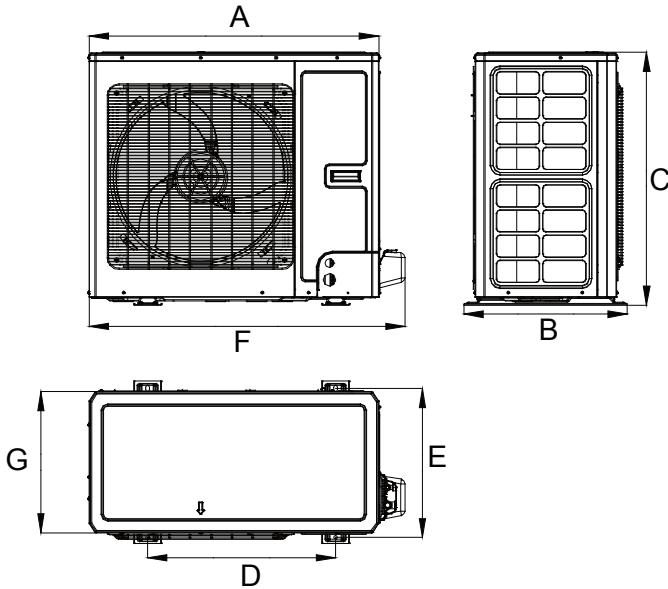


GU125W/A1-M;GU140W/A1-M;GU160W/A1-M



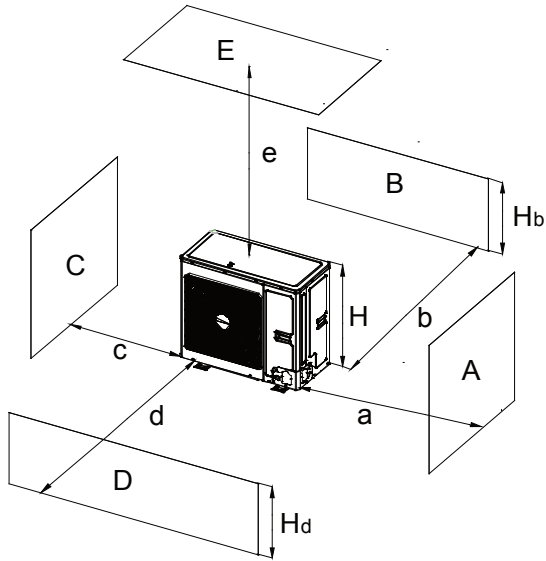
Unit: mm

Model \ Dimensions	A	B	C	D	E	F	G
GU50W/A1-K	761	320	548	540	286	825	256
GU71W/A1-K	892	396	698	560	364	957	340
GU85W/A1-K	892	396	698	560	364	957	340
GU100W/A1-M	920	427	790	610	395	985	370
GU125W/A1-M	940	530	820	610	486	1010	460
GU140W/A1-M	940	530	820	610	486	1010	460
GU160W/A1-M	940	530	820	610	486	1010	460

### 3.1.3 Diagram of Unit Installation Space and Location

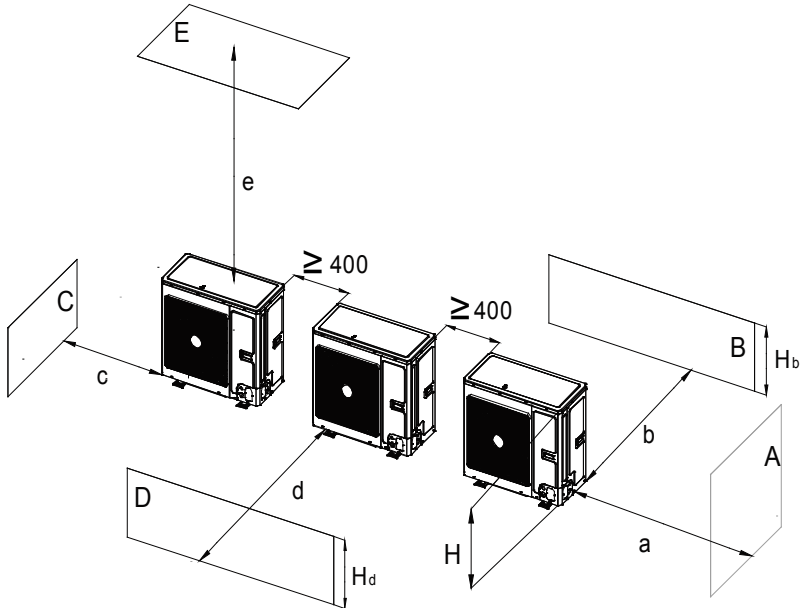
- (1) Diagram of installation space and location for outdoor unit (Notice: for best performance of the outdoor unit, make sure its installation space conforms to the following installation dimensions).

1)When one outdoor unit is to be installed



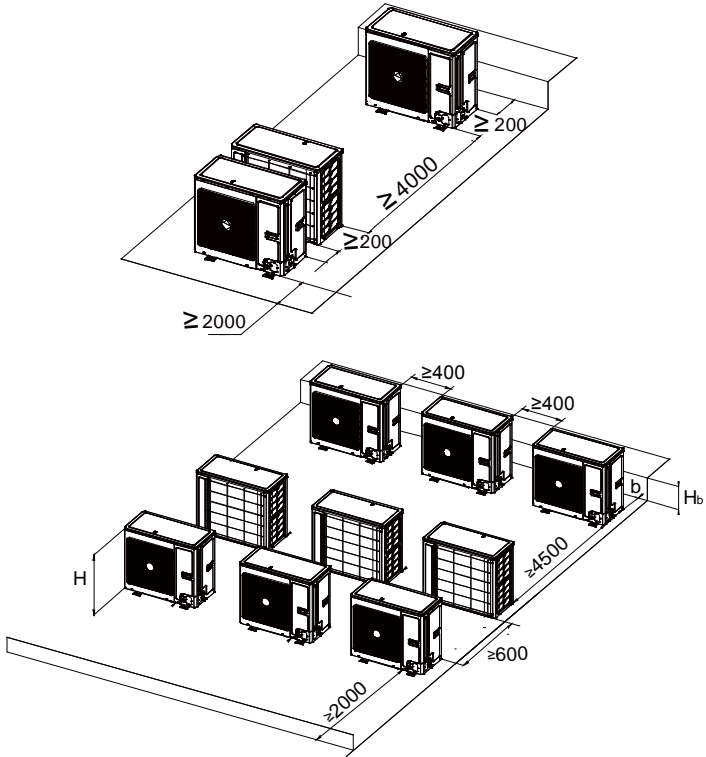
A~E	H <sub>b</sub> H <sub>d</sub> H		(mm)				
			a	b	c	d	e
B	—			≥100			
A,B,C,	—		≥300	≥100	≥100		
B,E	—			≥100			≥1000
A,B,C,E	—		≥300	≥150	≥150		≥1000
D	—					≥1000	
D,E	—					≥1000	≥1000
B,D	H <sub>b</sub> <H <sub>d</sub>	H <sub>d</sub> >H		≥100		≥1000	
	H <sub>b</sub> >H <sub>d</sub>	H <sub>d</sub> <H		≥100		≥1000	
B,D,E	H <sub>b</sub> <H <sub>d</sub>	H <sub>b</sub> ≤1/2H		≥250		≥2000	≥1000
		1/2H<H <sub>b</sub> ≤H		≥250		≥2000	≥1000
		H <sub>b</sub> >H	Prohibited				
	H <sub>b</sub> >H <sub>d</sub>	H <sub>d</sub> ≤1/2H		≥100		≥2000	≥1000
		1/2H<H <sub>d</sub> ≤H		≥200		≥2000	≥1000
	H <sub>d</sub> >1/2H	Prohibited					

2) When two or more outdoor units are to be installed side by side.



A~E	H <sub>b</sub> H <sub>d</sub> H		(mm)					
			a	b	c	d	e	
A,B,C	—		≥300	≥300	≥1000			
A,B,C,E	—		≥300	≥300	≥1000		≥1000	
D	—					≥2000		
D,E	—					≥2000	≥1000	
B,D	H <sub>b</sub> <H <sub>d</sub>	H <sub>d</sub> >H		≥300		≥2000		
	H <sub>b</sub> >H <sub>d</sub>	H <sub>d</sub> ≤1/2H		≥250		≥2000		
1/2H<H <sub>d</sub> ≤H				≥300		≥2500		
B,D,E	H <sub>b</sub> <H <sub>d</sub>	H <sub>b</sub> ≤1/2H		≥300		≥2000	≥1000	
		1/2H<H <sub>b</sub> ≤H		≥300		≥2500	≥1000	
		H <sub>b</sub> >H	Prohibited					
	H <sub>b</sub> >H <sub>d</sub>	H <sub>d</sub> ≤1/2H			≥250		≥2500	≥1000
		1/2H<H <sub>d</sub> ≤H			≥300		≥2500	≥1000
		H <sub>d</sub> >1/2H	Prohibited					

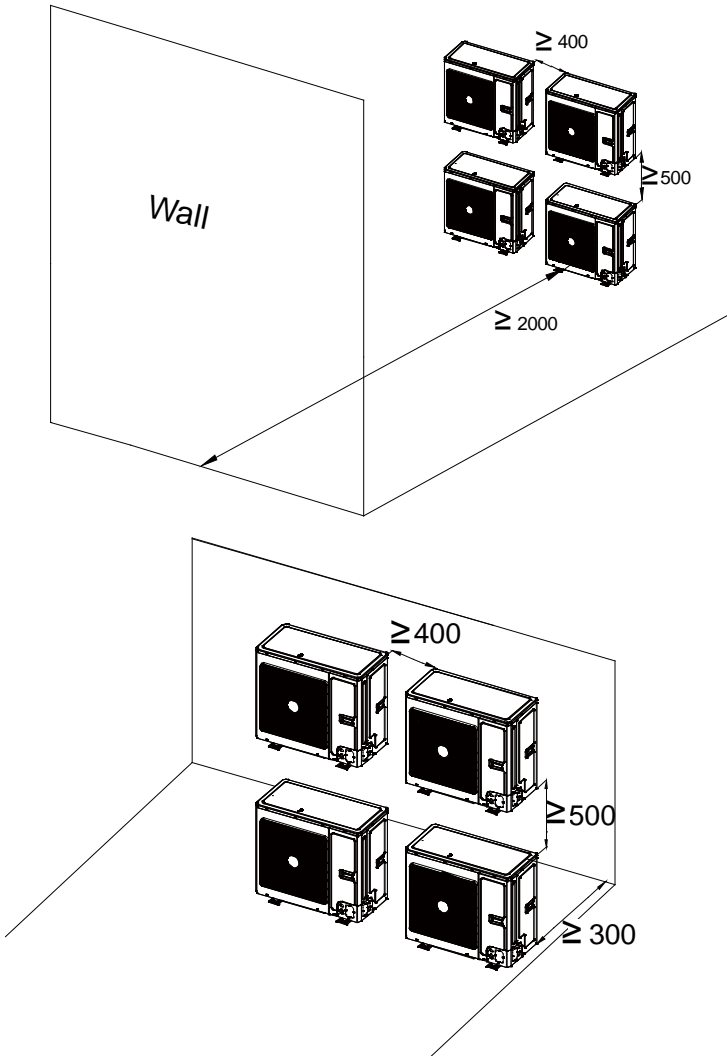
3) When outdoor units are installed in rows.



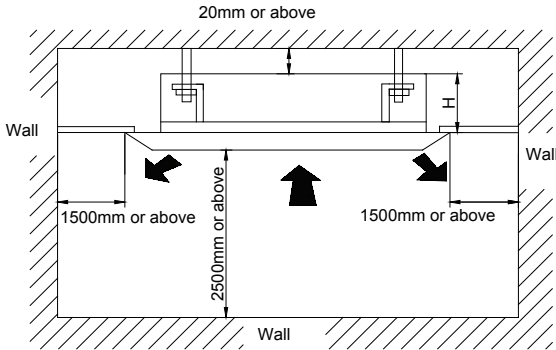
$H_b$ $H$	(mm)
$H_b \leq 1/2H$	$b \geq 250$
$1/2H < H_b \leq H$	$b \geq 300$
$H_b > H$	Prohibited

4) When outdoor units are installed one above another

Unit: mm



- (2) Diagram of installation location and space for indoor unit (Notice: for the best performance of indoor unit, make sure its installation space conforms to the following installation dimensions).

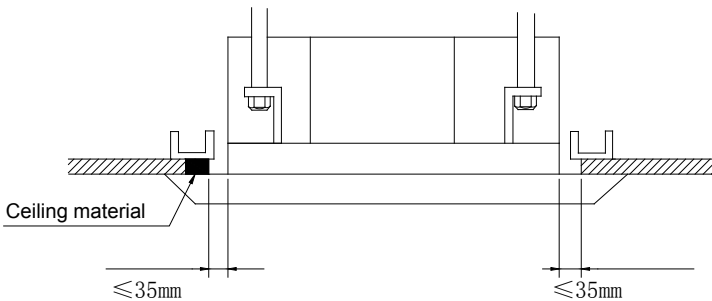


Model	H(mm)
GUD50T/A1-K	295
GU71T/A1-K	270
GU85T/A1-K	270
GU100T/A1-K	270
GU125T/A1-K	270
GU140T/A1-K	320
GU160T/A1-K	320

## 3.2 Unit Installation

### 3.2.1 Indoor Unit Installation

In order to make the front panel cover 20mm of the ceiling, the distance between the ceiling and the unit should be 35mm or less. If the distance between the ceiling and the unit is above 35mm, add some ceiling material to shorten the distance. See the following diagram.



### 3.2.1.1 Hoisting the Main Body Unit

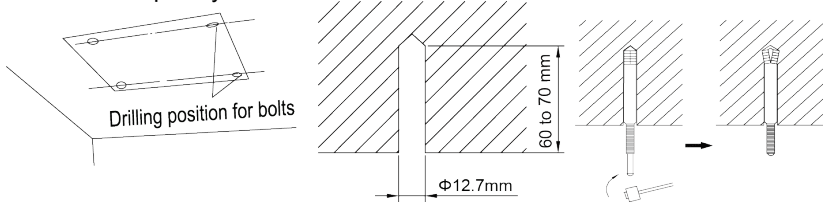


#### NOTICE

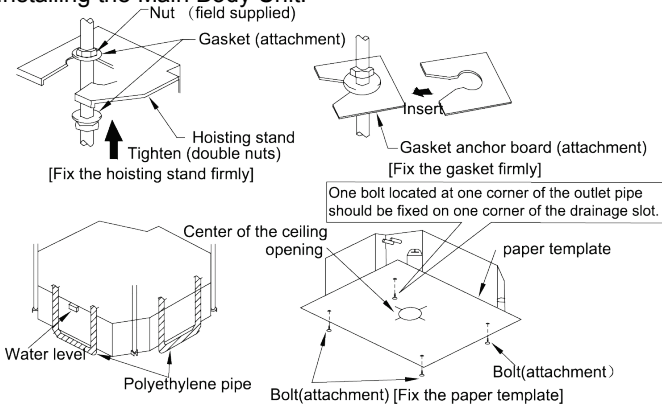
Please tightly screw up the nuts and bolts to prevent the air conditioner from falling.

#### (1) Installing the Suspension Bolts.

- 1) Using the installation template, drill holes for bolts (four holes).
- 2) Install the bolts to the ceiling at a place strong enough to hang the unit.  
Mark the bolt positions from the installation template. With a concrete drill, drill for 12.7 mm (1/2") diameter holes.
- 3) Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer.



#### (2) Installing the Main Body Unit.

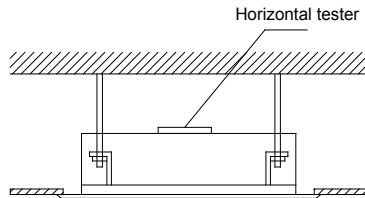


- 1) Install the hoisting stand on the hoisting screw by using nuts and gaskets at both the upper and lower sides of the hoisting stand. To prevent the gasket from breaking off, a gasket anchor board can be helpful.
- 2) Install the paper template on the unit, and fix the drain pipe at the outlet vent.

- 3) Adjust the unit to the best position.
- 4) Check if the unit is installed horizontally at four directions. If not, the water pump and the float switch would function improperly and even lead to water leakage.
- 5) Remove the gasket anchor board and tighten the nut remained.
- 6) Remove the paper template.

### 3.2.1.2 Leveling

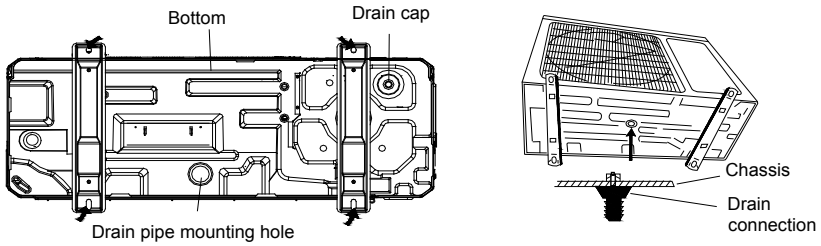
The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.



### 3.2.2 Outdoor Unit Installation

- (1) If the outdoor unit is installed on a solid ground such as concrete, use M10 screw bolts and nuts to secure the unit and make sure the unit stands erect and level.
- (2) Do not install it on top of the building.
- (3) If it vibrates and causes noise, please add rubber cushion between the outdoor unit and the installation base.
- (4) When the outdoor unit is in heating or defrosting, it needs to drain water. When installing the drain pipe, plug the accompanied drainage connector to the drainage hole on the chassis of the outdoor unit. Then connect a drain hose to the drainage connector (If drainage connector is used, the outdoor unit should be at least 10cm from the installation ground). See the figures below.





### 3.2.3 Connection Pipe Requirement

#### 3.2.3.1 Installation Notice and Requirement on Connection Pipe

Installation method: Connect the connection pipes first to the indoor unit and then to the outdoor unit. When bending a connection pipe, be careful not to damage the pipe. Do not over-tighten the screw nut, otherwise leakage will occur. Besides, the outside of connection pipe should be added with a layer of insulating cotton to protect it from mechanical damage during installation, maintenance and transportation.

Model \ Item	Size of Fitting Pipe(Inch)		Maximum pipe length(m)	Biggest drop between indoor and outdoor units (m)	Drainage pipe(Outer Diameter × wall thickness) (mm)
	Liquid	Gas			
GUD50T/A1-K	1/4	1/2	30	15	Φ25×1.5
GU71T/A1-K	3/8	5/8	30	15	Φ25×1.5
GU85T/A1-K	3/8	5/8	30	15	Φ25×1.5
GU100T/A1-K	3/8	5/8	30	20	Φ25×1.5
GU125T/A1-K	3/8	5/8	50	30	Φ25×1.5
GU140T/A1-K	3/8	5/8	50	30	Φ25×1.5
GU160T/A1-K	3/8	5/8	50	30	Φ25×1.5

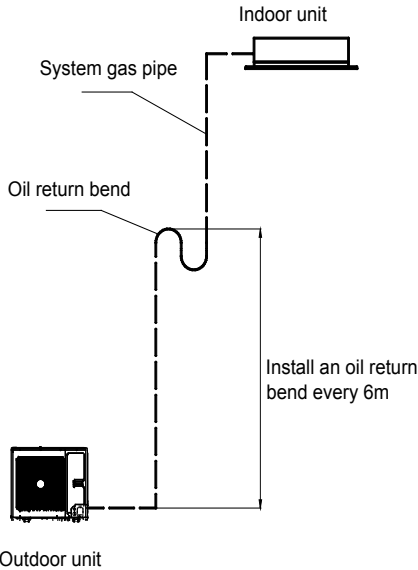
Connection pipe should adopt water-proof insulating material. Its wall thickness should be 0.5-1.0mm and the pipe wall should be able to withstand 6.0MPa. The longer the connection pipe is the worse cooling and heating performance it has.

When the drop between indoor and outdoor units is larger than 10m, an oil return bend should be added every 6 meters.

The requirement on the adding of oil return bend is as below:

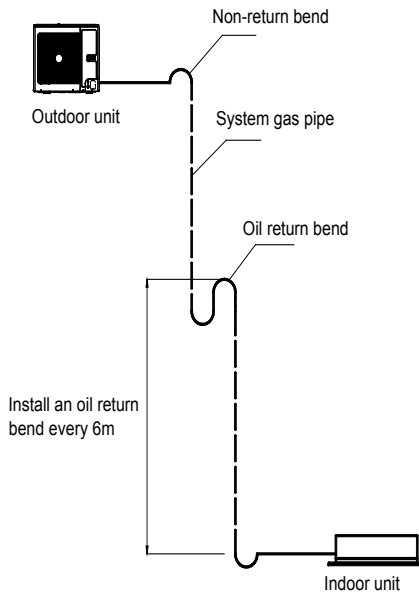
- (1) Outdoor unit is beneath the indoor unit.

There's no need to add non-return bend at the lowest or highest position of the vertical pipe, as shown below:

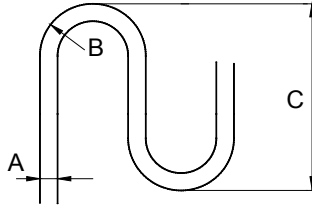


(2) Outdoor unit is above the indoor unit.

It's necessary to add oil return bend and non-return bend at the lowest and highest position of the vertical pipe, as shown below:



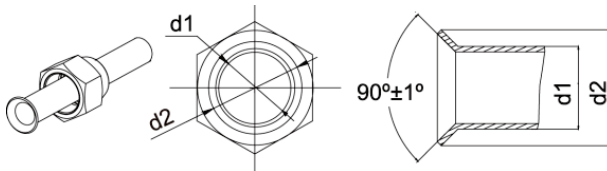
Dimensions for the making of oil return bend are as follows:



A		B(mm)	C(mm)
mm	in.		
Φ12	1/2	≥26	≤150
Φ16	5/8	≥33	≤150

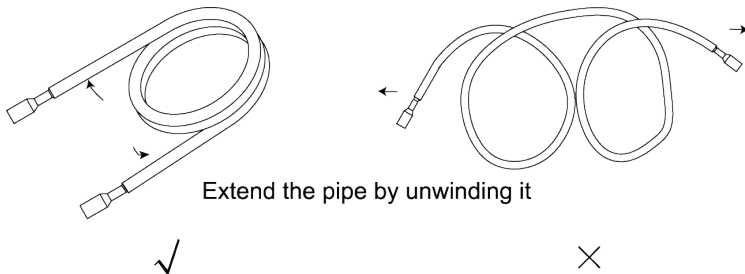
### 3.2.3.2 Pipe Flaring

- (1) Cut the connection pipe with a pipe cutter.
- (2) The mouth of connection pipe should face downward. Remove burrs with the cut surface so that the chips do not enter the pipe.
- (3) Take out the flare nut from the bag of indoor unit accessories. Then fit the flare nut on the pipe and use a flaring tool to flare the mouth of connection pipe.
- (4) Check whether the flaring part has cracked (see the figure below).



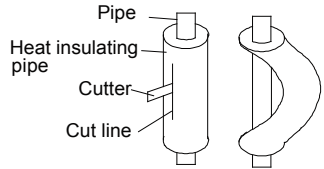
### 3.2.3.3 Pipe Bending

- (1) The pipes are shaped by your hands. Be careful not to collapse them.



- (2) Do not bend the pipes in an angle more than 90°.

- (3) If the pipe is repeatedly bent or extended, it will become hard and difficult to be bent or extended. So do not bend or extend the pipe for more than 3 times.
- (4) When bending the pipe, do not bend it excessively, otherwise it will get broken. As shown beside, use a sharp cutter to cut the heat insulating pipe and bend it after the pipe is exposed. After bending, place the heat insulating pipe back on the pipeline and fix it with adhesive tape.

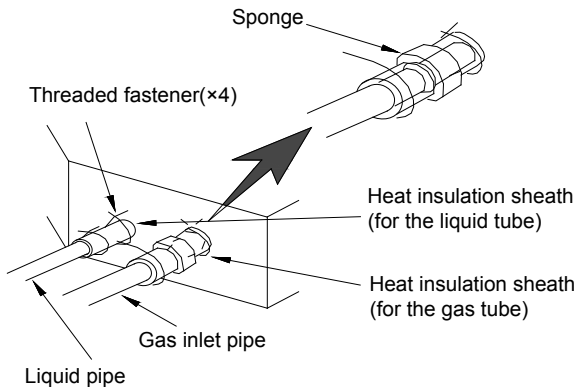


### 3.2.3.4 Connecting the Pipe at the Indoor Unit Side

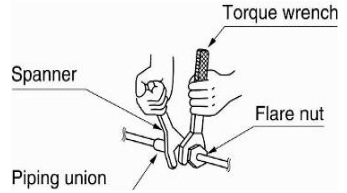
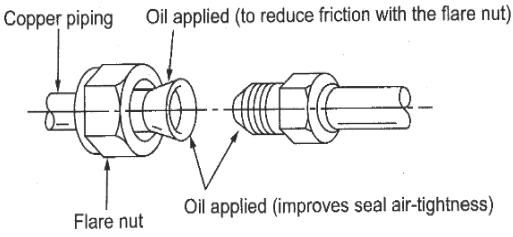


#### NOTICE

- ①. Connect the pipe to the unit. Please follow the instructions stated in the figures below. Use both spanner and torque wrench.
- ②. When connecting the tapered screw nut, first apply chilled machine oil on its inner and outer surface and then screw it up for 3~4 circles.
- ③. Confirm the tightening torque by referring to the following table (If the screw nut is over-twisted, it may be damaged and cause leakage).
- ④. Check whether gas leakage occurs to the connection pipe and then apply thermal insulation, as shown below.
- ⑤. Wind sponge around the joint of gas pipe and heat insulation sheath of gas collecting pipe.
- ⑥. Be sure to connect gas pipe after liquid pipe is connected.

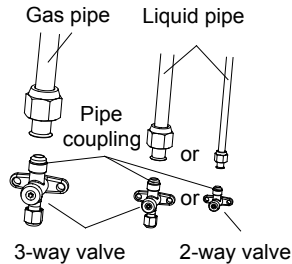


## U-Match Series Cassette Type Unit



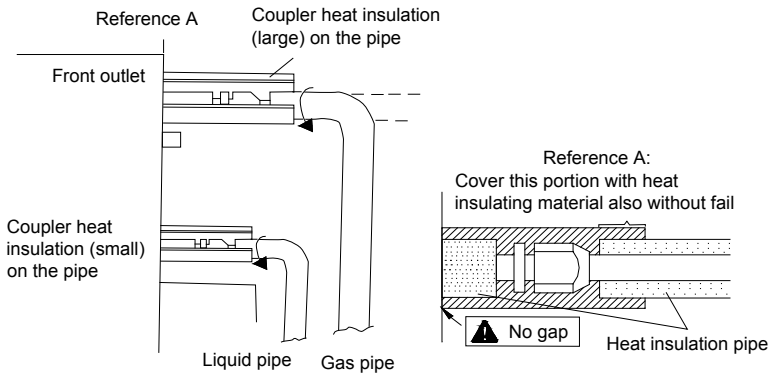
Pipe Diameter(In)	Tightening Torque(N·m)
1/4"	15-30
3/8"	35-40
1/2"	45-50
5/8"	60-65
3/4"	70-75
7/8"	80-85

Screw on the flare nut of the flaring connecting pipe on the outdoor unit valve.  
The method of screwing the flare nut is the same with that for indoor unit.



### 3.2.3.5 Thermal Insulation of Pipe Joint (Only for Indoor Unit)

Stick coupler heat insulation (large and small) to the place where connecting pipes.



### 3.2.4 Connection Pipe Vacuum Pumping



#### NOTICE

Make sure the outlet of vacuum pump is away from fire source and is well-ventilated.

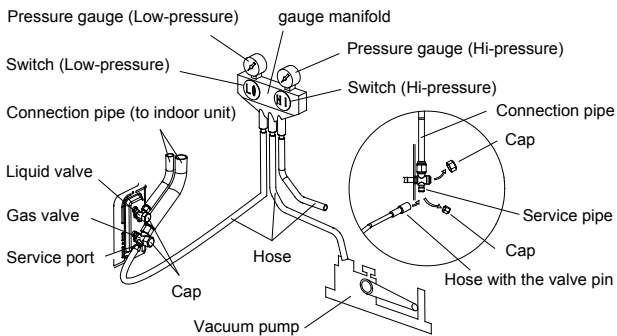
- (1) Remove the caps of the liquid valve, gas valve and also the service port.
- (2) Connect the hose at the low pressure side of the manifold valve assembly to the service port of the unit's gas valve, and meanwhile the gas and liquid valves should be kept closed in case of refrigerant leak.
- (3) Connect the hose used for evacuation to the vacuum pump.
- (4) Open the switch at the lower pressure side of the manifold valve assembly and start the vacuum pump. Meanwhile, the switch at the high pressure side of the manifold valve assembly should be kept closed, otherwise evacuation would fail.

(5) The evacuation duration depends on the unit's capacity, generally.

Model	Time(min)
GU50W/A1-K	20
GU71W/A1-K GU85W/A1-K GU100W/A1-M	30
GU125W/A1-M GU140W/A1-M GU160W/A1-M	45

And verify if the pressure gauge at the low pressure side of the manifold valve assembly reads  $-1.0\text{Mp}$  ( $-75\text{cmHg}$ ), if not, it indicates there is leak somewhere. Then, close the switch fully and then stop the vacuum pump.

- (6) Wait for 10min to see if the system pressure can remain unchanged. During this time, the reading of the pressure gauge at the low pressure side can not be larger than  $0.005\text{Mp}$  ( $0.38\text{cmHg}$ ).
- (7) Slightly open the liquid valve and let some refrigerant go to the connection pipe to balance the pressure inside and outside of the connection pipe, so that air will not come into the connection pipe when removing the hose. Note that the gas and liquid valve can be opened fully only after the manifold valve assembly is removed.
- (8) Place back the caps of the liquid valve, gas valve and also the service port.



**Notice:** For large-size units, there are maintenance ports for liquid valve and gas valve. During evacuation, you may connect the two hoses of the branch valve assembly to the maintenance ports to speed up the evacuation.