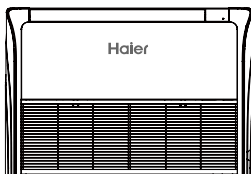
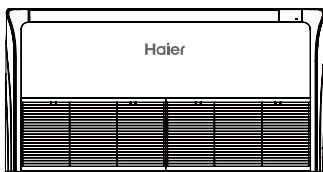


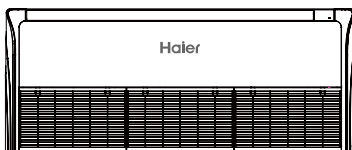
CONVERTIBLE TYPE AIR CONDITIONER OPERATION MANUAL AND INSTALLATION MANUAL



AC35S2SG1FA
AC50S2SG1FA



AC71S2SG1FA
AC90S2SH1FA
AC105S2SH1FA



AC125S2SK1FA
AC140S2SK1FA

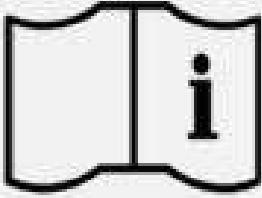


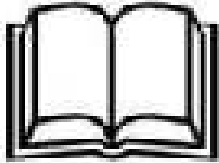
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No.0150532721

Please read this manual carefully before installation.

Keep this operation manual for future reference.

	Read the precautions in this manual carefully before operating the unit.		This appliance is filled with R32.
	Service indicator; Read technical manual		Read the operator's manual

Keep this manual where the user can easily find it.

WARNING

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance must be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- This appliance can be used by children aged 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- The wiring method should be in line with the local wiring standard.
- All the cables shall have got the European authentication certificate. During installation, when the connecting cables break off, it must be assured that the grounding wire is the last one to be broken off. The explosion-proof breaker of the air conditioner should be all-pole switch. Distance between its two contacts should not be no less than 3mm. Such means for disconnection must be incorporated in the wiring.
- Make sure installation is done according to local wiring regulation by professional persons.
- Make sure ground connection is correct and reliable.
A leakage explosion-proof breaker must be installed.
- Do not use a refrigerant other than the one indicated on the outdoor unit(R32) when installing, moving or repairing. Using other refrigerants may cause trouble or damage to the unit, and personal injury.
- The installation and service of this product shall be carried out by professional personnel, who have been trained and certified by national training organizations that are accredited to teach the relevant national competency standards that may be set in legislation.
- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated.
- This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.
- Disconnect the appliance from its power source during service and when replacing parts

WARNING

- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part.
- The maximum working pressure is 4.3 MPa.
- This maximum working pressure shall be considered when connecting the outdoor unit to indoor unit.
- The refrigerant suitable for the indoor unit is R32 or R410A. The indoor unit shall only be connected to outdoor unit suitable for the same refrigerant.
- The unit is a partial unit air conditioner, complying with partial unit requirements of the International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of the International Standard.
- The A-weighted sound pressure level is below 70 dB.
- The maximum refrigerant charge amount (kg), and the minimum floor area (m²) of the room in which the indoor unit will be installed, are specified in the table on the page 10.
- Pipe-work shall be protected from physical damage and, in the case of flammable refrigerants, shall not be installed in an unventilated space, if the space is smaller than that specified in the table on the page 10
- The installation of pipe-work shall be kept to a minimum.
- Compliance with national gas regulations shall be observed.
- Mechanical connections shall be accessible for maintenance purposes.
- Handling, installation, cleaning, servicing and disposal of refrigerant shall be carried out as per the specifications on the following pages strictly.
- Warning: Keep any required ventilation openings clear of obstruction.
- Notice: Servicing shall be performed only as recommended by this manual instruction.

Haier

Haier Industrial Park, No.1 Haier road, Qingdao,P.R.China

EUROPEAN REGULATIONS CONFORMITY FOR THE MODELS

CE

All the products are in conformity with the following European provision:

- Low voltage Directive
- Electromagnetic Compatibility

ROHS

The products are fulfilled with the requirements in the directive 2011/65/EU of the European parliament and of council on the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment(EU RoHS Directive)

WEEE

In accordance with the directive 2012/19/EU of the European parliament,herewith we inform the consumer about the disposal requirements of the electrical and electronic products.

DISPOSAL REQUIREMENTS:



Your air conditioning product is marked with this symbol.This means that electrical and electronic products shall not be mixed with unsorted household waste.Do not try to dismantle the system yourself:the dismantling of the air conditioning system,treatment of the refrigerant,of oil and of other part must be done by a qualified installer in accordance with relevant local and national legislation.Air conditioners must be treated at a specialized treatment facility for reuse, recycling and recovery.By ensuring this product is disposed of correctly,you will help to prevent potential negative consequences for the environment and human health.Please contact the installer or local authority for more information. Battery must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

IMPORTANT INFORMATION REGARDING THE REFRIGERANT USED

Contains fluorinated greenhouse gases covered by the Kyoto Protocol		A
R32/R410A	1= <input type="text"/> kg	B
	2= <input type="text"/> kg	C
	1+2= <input type="text"/> kg	D
		F

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol.Do not vent into the atmosphere.

Refrigerant type:R32 GWP:675

Refrigerant type:R410A GWP:2088

GWP=global warming potential

Please fill in with indelible ink,

- 1 the factory refrigerant charge of the product
 - 2 the additional refrigerant amount charged in the field and
 - 1+2 the total refrigerant charge on the refrigerant charge label supplied with the product. The filled out label must be adhered in the proximity of the product charging port(e.g.onto the inside of the stop value cover).
- A contains fluorinated greenhouse gases covered by the Kyoto Protocol
B factory refrigerant charge of the product:see unit name plate
C additional refrigerant amount charged in the field
D total refrigerant charge
E outdoor unit
F refrigerant cylinder and manifold for charging

⚠ WARNING

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

The appliances are not intended to be operated by means of an external timer or separate remote-control system.

Keep the appliance and its cord out of reach of children less than 8 years.

Cautions

Disposal of the old air conditioner

Before disposing an old air conditioner that goes out of use, please make sure it's inoperative and safe. Unplug the air conditioner in order to avoid the risk of child entrapment.

It must be noticed that air conditioner system contains refrigerants, which require specialized waste disposal. The valuable materials contained in a air conditioner can be recycled. Contact your local waste disposal center for proper disposal of an old air conditioner and contact your local authority or your dealer if you have any question. Please ensure that the pipework of your air conditioner does not get damaged prior to being picked up by the relevant waste disposal center, and contribute to environmental awareness by insisting on an appropriate, anti-pollution method of disposal.

Disposal of the packaging of your new air conditioner

All the packaging materials employed in the package of your new air conditioner may be disposed without any danger to the environment.

The cardboard box may be broken or cut into smaller pieces and given to a waste paper disposal service. The wrapping bag made of polyethylene and the polyethylene foam pads contain no fluorochloric hydrocarbon.

All these valuable materials may be taken to a waste collecting center and used again after adequate recycling.

Consult your local authorities for the name and address of the waste materials collecting centers and waste paper disposal services nearest to your house.

Safety Instructions and Warnings

Before starting the air conditioner, read the information given in the User's Guide carefully. The User's Guide contains very important observations relating to the assembly, operation and maintenance of the air conditioner.

The manufacturer does not accept responsibility for any damages that may arise due to non-observation of the following instruction.

- Damaged air conditioners are not to be put into operation. In case of doubt, consult your supplier.
- Use of the air conditioner is to be carried out in strict compliance with the relative instructions set forth in the User's Guide.
- Installation shall be done by professional people. Don't install unit by yourself.
- For the purpose of safety, the air conditioner must be properly grounded in accordance with specifications.
- Always remember to unplug the air conditioner before opening inlet grill. Always grip plug firmly and pull straight out from the outlet.
- All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditioner.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.
- Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers or any other things into the inlet/outlet and swing louver.
- Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.
- When the indoor unit is turned on, the PCB will test if swing motor is O.K., and then fan motor will start up. So there is a few seconds to wait.
- In cooling mode, the flaps will swing automatically to a fixed position for anti-condensating.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

Cautions

Specifications

- The refrigerating circuit is leak-proof.
- For all the models in this manual, the all-pole disconnection connection method should be applied in the power supply. Such means for disconnection must be incorporated in the fixed wiring.

Temperature and Humidity Range

Cooling	Indoor temperature	max. DB/WB min. DB/WB	32/23°C 18/14°C
	Outdoor temperature	max. DB/WB min. DB/WB	46/26°C 10/6°C
Heating	Indoor temperature	max. DB/WB min. DB/WB	27°C 15°C
	Outdoor temperature	max. DB/WB min. DB/WB	24/18°C -15°C

- If the air conditioner is used under higher temperature condition than those listed, the built-in protection circuit may operate to prevent internal circuit damage. Also, during Cooling and Dry modes, if the unit is used under conditions of lower temperature than those listed above, the heat-exchanger may freeze, leading to water leakage and other damage.
- Do not use this unit for purposes other than cooling, heating, dehumidifying and ventilation of rooms in ordinary dwellings.
- The wiring method should be in line with the local wiring standard.
- The waste battery should be disposed properly.
- If the fuse on PC board is broken, please change it with the type T 3.15A/250VAC.

Safety Precautions

WARNING

- The breaker of the air conditioner should be all-pole switch, and the distance between its two contacts should be no less 3 mm. Such means for disconnection must be incorporation in the fixed wiring.
- Use copper wire only. All the cables shall have got the European authentication certificate.
- The power supply connects from the outdoor side. The connecting cable and the power cable are self-provided.
- The parameter of connecting cable: H05RN-F 4G 0.75mm².

DANGER

- Do not attempt to install this air conditioner by yourself.
- This unit contains no user-serviceable parts. Always consult authorized service personnel for repairs.
- When moving, consult authorized service personnel for disconnection and installation of the unit.
- Do not become excessively chilled by staying for lengthy periods in the direct cooling airflow.
- Do not insert fingers or objects into the outlet port or intake grills.
- Do not start and stop air conditioner operation by connecting and disconnecting the power supply cord and so on.
- Take care not to damage the power supply cord. If the supply cord is damaged, it must be replaced by the manufacturer or authorized service agent in order to avoid a hazard.
- In the event of a malfunction (burning smell, etc.), stop operation immediately, turn off the circuit breaker, and consult authorized service personnel.

WARNING

- Provide occasional ventilation during use.
- Do not direct air flow at fire places or heating apparatuses.
- Do not place objects on the air conditioner or climb onto it .
- Do not hang objects from the indoor unit.
- Do not set flower vases or water containers on top of the air conditioner.
- Do not expose the air conditioner directly to water.
- Do not operate the air conditioner with wet hands.
- Do not pull power supply cord.
- Turn off power source when not using the unit for extended periods.
- Check the condition of the installation stand for damage.
- Do not place animals or plants in the direct path of the air flow.
- Do not drink the water drained from the air conditioner.
- Do not use in applications involving the storage of foods, plants or animals, precision equipment or art works.
- Do not apply any heavy pressure to radiator fins.
- Operate only with air filters installed.
- Do not block or cover the intake grill and outlet port.
- Ensure that any electronic equipment is at least one metre away from either the indoor or outdoor unit.
- Avoid installing the air conditioner near a fireplace or other heating apparatuses.
- When installing the indoor and outdoor unit, take precautions to prevent access to infants.
- Do not use inflammable gases near the air conditioner.

Features and Functions

AUTOMATIC OPERATION

- **COOLING TYPE**

Merely press the ON/OFF button, and the unit will begin automatic operation in the Cooling or dry modes as appropriate, in accordance with the thermostat setting and the actual temperature of the room.

- **HEAT & COOL TYPE**

Merely press the ON/OFF button, and the unit will begin automatic operation in any of the Heating, Cooling and Blow modes as appropriate, in accordance with the thermostat setting and the actual temperature of the room.

SLEEP

- **COOLING TYPE**

When the SLEEP button is pressed during Cooling or Dry mode, the thermostat setting gradually rises during the period of operation. When the set time is reached, the unit automatically turns off.

- **HEAT & COOL TYPE**

When the SLEEP button is pressed during Heating mode, the air conditioner's thermostat setting gradually lowers during the period of operation; When the set time is reached, the unit automatically turns off.

WIRELESS REMOTE CONTROL UNIT

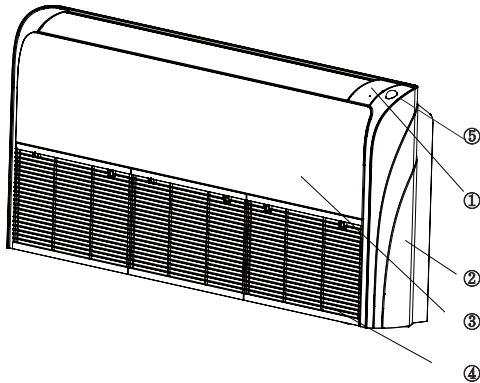
- The WIRELESS REMOTE CONTROL UNIT allows convenient control of air conditioner operation. For this type unit, the wireless remote controller type is YR-H50.

MILDEW-RESISTANT FILTER

- The AIR FILTER has been treated to resist mildew growth, thus allowing cleaner use and easier care.

Parts and Functions

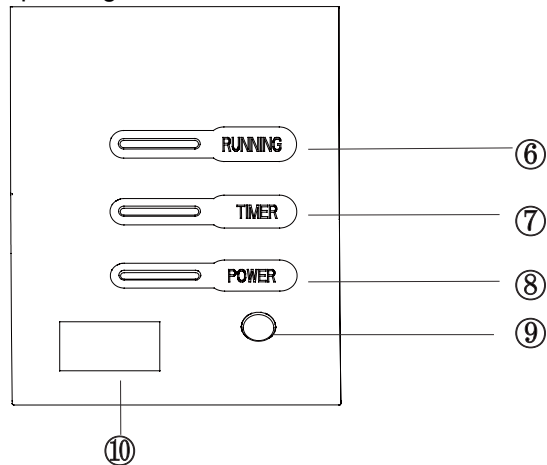
Indoor Unit



Operating Control Panel 1

- (1) Operation Control Panel
- (2) Cover Plate
- (3) Front Panel
- (4) Inlet Grill(Filter inside)
- (5) Human Sensor
- (6) RUNNING Indicator Lamp
- (7) TIMER Indicator Lamp
- (8) POWER Indicator Lamp
- (9) Emergency Switch
- (10) Remote Receiver

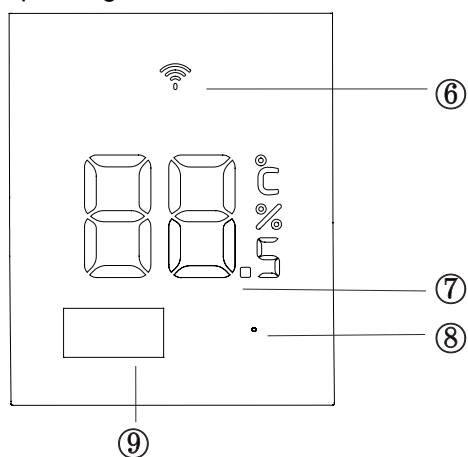
Operating Control Panel 1



Operating Control Panel 2

- (1) Operation Control Panel
- (2) Cover Plate
- (3) Front Panel
- (4) Inlet Grill(Filter inside)
- (5) Human Sensor
- (6) WIFI Indicator Lamp
- (7) Display Indicator Lamp
- (8) Emergency Switch
- (9) Remote Receiver

Operating Control Panel 2



Note:

For the wired control type unit, the unit state should be checked by the wired controller, instead of the remote receiver.

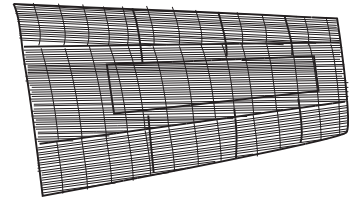
And if you set the TIMER function, the TIMER LED on the remote receiver will not be on.

2.The different PANEL for different models.

Maintenance

Clean the air filter

1. Pull the filters upward to remove them from the Intake Grill.
2. Clean the air filter: Remove the dust from the filters by vacuum cleaner or washing them. After washing, allow the air filters to dry thoroughly in an area protected from sunlight.
3. Re-attach the air filters to the Intake Grill. Press the two buttons on the filters until you hear a sound of click.








Maintenance of indoor units

- When used for extended periods, the unit may accumulate dirt inside, which reduces its performance. We recommend that the unit is inspected regularly, in addition to your own cleaning and care. For more information, consult authorized service personnel.
- When cleaning the unit's body, do not use water hotter than 40°C, harsh abrasive cleansers, or volatile agents like benzene or thinner.
- Do not expose the unit body to liquid insecticides or hairsprays.
- When shutting down the unit for one month or more, first allow the Fan mode to operate continuously for about half a day to allow internal parts to dry thoroughly.

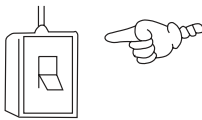
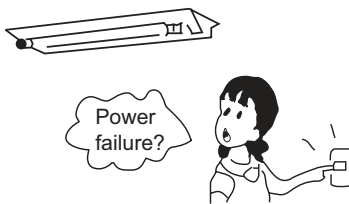
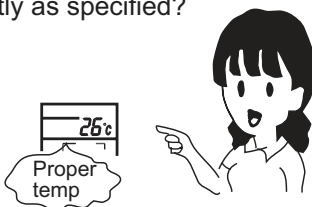
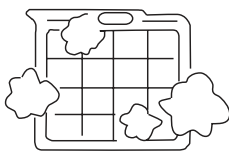
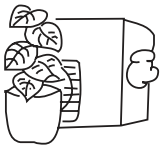
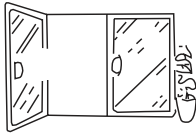
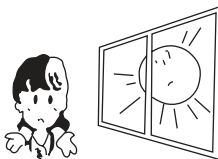
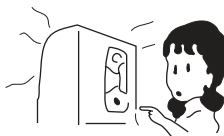

Troubleshooting

Followings are not problems

<p>Sound of water flowing is not a problem.</p> 	<p>During unit operation or at stop, a swishing or gurgling noise may be heard. This noise is generated by refrigerant flowing in the system.</p>
<p>Sound of cracking is heard.</p>	<p>During unit operation, a cracking noise may be heard. This noise is generated by the casing expanding or shrinking because of temperature changes.</p>
<p>Smell are generated.</p>	<p>This is because the system circulates smells from the interior air such as the smell of cigarettes or the painting on the furniture.</p>
<p>During operation, white fog or steam comes out from the indoor unit.</p>	<p>When unit is running at places like restaurant, etc. where dense edible oil fumes always exist, this will happen.</p>
<p>In cooling operation, unit switches to blowing operation.</p>	<p>To prevent frost from accumulating on indoor heat exchanger, unit will switch to blowing operation for a while then resume cooling operation.</p>
<p>Unit will not restart after stop.</p> <p>Won't start?</p> 	<p>Though ON/OFF button is set to ON, the unit won't resume cooling, dry or heating operation in 3 min after it is stopped, this is because of 3-min-delay protection circuit.</p>  <p>Please wait 3 minutes</p>
<p>No outlet air or fan speed can't be changed in dry mode.</p>	<p>Unit will reduce fan speed repeatedly and automatically if room temp. is too low in dry operation.</p>
<p>In heating operation, water or steam are blown out of outdoor unit.</p> 	<p>This occurs when frost accumulated on the outdoor unit is removed. (during defrosting operation)</p> 
<p>In heating operation, indoor fan won't stop even if unit is stopped.</p>	<p>After unit stop, indoor fan will go on running until indoor unit cools down.</p>

Troubleshooting

Before ask for services, please first check your unit against the following.

Air conditioner won't start.		
<p>Is power supply switch turned on?</p>  <p>Power supply switch is not set at ON.</p>	<p>Is city power supply normal?</p> 	<p>Is leakage current breaker activated?</p> <p>This is very dangerous, please disconnect power supply immediately and contact your dealer.</p>
Poor cooling or heating		
<p>Are operation control adjusted correctly as specified?</p> 	<p>Is air filter too dirty?</p> 	<p>Are there any obstacles in inlet or outlet grill?</p> 
<p>Are horizontal louvers at up position (in heating mode)?</p>	<p>Any doors or windows left open?</p> 	
Poor cooling		
<p>Is there any direct sunlight in the room?</p> 	<p>If there are unexpected heat sources in the room?</p> 	<p>Too many people in the room?</p> 
<p>Cold air blows out (in heating mode). Is air conditioner in standby condition in heating mode?</p>		

If your unit still can't work properly after above mentioned checks, or following problems occur, please stop it immediately and contact your dealer.

- Fuses or circuit breakers often blow out.
- Water comes out in cooling/dry operation.
- Operation is abnormal or sound is heard.

Troubleshooting

When failure happens, the fan of indoor unit stop running. The method of check failure code as follow.

For outdoor failure, the failure code is outdoor failure LED flash times + 20.

For example, the failure code of outdoor unit is 2. the wired controller of indoor unit will display 16 (using hexadecimal method).

Ta: ambient temperature sensor

Tm: coil temperature sensor

OUTDOOR UNIT TROUBLE SHOOTING			
Error code	Malfunction Description	Diagnosis and Analysis.	Remark
1	EEPROM malfunction	EEPROM chip damaged or data wrong or related circuit damaged.	Non-resumable
2	PIM (power intelligent module) hardware over current	Input over current occurred been detected by PIM's hardware.	Resumable
3	Compressor over current during deceleration	Over current occurred during compressor deceleration period.	Non-resumable
4	Communication abnormal between control board and compressor driver module	Control board can not communicating with compressor driver module over 4 minutes	Resumable
5	Compressor overcurrent detected by control board	Compressor over current been detected by control board	Non-resumable
6	DC voltage or AC voltage high	AC power supply of the driver module get voltage over 280VAC or driver module get high DC-BUS voltage over 390VDC.	Resumable
7	Compressor current sampling circuit fault	The driver module's Compressor current sampling circuit damaged.	Non-resumable
8	Discharge temperature too high protection	Compressor discharge temperature over 115°C, error clear within 3 minutes if temperature goes down and lower than 115°C. Error status lock if it occurs 3 times in 1 hour.	Non-resumable
9	DC fan motor fault	DC fan motor damage or not connected or related circuit broken. Error status confirm and lock if occurs 3 times within 30 minutes.	Non-resumable
10	Outdoor defrosting temp. sensor Te abnormal	Sensor temperature been detected below -55°C or higher than 90°C or been detected as short circuit or open circuit..	Resumable
11	Suction temp. sensor Ts abnormal		
12	Outdoor ambient temp. sensor Ta abnormal	Sensor temperature been detected below -40°C or higher than 90°C or been detected short circuit or open circuit.	Resumable
13	Discharging temp. sensor Td abnormal	Sensor temperature been detected below -40°C or higher than 150°C or been detected short circuit or open circuit.	Resumable
14	PFC circuit loop high voltage	Overvoltage been detected in driver module's power factor correction circuit loop.	Resumable
15	Communication abnormal between indoor unit and outdoor unit	Outdoor unit control board can not communicating with indoor unit control board over 4 minutes.	Resumable
16	Lack of refrigerant or discharging pipe blocked	Discharge & suction temperature $T_d - T_s \geq 80^\circ\text{C}$ after compressor started 10 minutes. Error status lock if it occurs 3 times in 1 hour.	Non-resumable
17	4-way valve converse abnormal	Indoor pipe & indoor ambient temperature $T_m - T_{ai} \geq 5^\circ\text{C}$ after compress- or started 10 minutes. Error status lock if it occurs 3 times in 1 hour.	Non-resumable
18	Compressor motor desynchronizing	Rotor desynchronizing occurred, caused by overload or load sharply fluctuating or compressor current sensor circuit abnormal or one of the inverter's gate drive signal missing.	Non-resumable

Troubleshooting

Error code	Malfunction Description	Diagnosis and Analysis	Remark
19	DC voltage or AC voltage low	AC power supply of the driver module get voltage lower than 155VAC or driver module get high DC-BUS voltage lower than 180VDC.	Resumable
20	Indoor pipe temperature too high protection	Indoor pipe temperature Tm over 63°C, error clear within 3 minutes if temperature goes down and lower than 52°C.	Resumable
21	Indoor pipe sensor temperature too low protection	Indoor pipe temperature too low,outdoor unit stop to prevent indoor heat exchange system icing and to prevent the indoor unit outlet air too low at the same time	Resumable
22	PFC circuit loop overcurrent	Overcurrent been detected in power factor correction circuit loop.	Resumable
23	Temperature too high for compressor driver module	Compressor driver module's PIM temperature over 90°C, Error stat-us lock if it occurs 3 times in 1 hour.	Non-resumable
24	Compressor start failure	Compressor start failure been detected by driver driver module.	Non-resumable
25	Input overcurrent of the drive module	Input current of the compressor drive module higher than 32A (double fan model) or 27A (single fan) , Lock if it occurs 3 times in 1 hour.	Non-resumable
26	Lack phase of the drive module	Lack phase of the drive module's power supply.(three phase type)	Non-resumable
27	Input current sampling circuit fault	The driver module's input current sampling circuit damaged.	Resumable
28	No wiring of the compressor	No wiring between compressor and it's driver module.	Non-resumable
37	Compressor overcurrent detected by compressor driver module	Compressor phase U or V or W current over 27A (single phase model) or 19.1A (single phase model) occurred during non-rated period.	Resumable
38	Drive module's ambient temp. sensor abnormal	The temperature detected is not within the range of -25°C to 150 °C.	Resumable
39	Mid-condenser temp. sensor TC abnormal	The temperature detected is not within the range of -55°C to 90 °C.	Resumable
42	High pressure switch abnormal	After compressor running for 3 minutes, switch been detected open circuit for 30seconds, Error lock if it occurs 3 times in 1 hour.	Non-resumable
43	Low pressure switch abnormal	After compressor running for 3 minutes, switch been detected uncon-nected for 60seconds or unconnected for 30seconds at standby.	Non-resumable
44	Outdoor condenser temperatureTC too high protection	The maximum temperature value of Tc and Te is over 65 °C, Error lock if it occurs 3 times in 30 minutes.	Non-resumable
45	System low pressure protection	The minimum temperature value of indoor pipe Tm and outdoorTs is lower than-45 °C at cooling mode or minimum temperature value of outdoor Tc and outdoor Te is lower than-45 °C.	Non-resumable

Note:

1. The ou.tdoor control board's LED3 indicates the outdoor error code. for example, the error code 12, LED3 will display 12 and keep flashing.
2. NO-resumable means error will not clear unless: a. clean out the fault factor b. Cut the power supply off and reoffer again after point a achieved.
3. The indoor unit can also indictes the outdoor malfunction code too. Please refer to indoor unit manul to get the method.

Installation Procedure

Please ask the dealer or specialist to install, never try by the users themselves. After the installation please be sure of the following conditions.

WARNING

- **Please call dealer to install the air-conditioner. Incorrect installation may cause water leaking, shock and fire hazard.**

CAUTION

- **Air-conditioner can't be installed in the environment with inflammable gases because the inflammable gases near air-conditioner may cause fire hazard.**

- **Installed electrical-leaking circuit breaker.**

It easily cause electrical shock without circuit breaker.

- **Connect earthing wire.**

Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, incorrect earthing may cause shock.



- **Use discharge pipe correctly to ensure efficient discharge.**

Incorrect pipe use may cause water leaking.

- **Wiring**

Air-conditioner should be equipped with special power supply wire.

- **Location**

- Air-conditioner should be located in well-vented and easily accessible place.
- Air-conditioner should not be located in the following places:
 - (1) Places with machine oils or other oil vapours.
 - (2) Seaside with high salt content in the air.
 - (3) Near hot spring with high content of sulfide gases.
 - (4) Area with frequent fluctuation of voltage e.g. factory, etc.
 - (5) In vehicles or ships.
 - (6) Kitchen with heavy oil vapour or humidity.
 - (7) Near the machine emitting electric-magnetic waves.
 - (8) Places with acid, alkali vapour.
- Choose the following locations:
 - (1) Capable of supporting air conditioner weight. Don't increase operating noise and vibration.
 - (2) Hot vapour from outdoor unit outlet and operating noise don't disturb neighbour.
 - (3) No obstacles around the outdoor unit outlet.
- TV, radio, acoustic appliances etc. are at least 1 m far away from the indoor unit, outdoor unit, power supply wire, connecting wire, pipes, otherwise images may be disturbed or noises be created.
- As required, take measures against heavy snow.

For authorized service personnel only

WARNING

- (1) For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual.
- (2) Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available from our standard parts. This installation manual describes for the correct connections so that the installation set available from our standard parts should be used.
- (3) Installation work must be performed in accordance with national wiring standards by authorized personnel only.
- (4) Never cut the power cord, lengthen or shorten the cord, or change the plug. Do not use an extension cord.
- (5) Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the room air conditioner.
- (6) Do not turn on the power until all installation work is done.

CAUTION

- (1) Be careful not to scratch the room air conditioner when handling it.
- (2) After installation, explain correct operation to the customer, according to the operating manual.
- (3) Let the customer keep this installation manual because it will be used when the room air conditioner is serviced or moved.

Installation Procedure

SELECTING THE MOUNTING POSITION

WARNING

- Install at a place that can withstand the weight of the indoor unit and install it positively so that the unit will not topple or fall.

CAUTION

- Do not install the unit where there is the danger of combustible gas leakage.
- Do not install near heat sources.
- If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

Decide the mounting position with the customer as follows.

- (1) Install the indoor unit level on a strong wall which is not subject to vibration.
- (2) The inlet and outlet ports should not be obstructed, and the air should be able to blow all over the room.
- (3) Do not install the unit where it will be exposed to direct sunlight
- (4) Install the unit where connection to the outdoor unit is easy.
- (5) Install the unit where the drain pipe can be easily installed.
- (6) Take servicing, etc. into consideration and leave the spaces shown in "Maintenance space dimension" .
- (7) Install the unit where the filter can be removed

ACCESSORIES FOR INSTALLATION

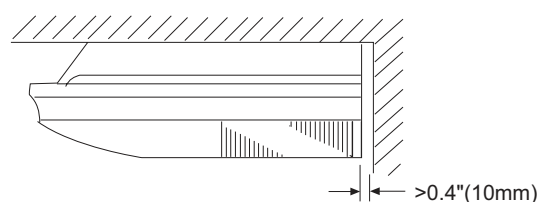
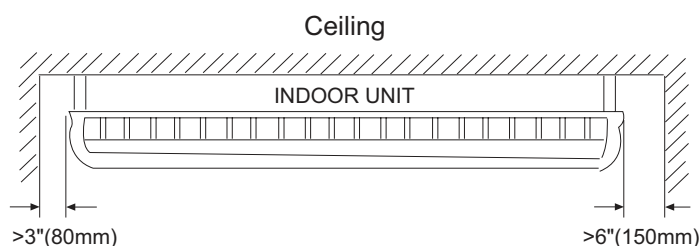
The following installation parts are optional parts. Use them as required.

Optional parts

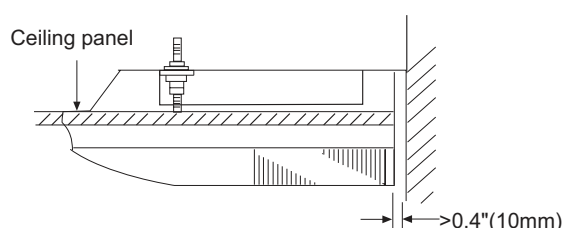
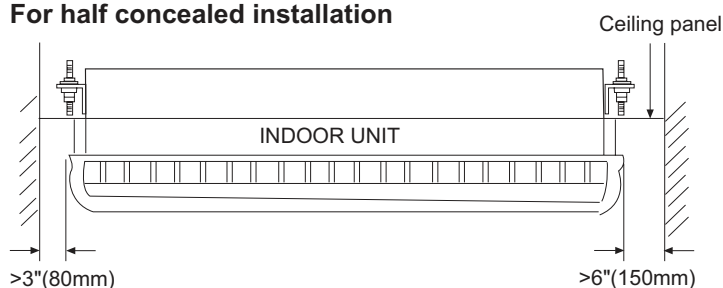
Adhesive tape
Saddle (L.S) with screws
Drain hose
Heat insulation material
Piping hole cover
Putty
Plastic clamp

MAINTENANCE SPACE DIMENSION

For ceiling installation



For half concealed installation



Installation Procedure

INSTALLING THE INDOOR UNIT

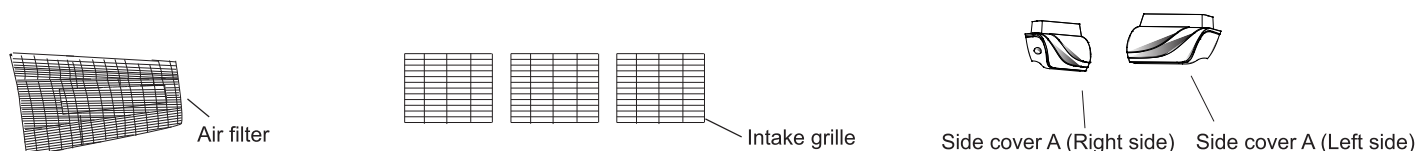
Connection pipe requirement

Model	Diameter		Maximum length	Maximum height (between indoor and outdoor)
	Liquid side	Gas side		
AC35S2SG1FA	6.35mm	9.52mm	15m	10m
AC50S2SG1FA	6.35mm	12.7mm	20m	10m
AC71S2SG1FA	9.52mm	15.88mm	20m	10m
AC90S2SH1FA AC105S2SH1FA AC125S2SK1FA	9.52mm	15.88mm	30m	20m
AC140S2SK1FA	9.52mm	15.88mm	50m	30m

Install the room air conditioner as follows

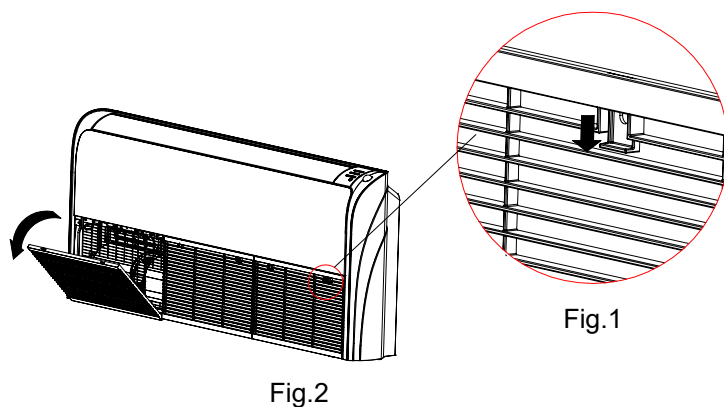
1. Remove the intake grill and side cover

- (1) Open the intake grill
- (2) Remove the Side cover(Right and left side)
- (3) This air conditioner can be set up to intake fresh air. The information about how to install for fresh-air intake, refer to "Fresh air intake".



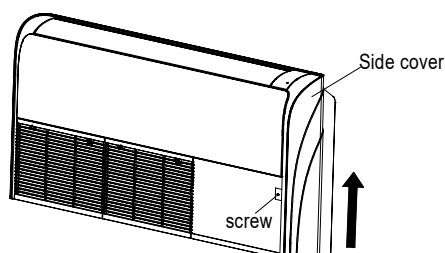
Open the intake grill

- (1) Push the embedding switch according to the direction of the arrowhead.(Refer to Fig.1)
- (2)Turn into the intake grill according to the direction of the arrowhead.(Refer to Fig.2)



Remove the Side cover

- (1) Remove the screw.
- (2) Push the Side cover according to the direction of the arrowhead.
- (3) Then remove the Side cover.

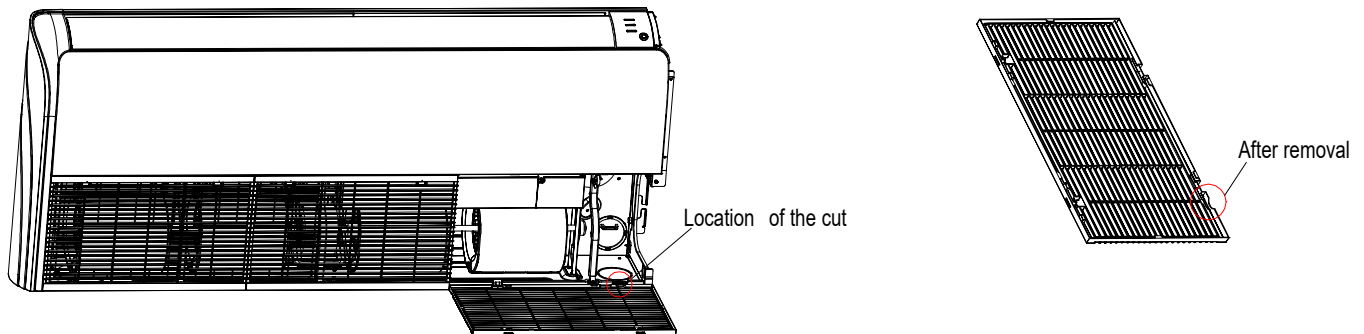


Installation Procedure

Cut intake grill for drain pipe

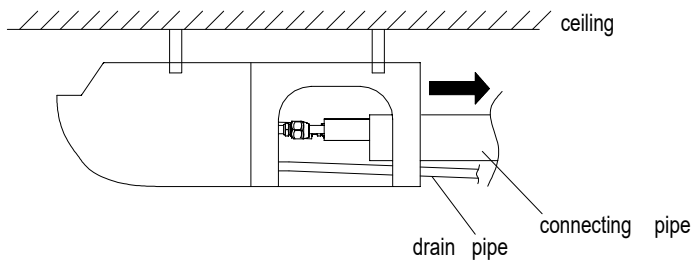
(1) Tools: Knife or Pliers.

(2) Cut the intake grill before installing the drain pipe, Then, pass the drain pipe through the hole. As the following schematic.

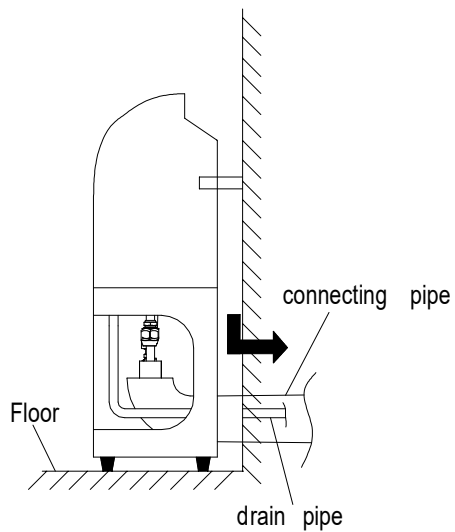


Installing the drain pipe and the connecting pipe

(1) When the unit is installed in the ceiling, Installing them as below.

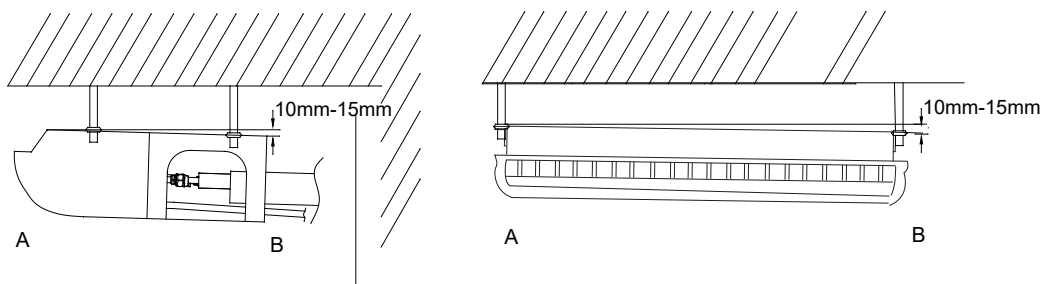


(2) When the unit is installed on the floor, Installing them as below.



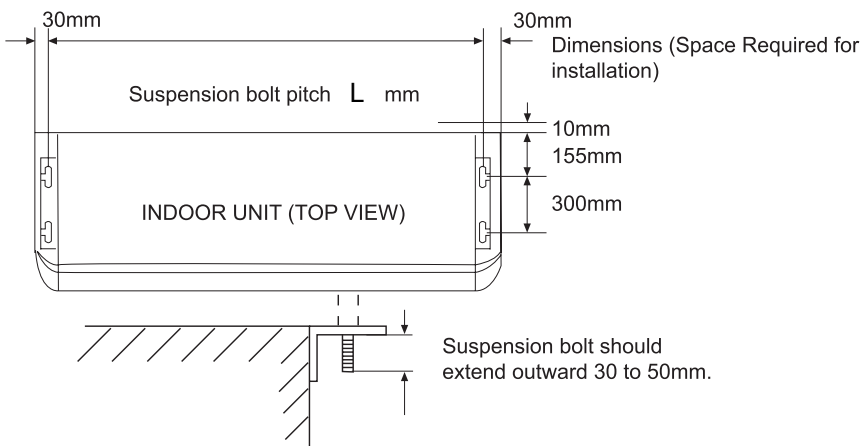
CAUTION

When the unit is installed in the ceiling, side B is lower than side A for condensate discharge. As below.



Installation Procedure

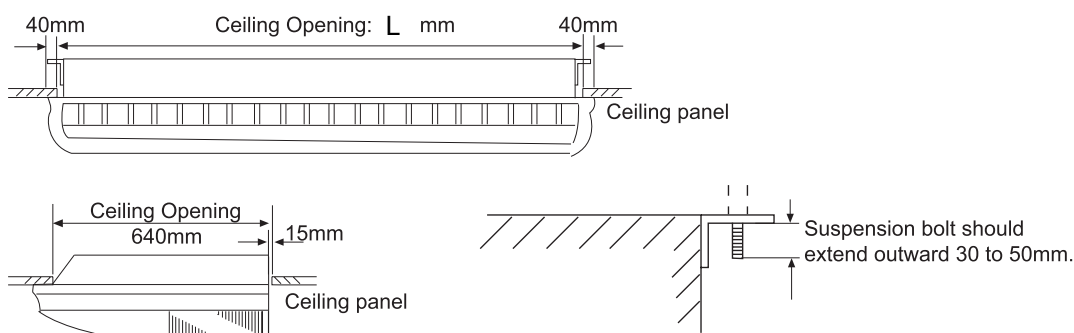
2. Location of ceiling suspension bolts



MODEL	L
AC35S2SG1FA AC50S2SG1FA	880
AC71S2SG1FA AC90S2SH1FA AC105S2SH1FA	1204
AC125S2SK1FA AC140S2SK1FA	1530

For half-concealed installation

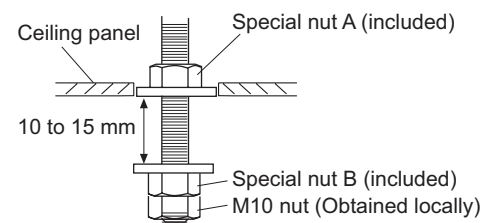
Suspension-bolt pitch should be as shown below



3. Drilling the holes and attaching the suspension bolts

- (1) Drill $\phi 25$ mm holes at the suspension-bolt locations. The two special nuts are provided with the unit. The M10 nut must be obtained locally.
- (2) Install the bolts, then temporarily attach Special nuts A and B and a normal M10 nut to each bolt.

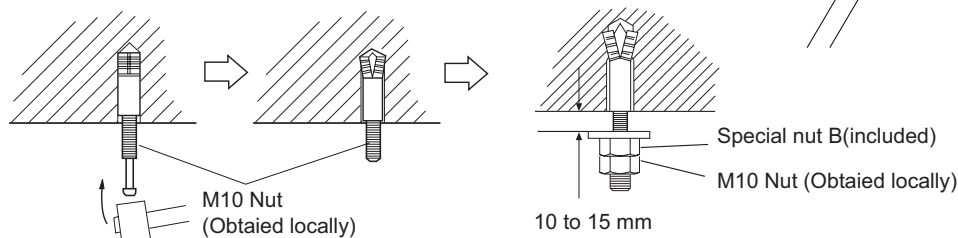
Bolt strength: 980 to 1470 N (100 TO 150 kgf)



If using anchor bolts

- (1) Drill holes for anchor bolts at the locations at which you will set the suspension bolts. Note that anchor bolts must be obtained locally.
- (2) Install the anchor bolts, then temporarily attach special nut "B" (included) and a locally-procured M10 nut to each of the bolts.

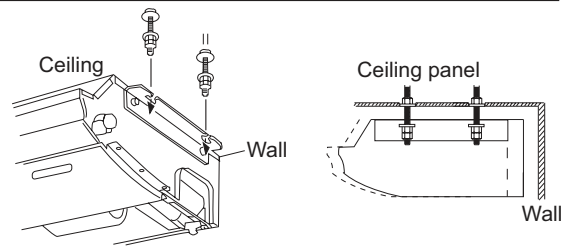
Anchor-bolt strength: 980 to 1470 N (100 TO 150 kgf)



Installation Procedure

4.Installing the indoor unit

- (1) Lift unit so that suspension bolts pass through suspension fittings at the sides (four places),and slide the unit back.
- (2) Fasten the indoor unit into place by tightening-up the special "B" bolts and the M10 nuts. Make sure that unit is secure and will not shift back and forth.

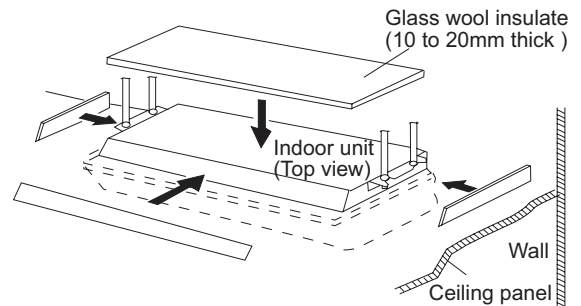


For half-concealed installation

When installing the indoor unit in a semi-concealed orientation, make sure to reinforce the insulation of the unit on all sides. Drops of water may fall from the unit if it is not thoroughly insulated.

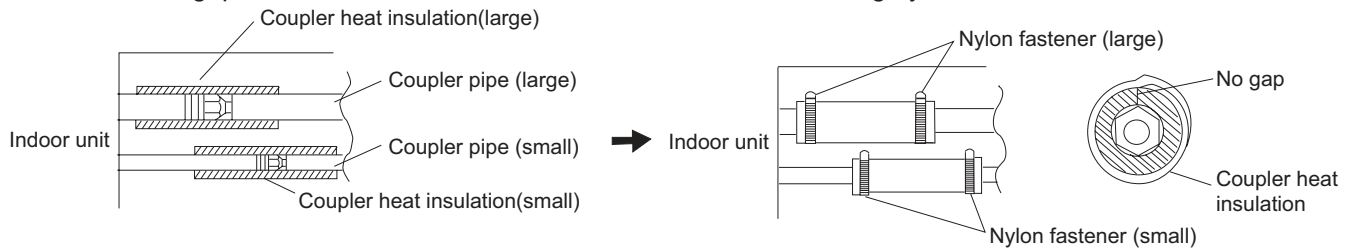
CAUTION

In order to check the drainage, be sure to use a level during installation of the indoor unit. If the installation site of the indoor unit is not level, water leakage may occur.



5.Installing the coupler heat insulation

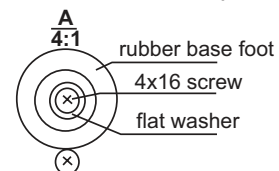
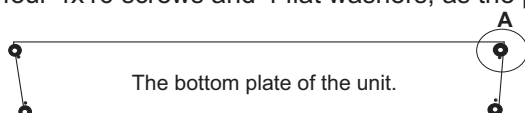
After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) of the indoor unit coupling, using the coupler heat insulation. After installing the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap. Secure both ends of the heat insulation material using nylon fasteners.



When using an auxiliary pipe, make sure that the fastener used is insulated in the same way.

Note:

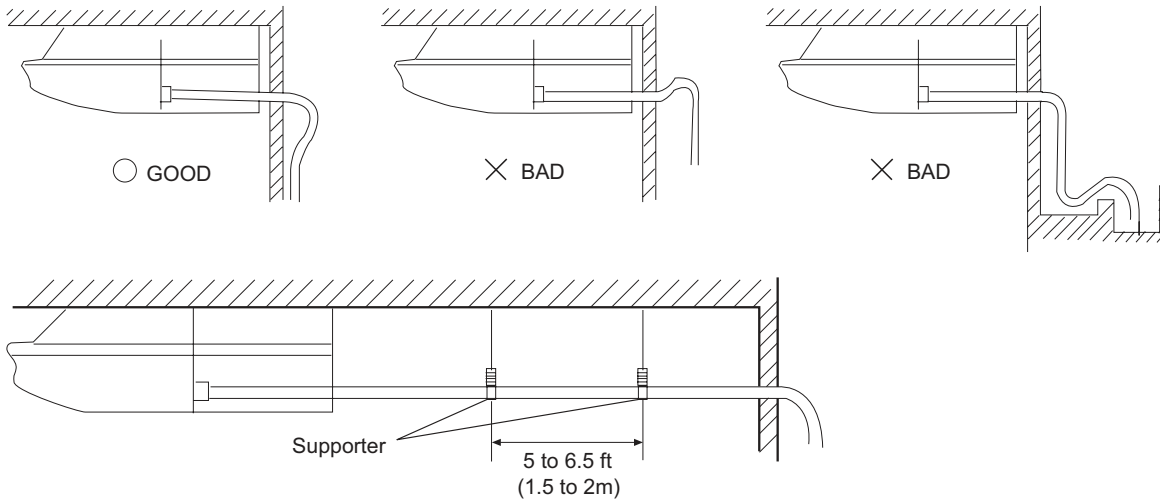
When installing the unit on the floor, fix the four rubber base feet in the accessories on the bottom plate of the unit with four 4x16 screws and 4 flat washers, as the position in the figure.



Installation Procedure

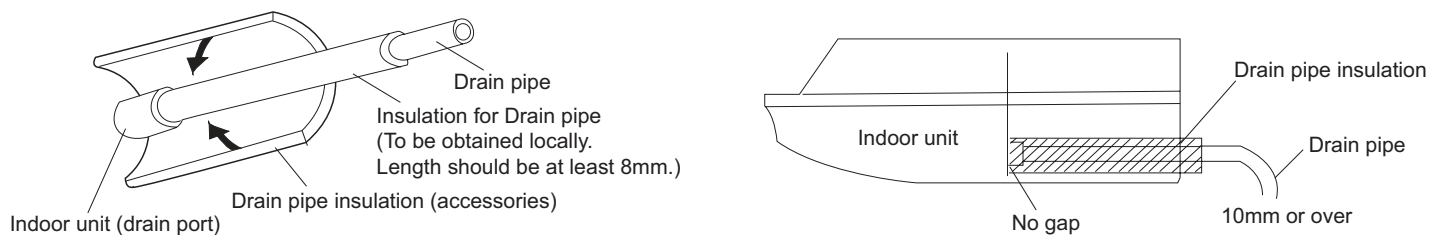
INSTALLING THE DRAIN HOSE

- Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe (VP25) (outside diameter 38 mm)
- During installation of the drain pipe, be careful to avoid applying pressure to the drain point of the unit.
- When the pipe is long, install supporters.
- Do not perform air bleeding.
- Always heat insulate (8mm or over thick) the indoor side of the drain pipe.



Install insulation for the drain pipe

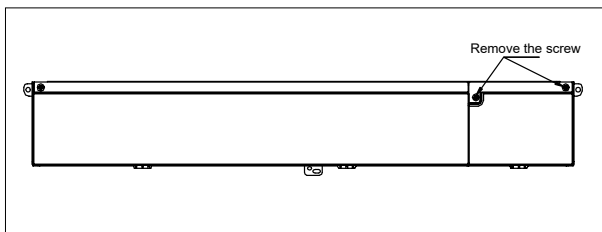
Cut the included insulation material to an appropriate size and adhere it to the pipe.



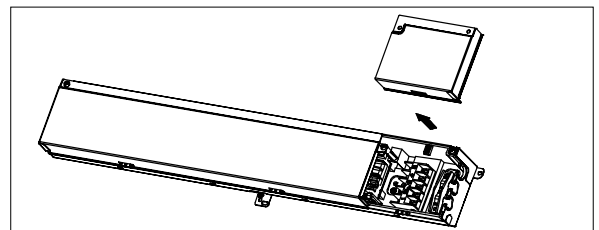
ELECTRICAL WIRING

A.Connect wiring to the terminals

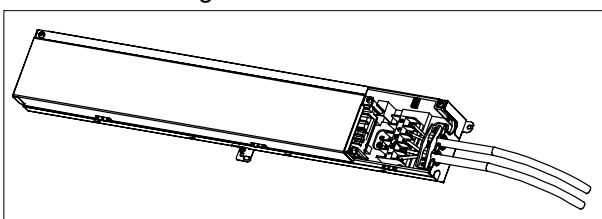
(1) Remove the screw



(2) Remove the cover



(3) Connect the wiring



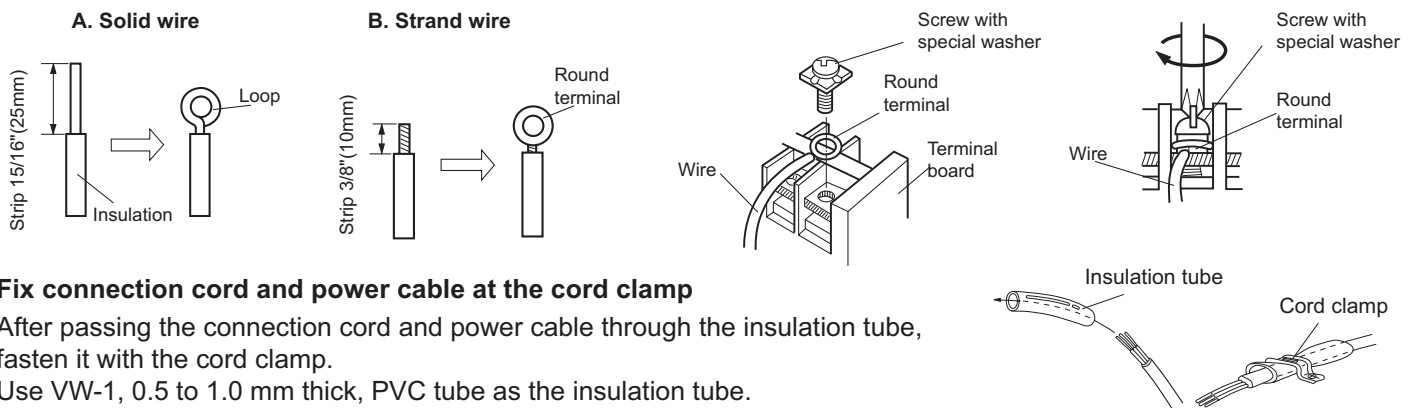
Installation Procedure

B.For solid core wiring (or F-cable)

- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 15/16"(25mm) to expose the solid wire.
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- (3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- (4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

C.For strand wiring

- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 3/8"(10mm) to expose the solid wire.
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- (4) Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.



Fix connection cord and power cable at the cord clamp

After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp.

Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

Electrical requirement

Select wire sizes and circuit protection from table below. (This table shows 20m length wires with less than 2% voltage drop).

Item Model	Phase	Circuit breaker		Power source wire size (minimum) (mm ²)	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector rated capacity (A)		Switch breaker(A)	Leak current(mA)
AC35S2SG1FA						
AC50S2SG1FA						
AC71S2SG1FA						
AC90S2SH1FA						
AC105S2SH1FA						
AC125S2SK1FA						
AC140S2SK1FA						

CAUTION

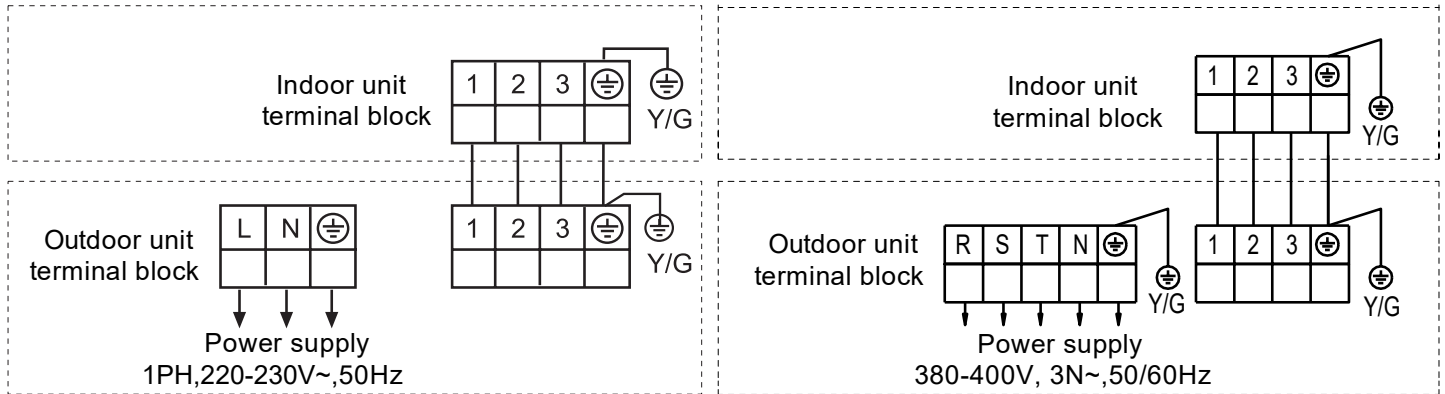
- Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning the electric parts.
- Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- Always fasten the outside covering of the connection cord with the cord clamp. If the insulator is chafed, electric leakage may occur.
- Always connect the ground wire.
- The Unit has default temperature compensation setting, please cancel it when floor standing installation.

Connect indoor unit and outdoor unit

- (1) Remove the cord clamp.
- (2) Process the end of the connection cords to the dimensions shown in wiring diagram.
- (3) Connect the end of the connection cord fully into the terminal block.
- (4) Fasten the connection cord with a cord clamp.
- (5) Fasten the end of the connection cord with the screw.

Installation Procedure

Wiring diagram



WARNING

- The power cable and connecting cable are self-provided.
- Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.
- The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

CAUTION

- The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

FRESH AIR INTAKE

1. Open up the knockout hole for the fresh air intake. If using half-concealed installation, open up the top knockout hole instead.

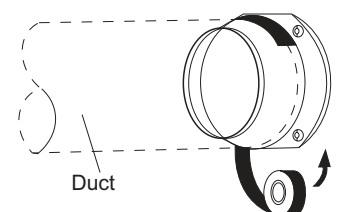
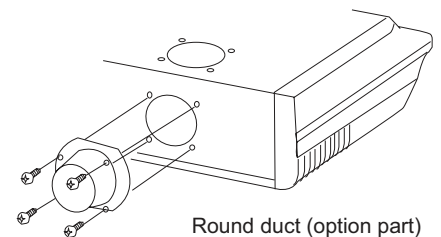
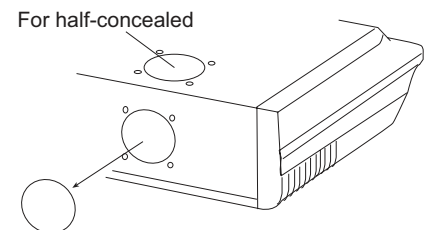
CAUTION

- When removing the cabinet (iron plate), be careful not to damage the indoor unit internal parts and surrounding area (outer case).
- When processing the cabinet (iron plate), be careful not to injury yourself with burrs, etc.

2. Fasten the round flange (optional) to the fresh air intake. If using half-concealed installation, attach to the top.

3. Connect the duct to the round flange.

4. Seal with a band and vinyl tape, etc. so that air does not leak from the connection.



Test Run

Check items

1. Indoor unit

- Is operation of each button on the remote control unit normal?
- Does each lamp light normally?
- Do not air flow direction louvers operate normally?
- Is the drain normal?

2. Outdoor unit

- Is there any abnormal noise and vibration during operation?
- Will noise, wind, or drain water from the unit disturb the neighbors?
- Is there any gas leakage?

Customer guidance

Explain the following to the customer in accordance with the operation manual:

- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.
- (2) Air filter removal and cleaning, and how to use air louvers.
- (3) Give the operation and installation manuals to the customer.



Haier

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