Installation manual

AR✳✳MVFH✳✳

DB68-06570F-00

Safety Information on Installation

Carefully follow the precautions listed below because they are essential to guarantee the safety of both the air conditioner and the workers.

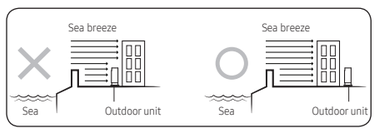
- Always disconnect the air conditioner from the power supply before servicing it or accessing its internal components.
- Verify that installation and testing operations are performed by qualified personnel.
- Verify that the air conditioner is not installed in an easily accessible area.

General information

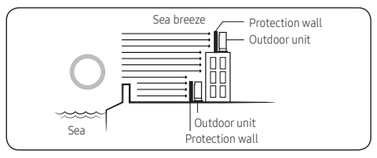
- Carefully read the content of this manual before installing the air conditioner and store the manual in a safe place in order to be able to use it as reference after installation.
- For maximum safety, installers should always carefully read the following warnings.
- Store the operation and installation manual in a safe location and remember to hand it over to the new owner if the air conditioner is sold or transferred.
- This manual explains how to install an indoor unit with a split system with two SAMSUNG units. The use of other types of units with different control systems may damage the units and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non compliant units.
- This product has been determined to be in compliance with the Low Voltage Directive (2006/95/EC) and the Electromagnetic Compatibility Directive (2004/108/EC) of the European Union.
- The manufacturer shall not be responsible for damage originating from unauthorised changes or the improper connection of electric and requirements set forth in the "Operating limits" table, included in the manual, shall immediately invalidate the warranty.
- The air conditioner should be used only for the applications for which it has been designed: the indoor unit is not suitable to be installed in areas used for laundry.
- Do not use the units if damaged. If problems occur, switch the unit off and disconnect it from the power supply.
- In order to help prevent electric shocks, fires or injuries, always stop the unit, disable the protection switch and contact SAMSUNG's technical support if the unit produces smoke, if the power cable is hot or damaged or if the unit is very noisy.
- Always remember to inspect the unit, electric connections, refrigerant tubes and protections regularly. These operations should be performed by qualified personnel only.
- The unit contains moving parts, which should always be kept out of the reach of children.
- Do not attempt to repair, move, alter or reinstall the unit. If performed by unauthorised personnel, these operations may cause electric shocks or fires.
- Do not place containers with liquids or other objects on the unit.
- All the materials used for the manufacture and packaging of the air conditioner are recyclable.
- The packing material and exhaust batteries of the remote control (optional) must be disposed of in accordance with current laws.
- The air conditioner contains a refrigerant that has to be disposed of as special waste. At the end of its life cycle, the air conditioner must be disposed of in authorised centres or returned to the retailer so that it can be disposed of correctly and safely.

Installation of the unit

- IMPORTANT: When installing the unit, always remember to connect first the refrigerant tubes, then the electrical lines. Always disassemble the electric lines before the refrigerant tubes.
- Upon receipt, inspect the product to verify that it has not been damaged during transport. If the product appears damaged, DO NOT INSTALL it and immediately report the damage to the carrier or retailer (if the installer or the authorised technician has collected the material from the retailer.)
- After completing the installation, always carry out a functional test and provide the instructions on how to operate the air conditioner to the user.
- Do not use the air conditioner in environments with hazardous substances or close to equipment that release free flames to avoid the occurrence of fires, explosions or injuries.
- Our units must be installed in compliance with the spaces indicated in the installation manual to ensure either accessibility from both sides or ability to perform routine maintenance and repairs. The units' components must be accessible and that can be disassembled in conditions of complete safety either for people or things. For this reason, where it is not observed as indicated into the Installation Manual, the cost necessary to reach and repair the unit (in safety, as required by current regulations in force) with slings, trucks, scaffolding or any other means of elevation won't be considered in-warranty and will be charged to end user.
- When installing the outdoor unit at the seaside, make sure that it is not directly exposed to sea breeze. If you cannot find an adequate place free from direct sea breeze, construct a protection wall or a protective fence.
  - Install the outdoor unit in a place (such as near buildings etc.) where it can be protected from sea breeze. Failure to do so may cause a damage to the outdoor unit.



- If you cannot avoid installing the outdoor unit at the seaside, construct a protection wall around to block the sea breeze.
- Construct a protection wall with a solid material such as concrete to block the sea breeze. Make sure that the height and the width of the wall are 1.5 times larger than the size of the outdoor unit. Also, secure a space larger than 600 mm between the protection wall and the outdoor unit for exhausted air to ventilate.



- Install the unit in a place where water can drain smoothly.
- If you have any difficulty finding installation location as prescribed above, contact your manufacturer for details.
- Be sure to clean the sea water and the dust on the heat exchanger of the outdoor unit and apply a corrosion inhibitor on it. (At least once in a year.)

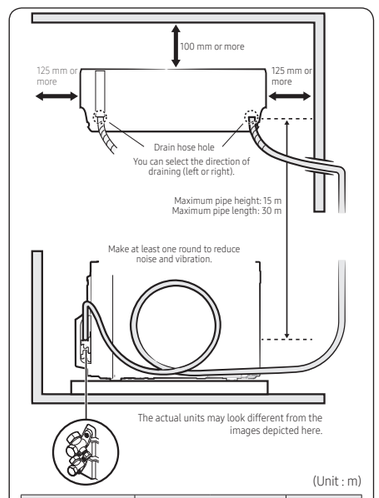
Power supply line, fuse, or circuit breaker

- Always make sure that the power supply is compliant with current safety standards. Always install the air conditioner in compliance with current local safety standards.
- Always verify that a suitable grounding connection is available.
- Verify that the voltage and frequency of the power supply comply with the specifications and that the installed power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines.
- Always verify that the cut-off and protection switches are suitably dimensioned.
- Verify that the air conditioner is connected to the power supply in accordance with the instructions provided in the wiring diagram included in the manual.
- Always verify that electric connections (cable entry, section of leads, protections...) are compliant with the electric specifications and with the instructions provided in the wiring scheme. Always verify that all connections comply with the standards applicable to the installation of air conditioners.
- Be sure not to perform power cable modification, extension wiring, and multiple wire connection.
  - It may cause electric shock or fire due to poor connection, poor insulation, or current limit override.
  - When extension wiring is required due to power line damage, refer to "Step 2.2 Optional: Extending the power cable" in the installation manual.

Preparation

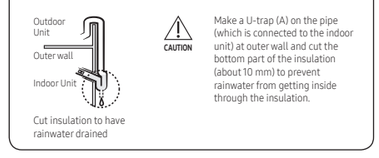
Step 1.1 Choosing the installation location

Overview of installation location requirements



(Unit : m)

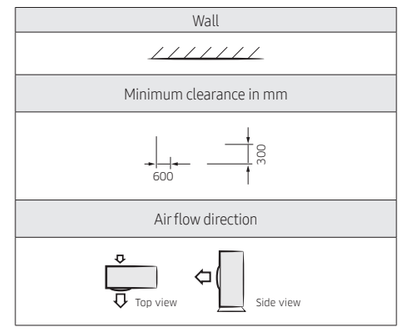
Model	Pipe length		Pipe height
	Minimum	Maximum	Maximum
✳✳09/10/12/13✳✳	3	15	7
✳✳18/24✳✳	3	20	12



⚠ CAUTION

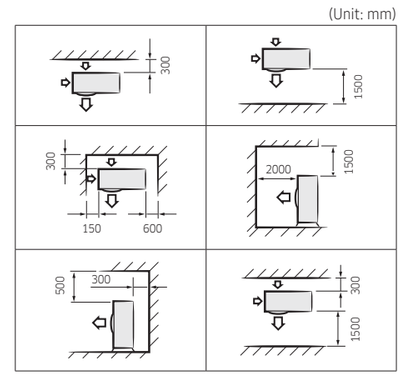
- Comply with the length and height limits described in the figure above.

Minimum clearances for the outdoor unit



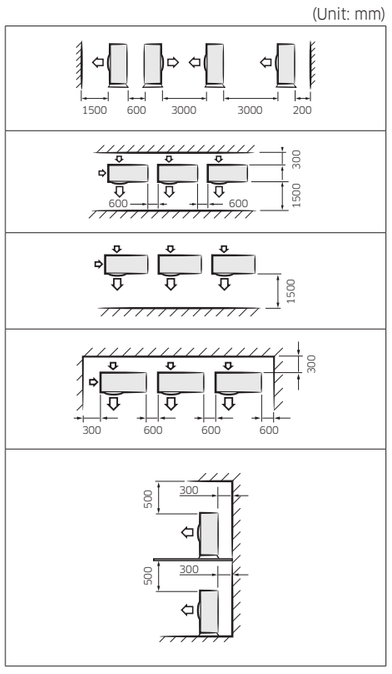
When installing 1 outdoor unit (6 cases)

(Unit: mm)



When installing more than 1 outdoor unit (5 cases)

(Unit: mm)



⚠ CAUTION

- If the outdoor unit is installed with any insufficient clearance, it may generate sound and affect the whole product.
- Be sure to install the outdoor unit in a level place where its vibration does not affect the whole product.

Step 1.2 Unpacking

Unpacking the indoor unit

1 Open the indoor unit package.
2 Remove the left and right cushions.
3 Pull out the unit from the package.

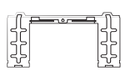
Unpacking the outdoor unit

1 Remove the package.
2 Remove the top cushion.
3 Pull out the unit from the bottom cushion.

Step 1.3 Checking and preparing accessories and tools

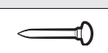
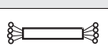
Accessories

Accessories in the indoor unit package

Installation plate (1) ✳✳09/10/12/13✳✳	Installation plate (1) ✳✳18/24✳✳
	
Remote control (1)	Remote control holder (1)
	
Remote control battery (2)	User Manual (1)
	
Installation Manual (1)	M4 x 12 tapping screw (2)
	

Optional accessories

Insulated assembly pipe, Ø 6.35 mm (1)	Insulated assembly pipe, Ø 9.52 mm (1) ✳✳09/10/12/13✳✳
	
Insulated assembly pipe, Ø 12.70 mm (1) ✳✳18✳✳	Insulated assembly pipe, Ø 15.88 mm (1) ✳✳24✳✳
	

Drain Hose, 2 m long (1)	Pipe clamp A (3)
	
Pipe clamp B (3)	Vinyl tape (2)
	
Putty 100 g (1)	PE T3 foam tube insulation (1)
	
M4 x 25 tapped screw (6)	Drain plug (1)
	
Cement nail (6)	4-wire assembly cable (1) ✳✳09/10/12/13/18✳✳
	
3-wire power cable (1) ✳✳24✳✳	1-wire assembly cable (1) ✳✳24✳✳

Accessories in the outdoor unit package

Rubber leg (4)


NOTE

- A flare nut is attached to the end of each pipe of an evaporator or a service port. Use flare nuts when connecting the pipes.
- Wire assembly cables are optional. If they are not supplied, use standard cables.
- The drain plug and the rubber legs are included only when the air conditioner is supplied without assembly pipes.
- If these accessories are supplied, they are in the accessory package or outdoor unit package.

Tools

General tools

- Vacuum pump (Backward flowing prevention)
- Manifold gauge
- Stud finder
- Torque wrench
- Pipe cutter
- Reamer
- Pipe bender
- Spirit level
- Screwdriver
- Spanner
- Drill
- L-wrench
- Measuring tape

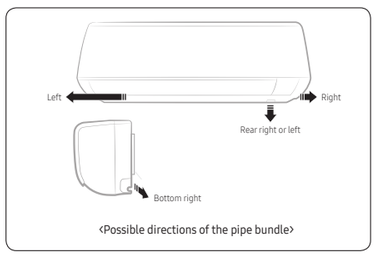
Tools for test operation

- Thermometer
- Resistance meter
- Electroscope

Step 1.4 Drilling a hole through the wall

Before fixing the installation plate to a wall and then fixing the indoor unit to the installation plate, a window frame, or a gypsum board, you must determine the position of a hole (with 65 mm inner diameter) through which the pipe bundle (consisting of power and communication cables, refrigerant pipes, and drain hose) will pass and then drill that hole.

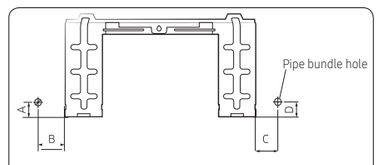
1 Determine the position of a 65 mm hole in consideration of the possible directions of the pipe bundle and the minimum distances between the hole and the installation plate.



<Possible directions of the pipe bundle>

⚠ CAUTION

- If changing the pipe direction from left to right, do not drastically bent it but slowly turn it in the opposite direction as shown. Otherwise, the pipe may be damaged in the process.



<Minimum distances between the hole and the installation plate>

(Unit : mm)

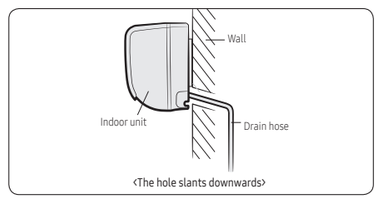
Model	A	B	C	D
✳✳ 09/10/12/13✳✳	30	96	38	30
✳✳ 18/24✳✳	38	126	70	38

Pipe bundle hole: Ø 65 mm

2 Drill the hole.

⚠ CAUTION

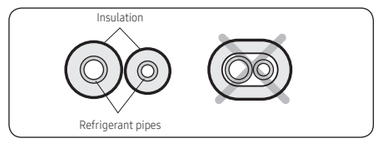
- Be sure to drill only one hole.
- Make sure that the hole slants downwards so that the drain hose slants downwards to drain water well.



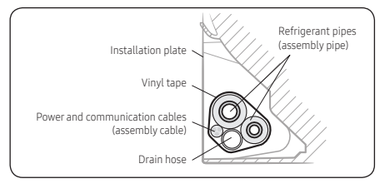
<The hole slants downwards>

Step 1.5 Taping the pipes, cables, and drain hose

1 Wrap foam insulation on parts without insulation on the ends of the refrigerant pipes, as shown in the figure. This wrapping minimises condensation problem.

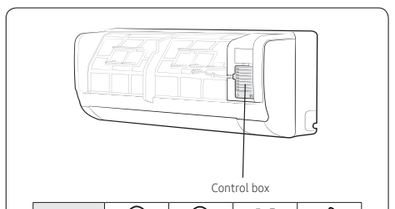


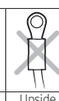
2 Wind the refrigerant pipes, power cable, communication cable and drain hose with vinyl tape to make a pipe bundle.



Indoor Unit Installation

Step 2.1 Connecting the cables (assembly cable)



Before connecting				
	Correct	Upside down	Damaged	Non-circular
After connecting				
	Correct (Front view)	Correct (Side view)	Upside down	Non-fitted

<Circular terminal>

Fasten the screws for the wire holders.

Model	✳✳09/10/12/13✳✳	✳✳18✳✳	✳✳24✳✳
Power cable (Outdoor unit)	3G x 1.0 mm², H05VV-F	3G x 1.5 mm², H05VV-F	3G x 2.5 mm², H05VV-F
Outdoor-to-indoor power cable	4G x 1.5 mm², H07RN-F	4G x 1.5 mm², H07RN-F	3G x 2.5 mm², H07RN-F, 1 x 0.75 mm², H05RN-F
Type GL	20A	25A	25A

- When performing electrical and earthing works, be sure to comply with the 'technical standards of electrical installations' and the 'wiring regulations' in the local regulations.
- Tighten the terminal block screw to 1.2-1.8 N•m (1.2-1.8 kgf•cm).

NOTE

- Each wire is labelled with the corresponding terminal number.
- Use shield cable (Category 5; less than 50pF/m) for noisy environmental site.
- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 66/CENELEC: H07RN-F, IEC: 60245 IEC 57/CENELEC: H05RN-F, IEC: 60227 IEC53/CENELEC: H05VV-F)
- Power & Communication cable shall not exceed 30m.

⚠ CAUTION

- For the terminal block wiring, use a wire with a ring terminal socket only. Regular wires without a ring terminal socket may become a hazard due to overheating of the electrical contact during installation.
- If you need to extend the pipe, be sure to extend the cable, too. The maximum length of each of the cable and pipe used should not exceed 15 meters (✳✳09/10/12/13✳✳) and 20 meters (✳✳18/24✳✳).
- Do not connect two or more different cables to extend the length. This connection may cause fire.
- Each circular terminal must match the size of its corresponding screw in the terminal block.
- After connecting the cables, make sure that terminal numbers on the indoor and outdoor units match.
- Ensure that power and communication cables are separated, they must not be in the same cable.

⚠ WARNING

- Connect the wires firmly so that wires cannot be pulled out easily. (If they are loose, it could cause burn-out of the wires.)

Step 2.2 Optional: Extending the power cable

1 Prepare the following tools.

Tools	Spec	Shape
Crimping pliers	MH-14	
Connection sleeve (mm)	20xØ6.5 (HxOD)	
Insulation tape	Width 19 mm	
Contraction tube (mm)	70xØ8.0 (LxOD)	

2 As shown in the figure, peel off the shields from the rubber and wire of the power cable.
- Peel off 20 mm of cable shields from the pre-installed tube.

⚠ CAUTION

- For information about the power cable specifications for indoor and outdoor units, refer to the installation manual.
- After peeling off the tube wire, you must insert a contraction tube.

3 Insert both sides of core wire of the power cable into the connection sleeve.
- Method 1: Push the core wire into the sleeve from both sides.
- Method 2: Twist the wire cores together and push it into the sleeve.

4 Using a crimping tool, compress the two points and flip it over and compress another two points in the same location.
- The compression dimension should be 8.0.

- After compressing it, pull both sides of the wire to make sure it is firmly pressed.

5 Wrap it with the insulation tape twice or more and position your contraction tube in the middle of the insulation tape.
Three or more layers of insulation are required.

6 Apply heat to the contraction tube to contract it.

7 After tube contraction work is completed, wrap it with the insulation tape to finish.

⚠ CAUTION

- Make sure that the connection parts are not exposed to outside.
- Be sure to use insulation tape and a contraction tube made of approved reinforced insulating materials that have the same level of withstand voltage with the power cable. (Comply with the local regulations on extensions.)

⚠ WARNING

- In case of extending the electric wire, please DO NOT use a round-shaped pressing socket.
  - Incomplete wire connections can cause electric shock or a fire.

Step 2.3 Installing and connecting the drain hose

1 Install the drain hose.

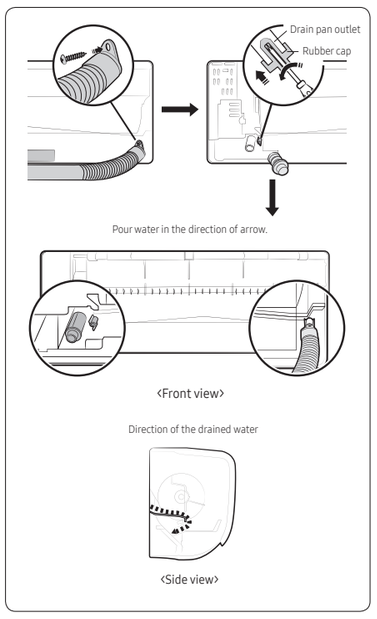
2 Pour water into the drain pan. Check whether the hose is well drained.

⚠ CAUTION

- Make sure that the indoor unit is in upright position when you pour water to check for leakage. Make sure that the water does not overflow onto the electrical part.
- If the diameter of the connection hose is smaller than the product's drain hose, water leakage may occur.
- Inadequate installation may cause water leakage.
- If the drain hose is routed inside the room, insulate the hose so that dripping condensation does not damage the furniture or floors.
- Do not box in or cover the drain hose connection. Drain hose connection must be easily accessible and serviceable.

Step 2.4 Optional: Extending the drain hose

Step 2.5 Optional: Changing the direction of the drain hose



⚠ CAUTION

- Make sure that the indoor unit is in upright position when you pour water to check for leakage. Make sure that the water does not overflow onto the electrical part.

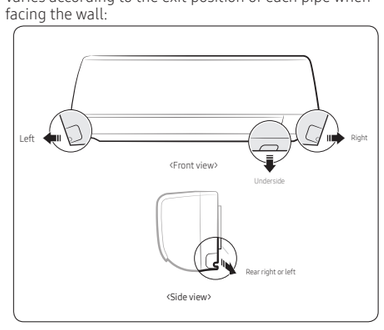
Step 2.6 Installing and connecting the assembly pipes to the refrigerant pipes (assembly pipe)

Connect indoor and outdoor units with field-supplied copper pipes by means of flare connections. Use insulated seamless refrigeration grade pipe only, (Cu DHP type according to ISO1337), degreased and deoxidized, suitable for operating pressures of at least 4200 kPa and for burst pressure of at least 20700 kPa. Under no circumstances must sanitary type copper pipe be used.

There are 2 refrigerant pipes of different diameters:

- The smaller one is for the liquid refrigerant
- The larger one is for the gas refrigerant

A short liquid refrigerant pipe and a short gas refrigerant pipe are already fitted to the air conditioner. The connection procedure for the refrigerant pipes varies according to the exit position of each pipe when facing the wall:



1 Cut out the appropriate knock-out piece (A, B, C) on the rear of the indoor unit unless you connect the pipe directly from the rear.
2 Smooth the cut edges.
3 Remove the protection caps of the pipes and connect the assembly pipe to each pipe. Tighten the nuts first with your hands, and then with a torque wrench, applying the following torque:

Outer diameter (mm)	Torque (N•m)	Torque (kgf•cm)
ø 6.35	14 to 18	140 to 180
ø 9.52	34 to 42	350 to 430
ø 12.70	49 to 61	500 to 620
ø 15.88	68 to 82	690 to 830

NOTE

- If you want to shorten or extend the pipes, see Step 2.7 Shortening or extending the refrigerant pipes (assembly pipe).

4 Cut off the remaining foam insulation.
5 If necessary, bend the pipe to fit along the bottom of the indoor unit. Then pull it out through the appropriate hole.

- The pipe should not project from the rear of the indoor unit.
- The bending radius should be 100 mm or more.

6 Pass the pipe through the hole in the wall.

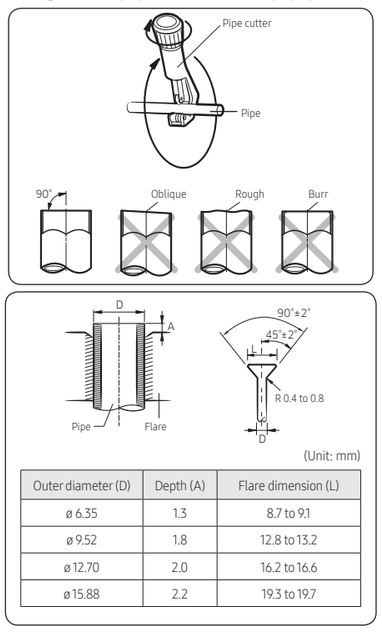
NOTE

- The pipe will be insulated and fixed permanently into position after finishing the installation and the gas leak test. For further details. see Step 4.1 Performing the gas leak tests.

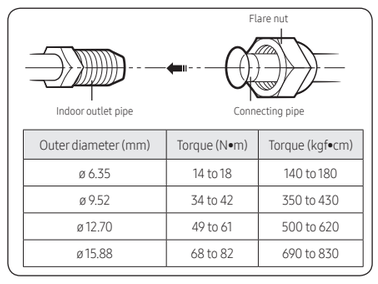
⚠ CAUTION

- Tighten the flare nut with a torque wrench according to specified method. If the flare nut is over-tightened, the flare may break and cause refrigerant gas leakage.
- Do not box in or cover the pipe connection. All refrigerant pipe connection must be easily accessible and serviceable.

Step 2.7 Shortening or extending the refrigerant pipes (assembly pipe)



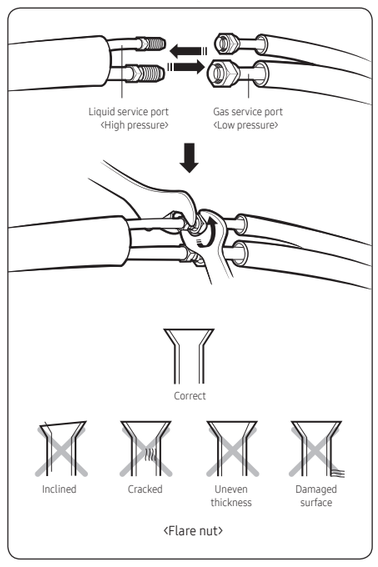
Outer diameter (D)	Depth (A)	Flare dimension (L)
ø 6.35	1.3	8.7 to 9.1
ø 9.52	1.8	12.8 to 13.2
ø 12.70	2.0	16.2 to 16.6
ø 15.88	2.2	19.3 to 19.7



Outer diameter (mm)	Torque (N•m)	Torque (kgf•cm)
ø 6.35	14 to 18	140 to 180
ø 9.52	34 to 42	350 to 430
ø 12.70	49 to 61	500 to 620
ø 15.88	68 to 82	690 to 830

⚠ CAUTION

- If you need a pipe longer than specified in piping codes and standards, you must add refrigerant to the pipe. Otherwise, the indoor unit may freeze.
- While removing burrs, put the pipe face down to make sure that the burrs do not get in to the pipe.



NOTE

- Excessive torque may cause gas leakage. When extending the pipe with welding or brazing, ensure that nitrogen is used during the welding or brazing process. The joint must be accessible and serviceable.

⚠ CAUTION

- Tighten the flare nut at the specified torque. If the flare nut is over-tightened, it may break to cause leakage of refrigerant gas.

Step 2.8 Fixing the installation plate

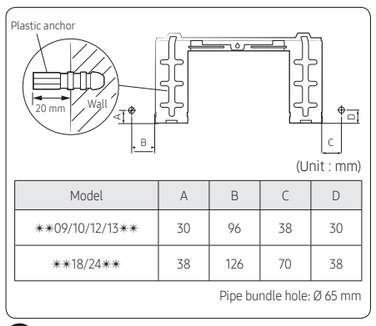
You can install the indoor unit on a wall, window frame, or gypsum board.

⚠ WARNING

- Make sure that the wall, window frame, or gypsum board can withstand the weight of the indoor unit. If you install the indoor unit in a place where it is not strong enough to withstand the unit's weight, the unit could fall and cause injury.

When fixing the indoor unit on a wall

Fix the installation plate to the wall giving attention to the weight of the indoor unit.



Model	A	B	C	D
✳✳09/10/12/13✳✳	30	96	38	30
✳✳18/24✳✳	38	126	70	38

Pipe bundle hole: Ø 65 mm

NOTE

- If you mount the plate to a concrete wall using plastic anchors, make sure that gaps between the wall and the plate, created by projected anchor, is less than 20 mm.

When fixing the indoor unit on a window frame

1 Determine the positions of the wooden uprights to be attached to the window frame.
2 Attach the wooden uprights to the window frame giving attention to the weight of the indoor unit.
3 Attach the installation plate to the wooden upright using tapping screws.

When fixing the indoor unit on a gypsum board

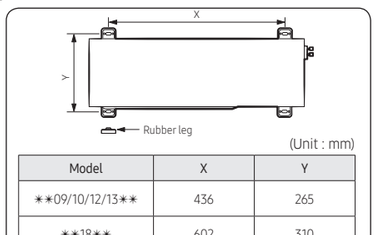
1 Use stud finder to find out locations of the studs.
2 Fix the plate hanger on two studs.

⚠ CAUTION

- If you fix the indoor unit on a gypsum board, use only specified anchor bolts on reference positions. Otherwise, the gypsum surrounding the joints may crumble over time and cause the screws to be loosened and stripped. This may lead to physical injury or equipment damage.
- Search for other spots if there are less than two studs, or the distance between the studs are different from the plate hanger.
- Fix the installation plate without inclining to one side.

Outdoor Unit Installation

Step 3.1 Fixing the outdoor unit in place



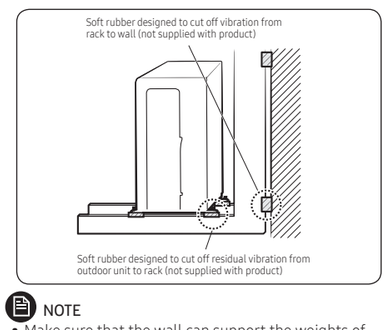
Model	X	Y
✳✳09/10/12/13✳✳	436	265
✳✳18✳✳	602	310
✳✳24✳✳	660	340

1 Place the outdoor unit as directed on the top of the unit to let the discharged air out properly.
2 Fix the outdoor unit in level to an appropriate support using anchor bolts.

NOTE

- Secure the rubber legs to help prevent the generation of noise and vibration.
- If the outdoor unit is exposed to strong winds, install shield plates around the outdoor unit so that the fan can operate correctly.

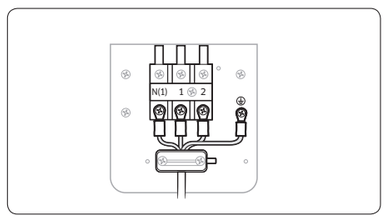
Optional: Fixing the outdoor unit to a wall with a rack



NOTE

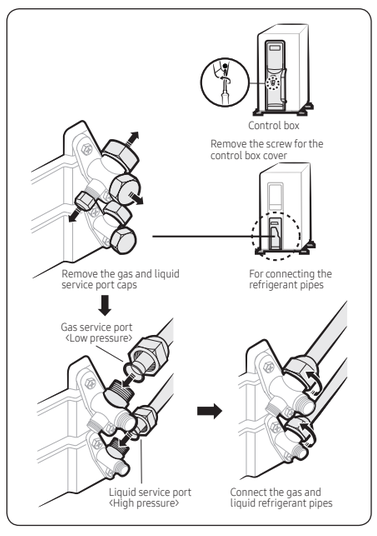
- Make sure that the wall can support the weights of the rack and the outdoor unit.
- Install the rack close to the column as much as possible.

Step 3.2 Connecting the cables and the refrigerant pipes



⚠ CAUTION

- Be sure to fix the power cables and communication cable with a cable clamp.



Step 3.3 Evacuating the air

The outdoor unit is loaded with sufficient R-410A refrigerant. Do not vent R-410A into atmosphere: it is a fluorinated greenhouse gas, covered by Kyoto Protocol, with a Global Warming Potential (GWP) = 2088. You should evacuate the air in the indoor unit and in the pipe. If air remains in the refrigerant pipes, it affects the compressor. It may cause reduction of cooling capacity and malfunction. Use a vacuum pump.

⚠ CAUTION

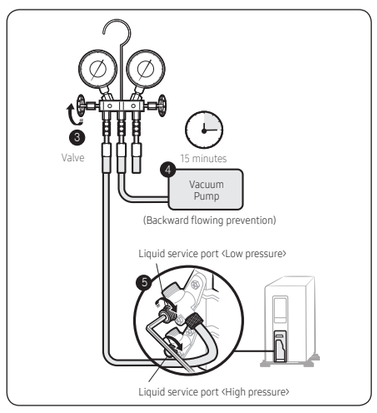
- When installing, make sure there is no leakage. When recovering the refrigerant, ground the compressor first before removing the connection pipe. If the refrigerant pipe is not properly connected and the compressor works with the stop valve open, the pipe inhales the air and it makes the pressure inside of the refrigerant cycle abnormally high. It may cause explosion and injury.

1 Leave the system in the standby mode.

⚠ WARNING

- Do not turn on the system! This is necessary for better vacuum operation (full OPEN position of Electronic Expansion Valve).

2 Connect the charging hose of the low pressure side of manifold gauge to a gas service port as seen in the picture.



3 Open the valve of the low pressure side of manifold gauge anticlockwise.
4 Evacuate the air in the connected pipes using the vacuum pump for about 15 minutes.

- Make sure that pressure gauge shows -0.1 MPa (-76 cmHg, 5 torr) after about 10 minutes. This procedure is very important to avoid a gas leak.
- Close the valve of the low pressure side of manifold gauge clockwise.
- Turn off the vacuum pump.
- Check for 2 minutes if there is any pressure change.
- Remove the hose of the low pressure side of manifold gauge.

5 Set a valve cork of liquid and gas service port to the open position.

Step 3.4 Adding refrigerant

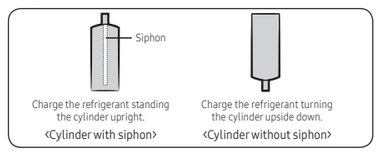
If you use a pipe longer than the length specified in the piping codes and standards, you must add 10g (for ✳✳09/10✳✳) and 15g (for ✳✳12/13/18/24✳✳) of refrigerant R-410A for each extra metre. If you use a pipe shorter than the length specified in the piping codes and standards, the evacuating time is normal. Refer to the Service Manual for further details.

⚠ CAUTION

- The remaining air in the Refrigeration cycle, which contains moisture, may cause malfunction of the compressor.
- Always contact the service centre or a professional installation agency for product installation.

R-410A is a mixed type of refrigerant. It is necessary for recharging under conditions of liquid. When recharging refrigerant from the refrigerant cylinder to the equipment, take the following instructions:

Before recharging, check whether the cylinder has a siphon or not. There are two ways to recharge the refrigerant:



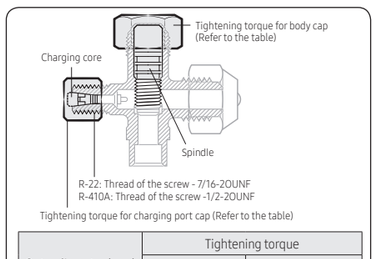
NOTE

- If R-410A refrigerant is charged with gas, the composition of the charged refrigerant changes and the characteristics of the equipment vary.
- During the measuring operation of refrigerant quantity added, use electronic scales. If cylinder doesn't have siphon, upset it.

Installation Inspection

Step 4.1 Performing the gas leak tests

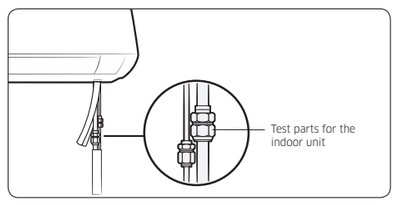
1 Before inspecting the leakage, use a torque wrench to close the cap for the stop valve. (Comply with a tightening torque for each size of the diameter, and tighten the cap firmly to prevent any leakage.)

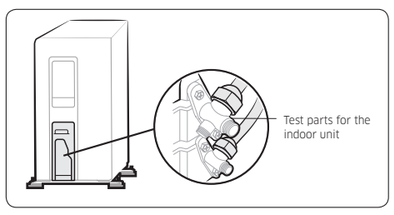


Outer diameter (mm)	Tightening torque	
	Body cap (N•m)	Charging port cap (N•m)
ø 6.35	20 to 25	10 to 12
ø 9.52	20 to 25	
ø 12.70	25 to 30	
ø 15.88	30 to 35	
Over ø 19.05	35 to 40	

(1 N•m = 10 kgf•cm)

2 Insert inert gas into the pipes connected to indoor and outdoor units.
3 Test leakage on the connection parts of the indoor and outdoor units with soap lather or liquid.





Step 4.2 Running the Smart Install mode

1 Make sure that the air conditioner is in the standby status.
2 Hold down the (Power), (Mode), and SET (SET) buttons on the remote control simultaneously for 4 seconds.
3 Wait until Smart Install mode succeeds or fails. It takes approximately 7 to 13 minutes.

- While Smart Install mode is proceeding:

Type	88 Display	LED Display
Indoor unit indicator	88	LED3, LED2, LED1
	The progress is displayed as a number between 0 and 99 on the indoor unit display.	The LEDs on the indoor unit display blink in sequence, then all of them blink simultaneously. These operations repeat.

- When Smart Install mode succeeds: Smart Install mode ends with ringing sound, and the air conditioner is in standby status.
- When Smart Install mode fails: An error message is displayed on the indoor unit display, and Smart Install mode ends.

NOTE

- Smart Install mode can be operated only with the supplied remote control.
- During the Smart install mode procedure, remote control cannot be operated.

When error occurs, take necessary measures by referring to the following table. For more information on necessary measures for errors, refer to the service manual.

Error indicator				Error	Measures for the installer to take
88 Display	LED Display				
	LED 1	LED 2	LED 3		
E101	○	◑	◑	Communication error between indoor and outdoor units	• Check the connection wire between the indoor and outdoor units (whether the power cable or communication cable is crossed or not).
E121	○	◑	○	Error on indoor temperature sensor	• Check the connection of the connector.
E122,E123	◑	◑	○	Error on indoor heat exchanger	• Check the connection of the connector.
E154	○	○	◑	Error on indoor fan motor	• Check the connection of the connector. • Remove foreign substance. (Check for the cause that restrains motor.)
88 display and all LEDs blink. E162,E163	◑	◑	◑	EEPROM/Option error	• Re-set options.
E422	●	○	◑	Refrigerant flow blocking error	• Check if the stop valve is completely open. • Check if there is any blockage in the refrigerant pipe which connects the indoor and outdoor units. • Check for refrigerant leak.
E554	●	○	◑	Lack of refrigerant (for inverter models only)	• Check if a sufficient amount of refrigerant is additionally charged for the pipe longer than specified in piping codes and standards. • Check for refrigerant leak between valve and pipe connection.
	⁜ This LED pattern appears when an error occurs on the outdoor unit.				

⁜ ○: Off, ◑: Blinking, ●: On

Step 4.3 Performing final check and trial operation

1 Check the following:

- Strength of the installation site
- Tightness of pipe connection to detect gas leak
- Electric wiring connection
- Heat-resistant insulation of the pipe
- Drainage
- Grounding conductor connection
- Correct operation (Take the following steps.)

2 Press the (Power) button on the remote control to check the following:

- The indicator on the indoor unit lights up.
- The airflow blade opens and the fan gears up for operation.

3 Press the (Mode) button to select Cool mode. Then take the following sub-steps:

- In Cool mode, use the Temperature button to set the set temperature to 16 °C.
- Check whether, approximately 3 to 5 minutes later, the outdoor unit starts, and a cool air blows out.
- After 12 minutes of stationary condition, check the indoor unit air treatment.

4 Press the (Air swing) button to check whether the airflow blades work properly.
5 Press the (Power) button to stop the trial operation.

Pumping down refrigerant

Pump-down is an operation intended to collect all the system refrigerant in the outdoor unit. This operation must be carried out before disconnecting the refrigerant tubing in order to avoid refrigerant loss to the atmosphere.

1 Shut off the liquid valve with the Allen wrench.
2 Turn on the air conditioner in cooling with fan operating at high velocity. (Compressor will immediately start, provided 3 minutes have elapsed since the last stop.)
3 After 2 minutes of operation, shut the suction valve with the same wrench.
4 Turn off the air conditioner and switch mains supply off.
5 Disconnect tubing. After disconnection, protect valves and tubing ends from dust.

⚠ CAUTION

- Compressor damage may occur if the compressor is run at a negative suction pressure.

Pumping down for removing the product

1 Hold down the (Power) button on the indoor unit for 5 seconds. Beep sounds immediately to indicate that the product is ready for pump down procedure.
2 Let the compressor run for more than 5 minutes.
3 Release the valve caps on High and Low pressure side.
4 Use L-wrench to close the valve on the high pressure side.
5 After approximately 1 minute, close the valve on the low pressure side.
6 Stop operation of the air conditioner by pressing the (Power) button on the indoor unit or remote control.
7 Disconnect the pipes.

