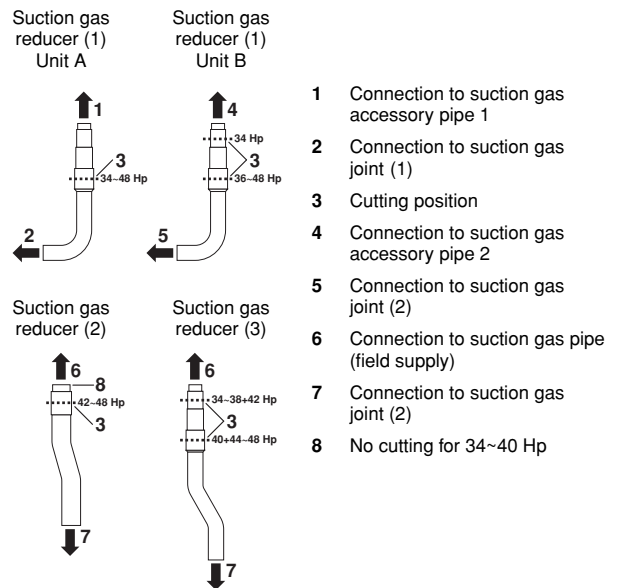
#### ■ For HP/LP gas pipes only

For L dimension of HP/LP gas pipes 1~3, dimension B of the field supplied angled joint as in table 27 on page 12 has been taken into account. Further, connection of gas pipes and the field supplied joints for same diameter are of the type without stoppers. If dimension B of the angled joint you use is different from that dimension B and/or if the joints for same diameter pipes have stoppers, adjust the L dimension of HP/LP gas pipes 1~3 accordingly.

Table 36

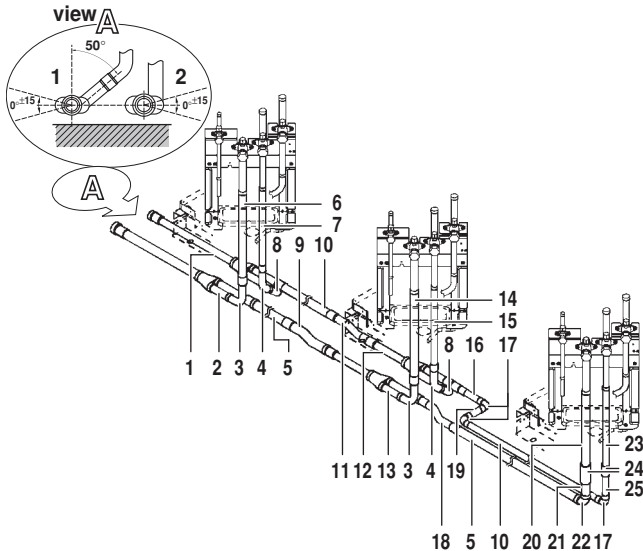
Outdoor unit	Pipe 1 L (mm) (field supply)	Pipe 2 L (mm) (field supply)	Pipe 3 L (mm) (field supply)
34~44 Hp	155	86	94
46+48 Hp	119	110	82

### Cutting suction gas reducer (1), (2) and (3) and HP/LP gas reducer (2) and (3)



## Connection piping

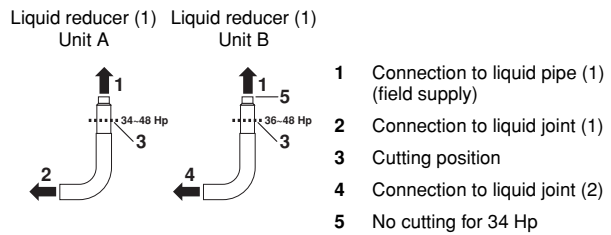
- Remove the knockout plate on the bottom frame. Refer to the installation manual delivered with the outdoor unit.
- Connect the suction gas pipes and HP/LP gas pipes (as shown in the figure below).  
Before connecting the pipes, first connect the suction gas joint and the suction gas reducer (1), the HP/LP gas joint and the HP/LP gas reducers (1) and (2).
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.
- Keep the joint in a horizontal position, see view A in the figure below.
- Connect the HP/LP gas reducer (1) by tilting it  $\pm 50^\circ$  and connect the HP/LP gas reducer (2) (see view A).
- Refer to "Pipe size selection and cutting position of joints." on page 10 for the cutting requirements.



- 1 HP/LP gas joint (1)
- 2 Suction gas joint (1)
- 3 Suction gas reducer (1)
- 4 HP/LP gas reducer (2)
- 5 Suction gas pipe (field supply) (select the pipe length on site)
- 6 Suction gas accessory pipe (1) supplied with the outdoor unit
- 7 HP/LP gas accessory pipe (1) supplied with the outdoor unit
- 8 HP/LP gas reducer (1)
- 9 Suction gas reducer (2)
- 10 HP/LP gas pipe (field supply) (select the pipe length on site)
- 11 HP/LP gas reducer (3)
- 12 HP/LP gas joint (2)
- 13 Suction gas joint (2)
- 14 Suction gas accessory pipe (2) supplied with the outdoor unit
- 15 HP/LP gas accessory pipe (2) supplied with the outdoor unit
- 16 HP/LP gas pipe (2) (field supply) refer to table 36 on page 16
- 17 Joint (6) (angle of  $90^\circ$ ) (field supply) refer to table 33 on page 14
- 18 Suction gas reducer (3)
- 19 HP/LP gas pipe (3) (field supply) refer to table 36 on page 16
- 20 Suction gas accessory pipe (3) supplied with the outdoor unit refer to table 35 on page 16
- 21 Suction gas pipe (1) (field supply) refer to table 35 on page 16
- 22 Joint (3) (angle of  $90^\circ$ ) (field supply) refer to table 31 on page 14
- 23 HP/LP gas accessory pipe (3) supplied with the outdoor unit
- 24 Straight size joint (field supply)
- 25 HP/LP gas pipe (1) (field supply) refer to table 36 on page 16

## 3. INSTALLATION OF LIQUID PIPES AND EQUALIZER PIPES

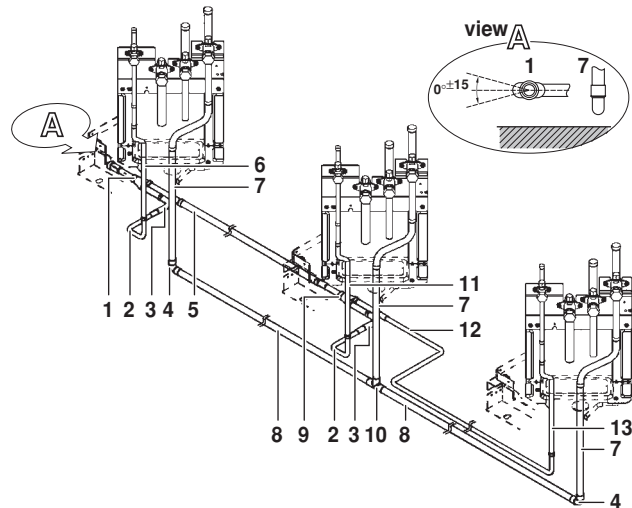
### Cutting liquid reducer (1)



- 1 Connection to liquid pipe (1) (field supply)
- 2 Connection to liquid joint (1)
- 3 Cutting position
- 4 Connection to liquid joint (2)
- 5 No cutting for 34 Hp

### Connection piping

- Remove the knockout plate on the bottom frame. Refer to the installation manual delivered with the outdoor unit.
- Connect the liquid pipes and equalizer pipes as shown in the figure below.  
Before connecting the pipes, first connect the liquid joint and the liquid reducer (1).
- Keep the joint in a horizontal position, see view A in the figure below.
- Bend the field supplied liquid pipe up to the stop valve as shown in view A in the figure below.
- Refer to the installation manual delivered with the outdoor unit for cautions on brazing pipes.



- 1 Liquid joint (1)
- 2 Liquid pipe (1) (field supply) (select the pipe length on site)
- 3 Liquid reducer (1)
- 4 Joint (angle of  $90^\circ$ ) (field supply) refer to table 29 on page 12
- 5 Liquid pipe (2) (field supply) (select the pipe length on site)
- 6 Liquid accessory pipe (1) supplied with the outdoor unit
- 7 Equalizer accessory pipe (1) supplied with the outdoor unit
- 8 Equalizer pipe (field supply) (select the pipe length on site)
- 9 Liquid joint (2)
- 10 Equalizer joint
- 11 Liquid accessory pipe (2) supplied with the outdoor unit
- 12 Liquid pipe (3) (field supply) (select the pipe length on site)
- 13 Liquid accessory pipe (3) supplied with the outdoor unit

## 4. AFTER CONNECTION OF THE PIPING

Follow the instructions on "After connection of the piping" on page 10.

# NOTES



