INSTALLATION INSTRUCTIONS FOR SPLIT WALL MOUNTED AIR CONDITIONER

ACCESSORIES SUPPLIED WITH THE AIR CONDITIONER

Shape	Designation	Qty	Used for
g and a second	Mounting rail	1	Wall mounting of the indoor unit
	Remote control with batteries	1	Operating the unit
0.000 C	Screws, washers and dowels	4	Installing the indoor unit
Comme	Screws and dowels	2	Installing the remote control bracket
	Outdoor unit drain hose	1	Outdoor unit water drain
	Mounting pads	4	Padding the outdoor unit support
ð	Cable ties	4	Securing the wires in the indoor and outdoor unit
OH	Cable terminals	1	Securing the grounding wire on the indoor and outdoor unit
Q	Twin wire cable (for heat pump units)	1	Transmitting signals
	Air filters	2	Cleaning the air
	Operation and installation instructions	1	Users and installers reference
	Air outlet cover	1	Covering a desired air outlet
	Drain tube	1	Draining the indoor condensed water
	Stoppers	1	Adjusting air outlet opening

2

LOCATION OF INDOOR AND OUTDOOR UNITS

Select the location considering the following:

INDOOR UNIT

- 1. Choose a location which provides good air circulation. Make sure that nothing prevents air circulation.
- 2. Do not install the unit near a heat source or where it will be exposed to direct sunlight.
- 3. The location must allow easy connection for electrical cables and drainage tubing.
- 4. Installation site should provide an easy passage to outdoors.
- 5. The unit must be mounted on a solid wall capable of withstanding the generated vibrations.
- 6. Install the mounting rail as shown.
- 7. There is an option for user convenience to close one of the air outlets (except for the top one) and allow the installation close to the wall.
- 8. There is an option for corner installation.

OUTDOOR UNIT

- 1. The location must enable easy servicing and provide good air circulation.
- 2. The unit may be suspended from a wall by a bracket (optional) or located in a free standing position on the floor (preferably slightly elevated).
- 3. If the unit is suspended, ensure that the bracket is firmly connected and the wall is strong enough to withstand vibrations.
- 4. The unit's location should not disturb neighbors with noise or exhaust air flow.
- 5. Place the mounting pads under the unit legs.
- 6. Install the outdoor unit as shown. Refer to the technical and installation manual for permitted clearance.
- 7. When the unit is installed on a wall, install the drain connector hose and the drain plug as shown.

Fig.1 1.Bottom of outdoor unit 2.Drain connector Fig. 2 An example of drain installation





Fig. 3 Length of the power outlet



ELECTRICAL REQUIREMENTS

Electrical wiring and connections should be made by qualified electricians and in accordance with local electrical codes and regulations. The air conditioner units must be grounded and connected to an adequate power outlet from a separate circuit protected by a time delay circuit breaker, as specified on unit's nameplate. Voltage should not vary beyond $\pm 10\%$ of the rated voltage.

NOTE: make sure the plug will be easily accessible after installing the unit.

INSTALLATION OF THE INDOOR UNIT

INSTALLATION OF THE MOUNTING RAIL (see figure 6, 7)

- 1. Figure 6 shows the location of the mounting rail, as related to the unit.
- 2. Position horizontally the mounting rail on the wall, using a spirit level. (The arrow UP)
- 3. Mark the position of the two mounting holes on the wall and drill holes to insert the dowels.
- 4. Mount the mounting rail using the screws. Tight properly the screws.
- 5. Open and remove the front panel (1).



Fig. 6

1. Indoor unit

2. Mounting rail



Fig 8 1. Mounting rail

- 2. Screws
- 3. Mounting bottom holes
- 4. Screws

- 6. Remove the air filter.
- 7. Unscrew the screws to release the frame (4).
- 8. Remove the left or right corners (5) according to the installation routing.
- 9. Following the installation of the indoor unit, reinstall the corner panels and frame.
- 10. Reinstall the air filter.
- 11. Replace the frame screws (2).
- 12. Reinstall the front panel (1).





- 1. Lift the front panel
- 2. Screws
- 4. Frame
- 3. Filter
- 5. Corner cover

SUSPENDING THE UNIT ON THE MOUNTING RAIL

(see figure 8)

- 1. Hang the indoor unit on the screws located near the top edge of the mounting rail.
- Mark the location of the bottom holes on the wall and drill the holes to insert the dowels.
- 3. Secure the indoor unit to the wall by the screws.

REFRIGERATION TUBE ROUTING (see figure 9)

- 1. There are six possible routing for the refrigeration tube, as shown in fig. 9.
- 2. For routing (6) and (8), cut the bottom notch of the corner cover.
- 3. For routing (4) or (7), change between the left and the right corners and cut the side notch accordingly.

PENETRATION OF WALL FOR TUBING (see figure 10)

- Mark the location of the hole on the wall according to the tubing routing as shown on figure 10 and drill the hole at a 5° downward angle as shown.
- 2. The downward angle prevents condensed or rain water from penetrating the room.
- 3. Trim the hole in the wall with a 63 mm diameter commercial plastic tube.

CLOSING AN AIR OUTLET (see figure 11)

- 1. In case the indoor unit is mounted nearby a wall (less than 500 mm), the air outlet cover must be installed instead of the air louvre.
- 2. There is an option for customer convenience to close one of the air outlets (left or right). Remove the desired air louvre (3) by pulling it out and installing an air outlet cover (2) instead, just by pushing it to place (1).





Fig. 10

A. Outdoor side B. Indoor side 1. Drill 70 mm diameter 2. Wall



Fig. 11

1. Air outlet

2. Air outlet cover

3. Air louvre



Fig. 13

Fig 12 and13 1. Stopper 2. Opening

3. Latch

ADJUSTING THE AIR OUTLET OPENING (see figure 12, 13)

- 1. In case the distance between the unit and the wall is 200-500 mm, a stopper must be installed to reduce the air outlet opening to provide a desirable air flow angle.
- 2. To remove the air louvre raise the latch (3) by a screwdriver and pull it out.
- 3. Install the stopper(1) at the opening (2) as shown. Reinstall the air louvre.

CONDENSATE HOSE CONNECTION

- 1. Attach the condensate drain hose to the corrugated hose in the rear groove of the indoor unit.
- 2. Wrap the drain hose together with the refrigerant tubes and electrical cables.
- 3. Ensure that the condensate drain hose routing is always directed downwards.

Fig. 14 1.Drain hose 2. Clamp 3. Downward slope

1

2

3

- 4. When installing the drain hose avoid traps and U bends. The end of the drain hose should not be immersed in water.
- 1 2 3 Fig. 15

Fig. 14

- Fig. 15
- 1. Trap
- 2. U-bend
- 3. End immersed in water.

 Connect the drain hose on the bottom of the indoor unit on the left or right hand according to the tubing routing. Make sure to close the other opening by means of the rubber plug.



- Fig. 16 1. Condensate drain hose
- 2. Rubber plug

- 6. When the installation location requires long horizontal sections, a vent must be provided at the top of the hose to prevent overflow of the unit drain pan.
- 7. Upon completing the installation, test the water drain by pouring at least two liters of water into the unit drain pan. Check that the water drains off.



Fig. 17 1. Vent 2. Downward drain 3. Water drain hose

ELECTRICAL CONNECTIONS BETWEEN INDOOR AND OUTDOOR UNITS

1.To connect the indoor unit to the outdoor unit use the following electrical cables, protected for outdoor use:

Cooling and heating model:

Multiple wire cable (220 - 240V) 5 wires x 1.5 mm² 2 wires x 0.5 mm² - for low voltage (supplied with RC units).

Cooling only models:

Multiple wire cable (220 - 240V) 4 wires x 1.5 mm²

- 2. Prepare the multiple wire (3) cable ends for connection as shown in fig. 19.
- 3. Connect the cable ends to the terminals of the indoor and outdoor units, as shown in fig. 21.
- 4. **NOTE**: For multi split and cooling only units skip steps 5, 6, 7 and 9.
- 5. Prepare the twin wire cable end for connection as shown in fig. 20.
- 6. Disconnect the resistor (4) from the indoor unit and connect the twin wire cable (3) instead.
- 7. Connect the other end of the twin wire cable (3) to the outdoor unit twin wire terminal (7).
- Secure the multiple wire power cable with the cable clamps (6).
- Fasten the twin wire cable to the power cable with cable ties.



NOTES:

- 1. The wire color code can be selected by the installer.
- Wires leading to outdoor unit twin wire terminal (7), must run in a separate twin wire cable, otherwise the electronic controls will be subjected to operational malfunctions.
- 3. For cooling only model, terminal number 5 should not be connected.

MULTIPLE WIRE POWER CABLE BETWEEN THE UNITS



Fig. 19 A. OUTDOOR B. INDOOR

TWIN-WIRE LOW VOLTAGE CABLE (for RC units only)



- Fig.21
- Indoor unit terminal
 Indoor twin wire terminal
- 3. Twin wire cable
- 4. Resistor
 - 5. Multiple wire cable
 - 6. Cable clamp
 - 7. Outdoor twin wire terminal

A. OUTDOOR B. INDOOR

REFRIGERANT TUBING

CONNECT INDOOR WITH OUTDOOR UNIT

The indoor unit contains a small quantity of refrigerant. Do not unscrew the nuts from the unit until you are ready to connect the tubing. The outdoor unit is supplied with sufficient refrigerant charge for 7.5 m tubing length. For additional charge, please refer to outdoor unit nameplate. For a proper tube bending, bend tubes using a bending tool.

NOTE: Use refrigeration type copper tubing only.

- 1. Remove tubing covers and the relative corner cover.
- 2. Use tubing diameter that corresponds to the tubing diameter of the indoor unit. Note that liquid and suction tubes are of different diameters. (See tube size versus tightening torque tables).
- 3. Place flare nuts on tube ends before preparing them with a flaring tool. Use the flare nuts that are mounted on the supplied outdoor units.
- 4. Connect the four ends of the tubing to indoor and outdoor units.
- 5. Insulate each tube separately, and their unions, with at least 6 mm of insulation. Wrap the refrigerant tubing, drain hose and electric cables together with a vinyl tape (UV resistant). (See fig. 23).
- 6. After connecting the tubing make sure that refrigerant tubes, electric cables and condensate water hose are well insulated with closed cell rubber insulating tubes (6 mm thick), are wrapped together with UV resistant nonadhesive plastic tape, and passed through the hole in the wall. Set the tubing insulation (1) with adhesive tape (4) as shown in fig. 23.
- 7. Connection to the rear right outlet:
 - A. Cut out the insulation up to the liquid flare 1/4"
 - B. Bend the 1/4" tube to the rear outlet direction from position A to position B (see fig. 24).
 - C. Release the suction nut (3) and turn it to the right hand outlet, to position B.
- 8. Connection to the right hand outlet or bottom right hand outlet:
 - A. Proceed as for instructions supplied in paragraph 7.
 - B. Bend the suction tube according to the desired direction using a bending tool.

Fig. 26

Tightening torgues of unions and valve caps:



Fig. 25 1. Wrench 2. Toraue wre





ench	To prevent refrigerant leakage, coat the flared surface with refrigeration oil.
SIZE	TORQUE

I UDE SIZE	TURQUE
Liquid line 1/4" Suction line 3/8" Suction line 1/2" Suction line 5/8"	15 - 20 N.M. 30 - 35 N.M. 50 - 54 N.M. 75 - 78 N.M.



- Fig. 27 1. Suction valve 2. Service port
 - 3. Liquid valve

Caution!

When unscrewing the valve caps, do not stand in front of them or of the spindles, since the system is under pressure.



Fig. 22

Fig 22 1. Tubing cover

2. Corner cover





- 1. Tubing insulation
- 2. Suction tube insulation
- 3. Liquid tube insulation
- 4. Adhesive tape



Fig 24

- 1. Insulation
- 2. Liquid tube

3. Suction tube nut

EVACUATION OF THE REFRIGERATION TUBES AND THE INDOOR UNIT

After connecting the unions of the indoor and outdoor units, evacuate the air from tubes and indoor unit as follows:

- 1. Connect the charging hoses with a push pin to the low and high sides of the charging set and the service port of the suction and liquid valves. Be sure to connect the end of the charging hose with the push pin to the service port.
- 2. Connect the center hose of the charging set to a vacuum pump.
- 3. Turn on the power switch of the vacuum pump and make sure that the needle in the gauge moves from 0 Mpa (0 cm Hg) to 0.1 Mpa (-76 cm Hg). Let the pump run for 15 minutes.
- 4. Close the valves of both the low and high sides of the charging set and turn off the vacuum pump. Note that the needle in the gauge should not move after approximately five minutes.
- 5. Disconnect the charging hose from the vacuum pump and from the service ports of the suction and liquid valves.
- 6. Tighten the service port caps of both suction and liquid valves
- 7. Remove the caps from both valves, and open them using a hexagonal Allen wrench.
- 8. Remount valve caps onto the valves.
- 9. Check for gas leaks from the four unions and from the valve caps. Test with electronic leak detector or with a sponge immersed in soapy water for bubbles.



- 1. Charging set
- 2. Vacuum pump
- 3. Outdoor unit
- 4. Service valve
- 5. Cap 6. Suction valve
- 7. Cap
- 8. Liquid valve
- 9. Indoor unit
- 10. Suction flare connection
- 11. Liquid flare connection

FINAL TASKS

- 1. Replace all valve caps and ensure that they are properly tightened.
- 2. Fill gaps on the wall between hole sides and tubing with sealer.
- 3. Attach wiring and tubing to the wall with clamps where necessary.
- 4. Start the air conditioner with the customer and explain all the functions.
- 5. Explain filter removal, cleaning and re-installation.
- 6. Supply the operating and installation manual to the customer.

10

INSTALLATION OF A MULTI SPLIT UNIT UP TO 3.5 Kw (2 indoor units)

The multi-split unit will be installed according to the previous instructions.

Fig 29 1.INDOOR UNIT -1 2.INDOOR UNIT-2 3.OUTDOOR UNIT



ELECTRICAL CONNECTIONS BETWEEN OUTDOOR UNIT AND TWO INDOOR UNITS

- 1. Use electrical cables according to paragraph 6.
- 2. Make electrical connections of the indoor units according to paragraph 6. Identical for unit No.1 and unit No.2.
- 3. At the outdoor unit:
 - A. Wire the connector of the outdoor unit to the multiple wire power cables and insert it into the terminal end connector in the outdoor unit.
 - B. Connect the yellow/green earth wire to the ground screw.
 - C. Secure multiple wire power cable with the cable clamps.
- 4. The main power cable should be connected to a switch and, from there, to outdoor unit.

Attention! For multi-split units, remove power supply cord from indoor unit. Connect the main power supply to the outdoor unit only!



Fig. 30

- 1. Connector terminal end
- 2. Connector cable end
- A. Connection to indoor unit number 1
- B Connection to indoor unit number 2

Electrical cable to be connected via a separate switch to the mains.

AIR CONDITIONER SPLIT WALL MOUNTED PROGRAMMING AND OPERATING MANUAL

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IF YOUR AIR CONDITIONER IS FOR COOLING ONLY, PLEASE DISREGARD THE HEATING INSTRUCTIONS

PLEASE READ THESE INSTRUCTIONS **BEFORE** OPERATING THE AIR CONDITIONER

PRIOR TO OPERATION

Prior to operating your air conditioner, make sure that:

• The indoor unit is properly plugged into the electrical socket.

• Stand by Indicator (A) on the unit's display is lit, meaning that the air conditioner is ready to accept your remote control commands.

Attention

Keep children out of reach of the indoor unit

INTRODUCTION

This Split Air Conditioner is designed for several different applications:





regulations and local codes.
Failure to comply with the manufacturer's installation and operation instructions could affect the performance of the air conditioner and void

• Electrical connections and power cord replacement should only be made by authorized electricians and in accordance with electrical

• There is an option to control air discharge by reducing the air outlet opening angle. Refer to the installasion manual. (See paragraph 4)

the warranty.

SYSTEM DESCRIPTION



OPERATION MODES, FUNCTIONS AND FEATURES

FILTER INDICATION	Filter indicator on the indoor unit display is turned on when the filter requires cleaning. After cleaning and reinstalling the filter, the system should be reset.
BUZZER	A soft buzzer will sound from the indoor unit display to indicate that a command sent by the remote control has been accepted and stored in the unit's memory. This feature may be easily canceled by the user from the display panel.
ON UNIT OPERATION	The air conditioner can be turned ON for COOLING or HEATING or be turned OFF directly from the indoor unit display panel without the use of the remote control.
3-MIN. DELAYED RUN	The compressor is protected by a three-minute delayed restart.
MEMORY	The microprocessor retains the last data entry whether or not the unit is plugged in. Therefore, when the unit restarts after a power distruption or failure, it will resume operating in the same mode as before the power was disrupted.
HOT KEEP	In HEATING and in AUTO FAN, the fan will be turned off when the compressor is not in operation and will not be restarted, unless the indoor coil reaches adequate temperature. This HOT KEEP feature prevents uncomfortable cold air drafts. Use of AUTO FAN is, therefore, recommended when the air conditioner is in HEATING mode.
AUTO LOUVRE	The air louvre are automatically opened when the unit is turnen on. When the air conditioner is turned off, the louvre will close automatically providing an aesthetic appearance.

ON-UNIT INDICATORS AND CONTROLS





ON-UNIT OPERATION

If the air-conditioner cannot be operated by the Remote Control unit, it can be turned on for cooling or heating, or completely turned off, by pressing MODE button (F) on the air-conditioner. The MODE button will change the operating status of the unit between - COOLING - HEATING - STAND-BY positions, every time it is pressed. Indicators (E) or (G) will light up respectively, to indicate in which mode the air-conditioner operates.

On units for Cooling only, do not set MODE switch on HEAT position.

STAND-BY **INDICATOR**

Lights up when the air conditioner is connected to power and ready to receive the remote control commands.

Lights up during operation. Blinks once to announce that the remote control infrared signal has been received and stored. Blinks continuously in protection mode.

C TIMER INDICATOR Lights up during timer and sleep operation.



COOLING INDICATOR Lights up only when

Mode (F) is pressed. COOL/HEAT/OFF/ ON UNIT OPERATION

Used to switch the unit OFF or to turn it ON for COOLING or HEATING without the use of the remote control.

Lights up only when Mode (F) is pressed.

RESET BUTTON

• Press to turn off the FILTER indicator and to reset the filter function, after the clean filter has been reinstalled. • Press to cancel the buzzer announcer, if elected.

SIGNAL RECEIVER • Receive signals from the remote control.

PROTECTION MODES

Your air conditioner includes several automatic protection modes, which enables you to use it virtually at any time and in any season, regardless of the outdoor temperature. Some of the protection modes are listed below:

Mode	Operation conditions	Protection from	Controlled remedy
Cooling and Dry	Low outdoor temperature	Indoor coil freezing up	Stops outdoor fan and compressor when approaching freezing conditions Resumes operation automatically.
	High outdoor temperature	Outdoor coil overheating	Stops compressor when approaching over heating conditions. Resumes operation automatically. Operating indicator (B) blinks.
Heating	Low outdoor temperature	Outdoor coil ice build up	Reverses operation from heating to cooling for short periods to de-ice outdoor coil. Operating indicator (B) blinks.
	High indoor or outdoor temperature	Indoor coil overheating	Stops outdoor fan and compressor when approaching high indoor coil temperature. Resumes operation automatically.

CARE AND MAINTENANCE

Before performing any maintenance procedure, be sure to disconnect the air conditioner from the power source.

CLEANING THE AIR FILTER

• Your air conditioner is provided with a filter cleaning indicator. When the indicator (D) lights up, the filters should be removed for cleaning.

• To remove the air filter, lift up the grille (1) slightly and remove it. Push the air filter (2) up slightly to unlok it. Pull out the filter clean it by washing in warm soapy water and dry througly. Align and fit the filter in place. Close the grille by pushing it on its hinges and lock it in place.

• Reset button (H) to turn off indicator (D).

DO NOT OPERATE THE UNIT WITHOUT AIR FILTERS!

AIR PURIFICATION AND ELECTROSTATIC FILTER REPLACEMENT

The air purification filter should be removed from the unit and replaced once a year:

- Remove the main air filter (2) (see figure 2)
- Remove and replace the purifying and electrostatic filter
 (3) (see figure 3).
- Replace and secure the main filter (2) in place (see figure 5).

CLEANING THE AIR CONDITIONER

• The front grilles can be removed and cleaned separately.

• Raise up the grille (1) slightly an pull it out of the unit.

• Wipe the unit and the grillel with a soft dry cloth and put the grille back after cleaning.

• Do not use hot water or volatile materials which could damage the surface of the air conditioner.

AT THE BEGINNING OF THE SEASON

• Make sure there are no obstacles blocking the flow of inlet or outlet air, in both indoor and outdoor units.

• Make sure the power is properly connected.

PROTECT THE ELECTRONIC SYSTEM

• Indoor unit and remote control must be at least 1 meter away from a TV, radio or any other home electronic appliance.

• Protect the inner unit from direct sun or lighting.



Figure 1



Figure 2







Figure 4



OPERATING TIPS

• Set a suitable room temperature; excessively low room temperature is not good for your health and wastes electricity. Avoid frequent resetting of the temperature.

• During cooling, avoid direct sun. Keep curtains and blinds closed. Close doors and windows to keep the cool air in the room.

• Avoid generating heat or using of heating appliances while the air conditioner in cooling mode.

- Make sure that the air louvre is positioned properly.
- Keep the room temperature uniform by adjusting all 4 sides open.

• Position the air flap and the left/right air blades in such a manner as to prevent your body from being exposed directly to air drafts.

• During prolonged operation, ventilate the room occasionally by opening a window from time to time.

• In a power failure, the microprocessor memory is retained. When restarted, operation will be resumed in the last mode of operation. However, if the timer was used, the unit will be turned off by the timer only if the remote control is aimed at the unit. Otherwise the power failure will cause the timer data to be erased from the microprocessor memory.

• After turning on, allow more than 3 minutes for cooling, heating or dry operation to start.

• When DRY mode is used, make sure that the room temperature is between 20° and 27°C. When used out of this range, the unit may protect itself and become inoperative.

• When COOL or DRY modes are used, make sure that the room's relative humidity is below 78% If the unit is used for a prolonged periods of time in high humidity, moisture may form on the air outlet and drip down.

• Remote control signals may not be received if the indoor unit controls cover is exposed to direct sunlight or strong light. In such a case, block out the sunlight or lessen the lighting.

• The remote control is operative on a range of 8 meters. If you are out of range, the remote control may have difficulties in transmitting signals.

PRECAUTIONS

• Use the proper electrical fuse.

Do not pull out the power cord unless the unit is turned off.



• Do not start or stop operation by disconnecting the power cord.



• Do not obstruct or block the air inlet or air outlet of the air conditioner.



• Do not insert any objects in the air outlet of the indoor or outdoor units.



• Do not splash water on the air conditioner.



IF NOISE IS HEARD

There may be hissing sound during operation or just after shut down. This is caused by the refrigerant that is circulating inside the unit

There may be a cracking sound at starting and stopping the unit's operation. This is caused by heat expansion or contraction of plastics.

BEFORE CALLING FOR SERVICE

Before calling for service, please check the following common malfunctions and correct as needed.

Problem	Cause	Remedy
 Unit does not operate. Stand- by indicator does not light up 	 Unit not connected to power Power failure 	Plug in the power cordCheck main fuse
 Unit does not operate. Stand-by indicator lights. 	 Remote control malfunctions 	 Check remote control batteries Try to operate from a closer distance Start from on-unit
	 The remote control is locked 	controls ■ Unlock the remote control
 Unit does not respond properly to remote control command 	 Infra Red signal does not reach unit 	 Check for obstruction between unit and remote control. Clear if needed.
	 Distance between remote control and unit too large or aimed at from improper angle Infra Red receiver on-unit exposed to strong 	 Get closer to unit Dim lights, fluorecents
	light source	especially
 Air does not blow out from indoor unit 	 De-icing protection mode is activated Unit in AUTO FAN mode Over cooling in DRY 	 Normal operation in HEATING mode Normal operation in DRY mode
 COOLING, DRY or HEATING does not start immediately 	 3-min. compressor delayed start 	Normal operation for these modes
 Unit functions but does not perform sufficiently 	 Improper temperature setting Unit capacity insufficient for load or room size 	Reset temperatureConsult your dealer
 Filter indicator lights up 	 Air filter needs cleaning. 	 Clean filter, reinstall and reset indicator