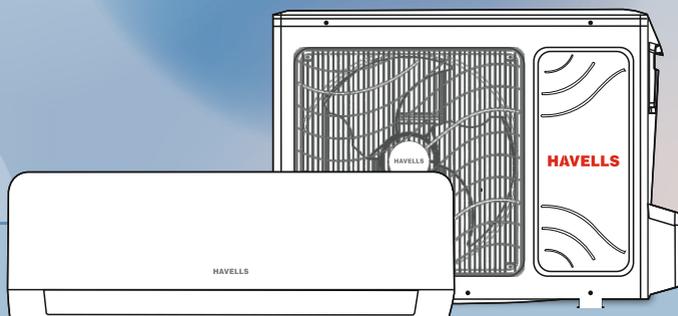




**HAVELLS**

— *MINI SPLIT HEAT PUMP* —

# OWNER'S MANUAL



Please read this owners manual carefully, before operating the appliance.

Dear Customer,

Congratulations on being the proud owner of Havells Mini Split Heat Pump. Your Heat Pump comes with the Havells Guarantee of Quality.

Havells takes great pride in providing its customers with perfect products that adhere to international quality standards.

Havells is committed to provide the ultimate customer satisfaction and the Company takes great pride in having satisfied customers.

**TEAM HAVELLS**

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This device complies with part 15 of the FCC Rules.  
Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and  
(2) This device must accept any interference received,  
including interference that may cause undesired operation.



- \* The Design and Specifications are subject to change without prior notice for continuous product improvement activities. Consult with the Sales agency or Manufacturer for details.
- \* The Shape and Position of Buttons and Indicators may vary according to the model, but their functions are the same.

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**RoHS Declaration:** 

This product confirms to below RoHS guideline limits.

- Lead (Pb): not over 0.1% by weight;
- Mercury (Hg): not over 0.1% by weight;
- Cadmium (Cd): not over 0.01% by weight;
- Hexavalent Chromium (Cr6+): not over 0.1% by weight;
- Polybrominated Biphenyls (PBBs): not over 0.1% by weight;
- Polybrominated Diphenyl Ethers (PBDEs): not over 0.1% by weight.

# SAFETY CONSIDERATIONS FOR OPERATIONS

Read these Safety Considerations for Operation carefully before operating a Heat Pump. Make sure that the unit operates properly during the startup operation. Instruct the user on how to operate and maintain the unit. Inform users that they should store this “Owners Manual” for future reference.

Meanings of **DANGER**, **WARNING** and **CAUTION** symbols:

 <b>DANGER</b>	 <b>WARNING</b>	 <b>CAUTION</b>
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

	Warning	This symbol shows that this appliance uses a flammable refrigerant.
	Caution	This symbol shows that this manual should be read carefully.
	Caution	This symbol shows that a service personnel should be handling this equipment with reference to this manual
	Caution	This symbol shows that the process requires reference from manual
	Caution	This symbol shows that information is available such as the operating manual or installation manual.

**Wear Adequate Personal Protective Equipment (Protective Gloves, Safety Glasses,...) when Installing, Maintaining or Servicing the system.**

## **DANGER**

- Do not install the unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.
- Refrigerant gas is heavier than air and replaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- If equipment utilizing a burner is used in the same room as the Heat Pump, there is the danger of oxygen deficiency which could lead to an asphyxiation hazard resulting in serious injury or death. Be sure to ventilate the room sufficiently to avoid this hazard.
- Refrigerant gas may produce toxic gas if it comes into contact with fire, such as from a fan heater, stove, or cooking device. Exposure to this gas could cause severe injury or death.
- Any abnormalities in the operation of the Heat Pump, such as smoke or fire, could result in severe injury or death. Turn off the power and contact your dealer immediately.
- Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face the danger of death by suffocation.
- Safely dispose of the packing materials. Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries.

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## **WARNING**

- Contact your dealer for repair and maintenance. Improper repair and maintenance may result in water leakage, electric shock, and fire. Only use accessories made by Havells that are specifically designed for use with the equipment and have them installed by a professional.
- Contact your Installer/PRO to move and reinstall the Heat Pump. Incomplete installation may result in water leakage, electric shock, and fire.
- Never let the Indoor unit or the remote controller get wet. Water can cause an electric shock or a fire.
- Never use flammable spray such as hair spray, lacquer, or paint near the unit. Flammable spray may cause a fire.
- When a fuse fails, never replace it with one of incorrect Ampere ratings or different wires. Always replace any failed fuse with a fuse of the same specification.
- Never remove the Fan Guard of the unit. A fan rotating at high speed without the Fan Guard is very dangerous.
- Never inspect or service the unit by yourself. Contact a qualified service person/PRO to perform this work.
- Turn off all Electrical Power before doing any maintenance to avoid the risk of serious electric shock; never sprinkle or spill water or liquids on the unit.
- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
- The heat exchanger fins are sharp enough to cut. To avoid injury wear protective gloves or cover the fins while working around them.
- Do not put a finger or other objects into the Air Inlet or Air Outlet. The fan is rotating at high speed and will cause injury.
- Do not touch the Air Outlet or Horizontal Blades while the swing flap is in operation because fingers could get caught and injured.
- Never touch the internal parts of the controller. Do not remove the front panel because some parts inside are dangerous to touch. To check and adjust internal parts, contact your Installer/PRO.
- The Appliance must be stored in a room where no continuous Ignition sources are present (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 odor.
- Check the unit foundation for damage on a continuous basis, especially if it has been in use for a long time. If left in a damaged condition the unit may fall and cause injury.
- Placing a flower vase or other containers with water or other liquids on the unit could cause a shock or fire if a spill occurs.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

## **CAUTION**

- Do not use the Heat Pump for any other purposes other than comfort cooling or heating.
- Do not use the unit for Cooling Precision Instruments, Food, Plants, Animals or Works of Art.
- Do not place items under the Indoor unit as they may be damaged by condensates that may form if the humidity is above 80% or if the drain outlet gets blocked.
- Before cleaning, stop the operation of the unit by disconnecting power or switching disconnect off.
- Do not wash the Heat Pump with excessive water. An electric shock or fire may result.

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- Do not operate the Heat Pump after Room-Fumigation type of insecticide sprayed in Conditioned Area. Failure to observe this could cause the chemicals to be deposited in the unit and can endanger the health of those who are hypersensitive to chemicals.
- Do not turn off the Power immediately after Stopping Operation. Always wait for at least 5 minutes before turning off the Power, Otherwise water leakage may occur.
- 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.
- The remote controller should be kept away from children so they cannot play with it.
- Consult with the installation contractor/PRO for cleaning.
- Incorrect cleaning of the Indoor Unit of Heat Pump could make the plastics parts break and cause water leakage or electric shock.
- Do not touch the Air Inlet or Aluminum fin of the Heat Pump, as they can cut and cause injury.
- Do not place objects in direct proximity of the Outdoor unit.
- Leaves may attract small animals which can enter the unit. Once inside the unit, Animals can cause the unit to malfunction, and cause smoke or fire when they make contact with electrical parts. Hence Outdoor Units are recommended to be placed at heights or away from the Ground level.

 **NOTE:**

- Never press the button of the Remote Controller with a hard, pointed object. The Remote Controller may be damaged.
- Do not place Appliances, that produce open flames in places that are exposed to the Airflow of the unit or under the Indoor unit. It may cause incomplete combustion or deformation of the unit due to the heat.
- Do not expose the controller to Direct Sunlight. The LCD display can become discolored and may fail to display the data.
- Do not wipe the controller with Benzene, Thinner, Chemical dust cloth, etc. The panel may get discolored or the coating can peel off. If it is heavily dirty, soak a cloth in water diluted neutral detergent, squeeze it well and wipe the panel clean. Then wipe it with another dry cloth.
- Operate the Heat Pump in a sufficiently ventilated area and not surrounded by obstacles. Do not use the Heat Pump in the following places:
  - A: Places with a mist of mineral oil, such as cutting oil.
  - B: Locations such as Coastal Areas, where there is a lot of Salt in the Air. Special care to be ensured during installation on these Sites and Areas.(Refer section Outdoor Unit Installation Step-1)
  - C: Locations such as hot springs where there is a lot of Sulfur in the Air.
  - D: Locations such as factories where the power voltage varies a lot.

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E: In Cars, Boats, and other vehicles.

F: Locations such as Kitchens where oil may splatter or where there is steam in the Air as there are direct fire sources

G: Locations where Equipment produces electromagnetic waves.

H: Places where fallen leaves can accumulate or where weeds can grow.

I: Places with an Acid or alkaline mist.

- Dismantling of the unit, disposal of the refrigerant, oil, and additional parts, should be done in accordance with the relevant Local, State and National Regulations.

- Take Snow Protection measures. Contact your Installer/PRO for the details of Snow Protection measures, such as the use of a Snow Protection Hood.

- Do not attempt to do electrical work or grounding work unless you are licensed to do so. Consult with your dealer for electrical work and grounding work.

- Pay attention to operating sound. Be sure to use the following places:

A: Places that can sufficiently withstand the weight of the Heat Pump, yet can suppress the operating sound and vibration.

B: Places where warm Air from the Air Outlet of the Outdoor unit or the operating sound of the Outdoor unit does not Annoy neighbors.

- Make sure that there are no obstacles close to the Outdoor unit. Obstacles close to the Outdoor unit may drop the performance of the Outdoor unit or increase the operating sound of the Outdoor unit.

- Consult your Installer/PRO if the Heat Pump in operation generates unusual noise.

- Make sure that the drainpipe is installed properly to drain water. If no water is discharged from the drainpipe while the Heat Pump is in the cooling mode, the drain pipe may be clogged with dust or dirt and water leakage from the Indoor unit may occur. Stop operating the Heat Pump and contact your Installer/PRO.

- Do not spray the Heat Pump unit with any deodorizers, etc. It may cause the unit to malfunction.

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# SAFETY CONSIDERATIONS FOR INSTALLATION

- Read these Safety Considerations for Installation carefully before installing a Heat Pump. After completing the installation, make sure that the unit operates properly during the startup operation & self Diagnostic testing.
- Instruct the user on how to Operate and Maintain the unit. Inform users that they should keep this installation Manual & Operation Manual for future reference.
- Always use a licensed Installer or PRO to Install this product. Improper installation can result in water or refrigerant leakage, electric shock, fire, or explosion and this will also violate the offered warranty.
- Wear Adequate Personal Protective Equipment (Protective Gloves, Safety Glasses,...) when Installing, Maintaining or Servicing the system.

## DANGER

- Refrigerant Gas is heavier than Air and Replaces Oxygen. A massive leak can lead to Oxygen Depletion, especially in basements, and an Asphyxiation hazard could occur leading to serious Injury or Death.
- Do not ground units to Water Pipes, Gas Pipes, Telephone Wires, or Lightning Rods as incomplete grounding can cause a severe shock hazard resulting in severe Injury or Death. Additionally, grounding to Gas Pipes could cause a Gas Leak and Potential Explosion causing severe Injury or Death.
- After completing the Installation Work, check that the refrigerant gas does not leak throughout the system.
- Do not Install unit in an area where flammable materials are present due to risk of explosions, that can cause serious Injury or Death.
- Safely dispose all Packing and Transportation materials, in accordance with Federal/State Local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation may cause injuries or death by suffocation.

## WARNING

- Only Qualified Personnel licensed or certified in their jurisdiction must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock, or fire.
- Pipe work and installation shall be in compliance with national codes (ASHRAE15 or IRC).
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits Excessive refrigerant leaks, in the event of an accident in a closed Ambient space, can lead to oxygen deficiency.
- Use only specified Accessories and parts for Installation Work. Failure to use specified parts may result in water leakage, electric shock, fire, or the unit falling and may impart product warranty terms.

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- Install the Heat Pump on a foundation strong enough, that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injuries.
- Take into account Strong Winds, Typhoons, or Earthquakes, when installing. Improper installation may result in the unit falling and causing accidents. Make sure that a separate Power supply circuit is provided for this unit and that all Electrical Work is carried out by Qualified Personnel Licensed or Certified in their jurisdiction according to Local, State, and National Regulations. An insufficient Power supply capacity or improper electrical construction may lead to electric shock or fire.
- Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.
- When wiring, position the wires so that the electrical wiring box cover can be securely fastened. Improper positioning of the electrical Wiring Box cover may result in electric shock, fire, or the terminals overheating and entry passage to the rodents.
- Before touching electrical parts, turn off the unit. The circuit must be protected with suitable Safety Devices in accordance with local and devices in accordance with local and national codes, i.e. a circuit breaker.
- Securely fasten the Outdoor unit Terminal Cover. If the Outdoor Unit Terminal Cover is not installed properly, dust or water may enter the Outdoor unit causing fire or electric shock. Hence, Outdoor Unit Terminal Cover should be in place all the times during unit running. Failing to do so may violate product safety and product reliability.



- Do not change/temper the setting of the protection devices. If the pressure switch, thermal switch, or other Protection device is shorted and operated forcibly, or parts other than those specified by Havells are used, fire or explosion may occur.
- When Installing or Relocating the Heat Pump, do not let any other substances besides R32, such as Air, enter the refrigerant circuit. The presence of air or foreign matter in the refrigerant circuit causes an abnormal pressure rise, which may result in equipment damage and even injury.
- Comply with National Gas Regulations.

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 **CAUTION**

- Do not touch the switch with wet Fingers. Touching a switch with wet Fingers can cause Electric Shock.
- Wear Adequate Personal Protective Equipment (Protective Gloves, Safety Glasses,...) when Installing, Maintaining or Servicing the system.
- The Heat Exchanger Fins are sharp enough to cut. To avoid injury, wear gloves or cover the fins while working around them.
- Do not Touch the Refrigerant Pipes during and Immediately after operation, as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer Burns or Frostbite if you touch the refrigerant pipes.
- To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Install Drain Piping to ensure proper drainage. Improper drain piping may result in water leakage and property damage. Environmental sealant can also be used in conjunction to make Drain Pipe joint water tight.
- Insulate Piping properly to prevent condensation. Failing to do so may damage the walls due to condensation.
- Be careful when transporting the product.
- Do not turn Off the Power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may occur.
- Refrigerant R32 in the system must be kept clean, dry, with connections tightened.
  - A: Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
  - B: R32 does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection against harmful ultraviolet radiation. R32 can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation.
- The Indoor unit is for R32. Connected unit should also be R32 compatible. Normal operation is not possible when connected to non-compatible Outdoor units.
- Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with Electronic Fluorescent Lamps (inverter or rapid start types). Install the Indoor unit as far away from Fluorescent Lamps as much as possible.

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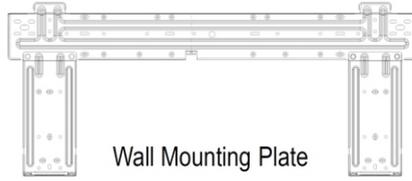
- Do not install the Heat Pump in the following locations:
  - a. Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen.
  - b. Plastic parts may deteriorate and fall off or result in water leakage.
  - c. Where corrosive gas, such as Sulfurous Acid gas, is produced.
  - d. Corroding copper pipes or soldered parts may result in refrigerant leakage.
  - e. Near machinery emitting Electromagnetic Waves. Electromagnetic Waves may disturb the operation of the control system and cause the unit to malfunction.
  - f. Where Flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions can cause a fire.
- Take adequate measures to prevent the Outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke, or fire. Instruct the user to keep the area around the unit clean.
- Servicing shall be performed only as recommended by the manufacturer and licensed or certified in their jurisdiction.

## NOTE

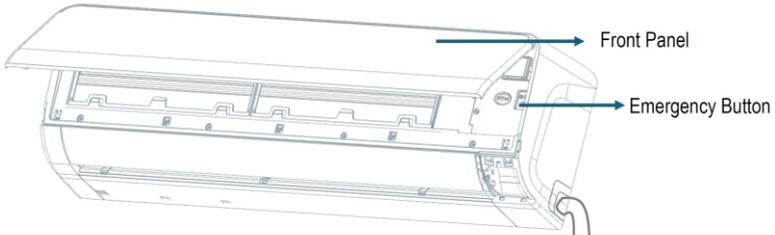
- The Indoor unit should be positioned where the unit and Interconnecting wires. (Outdoor to Indoor) are at least 3.3ft (1m) away from any Televisions or Radios. (The unit may cause) interference with the picture or sound.) Depending on the Radio Waves, a distance of 3.3 ft (1m) may not be sufficient to eliminate the noise.
- Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant Local, State, and National Regulations.
- Only use tools for R32, such as a Gauge Manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
- If the conventional refrigerant and refrigerator oil are mixed in R32, the refrigerant may deteriorate.
- As Maximum Allowable Pressure is 604psi (4.17MPa), the wall thickness of field-installed pipes should be selected in accordance with the relevant Local, State, and National Regulations.

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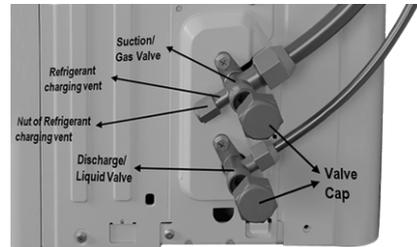
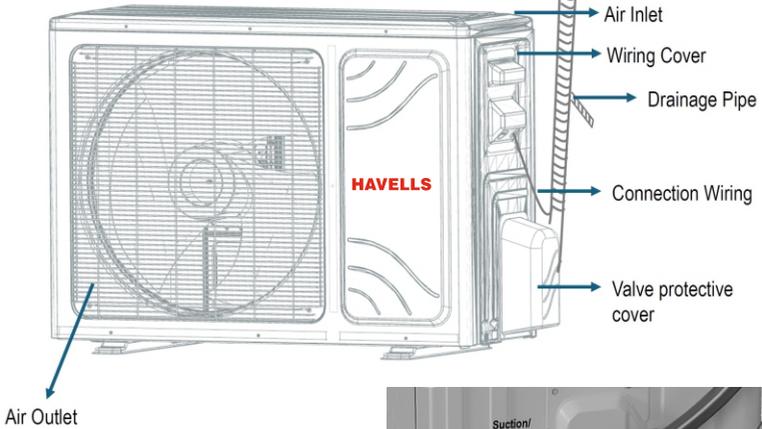
# NAME OF PARTS



Indoor Unit

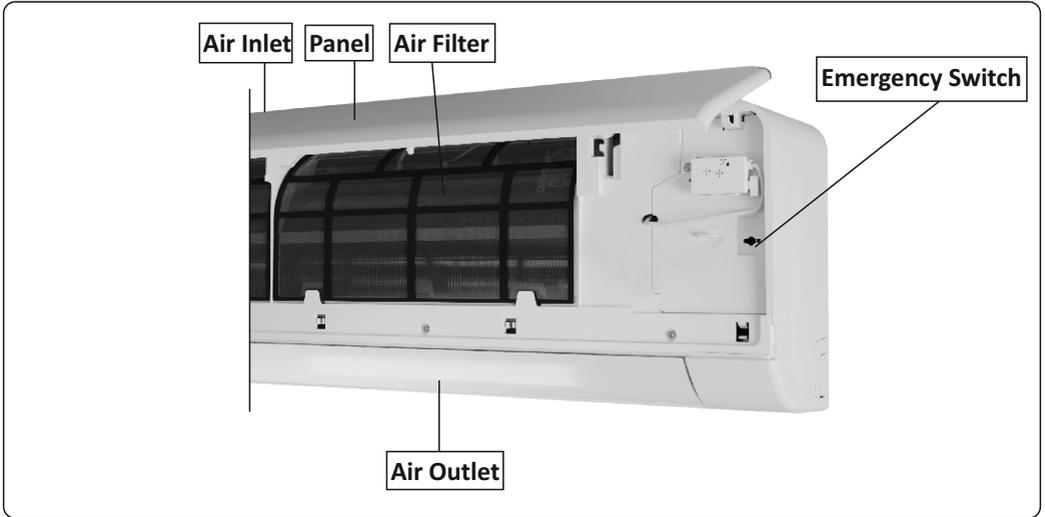


Outdoor Unit

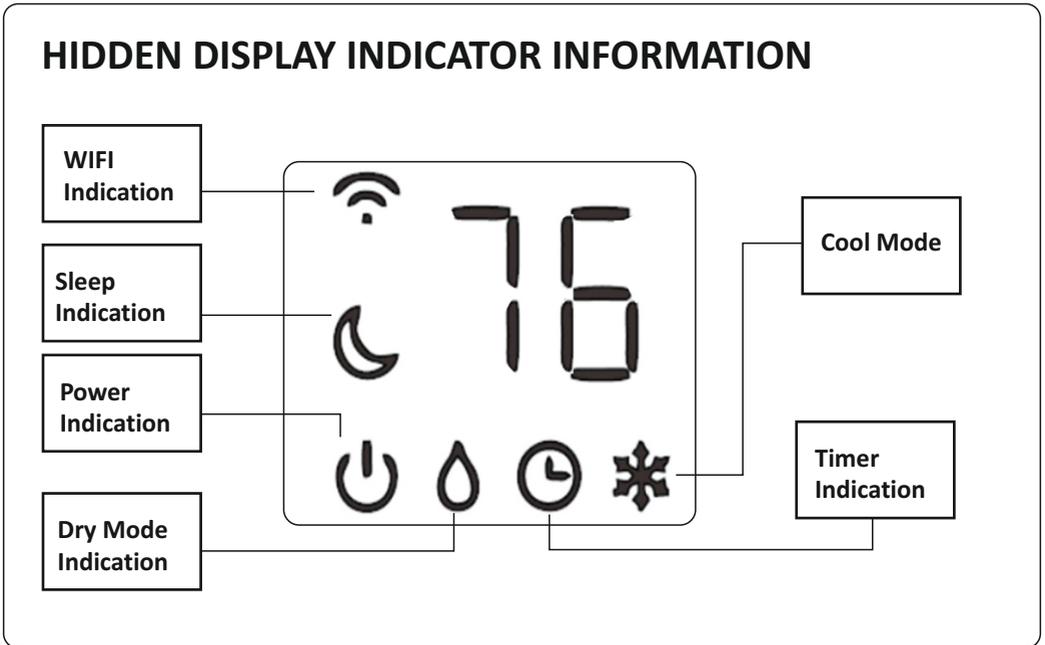


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# INDOOR UNIT INFORMATION



# HIDDEN DISPLAY INDICATOR INFORMATION



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# ACCESSORIES

The listing below shows the Generic Accessories and Parts (these may vary depending on purchase & options). Use Installation parts and Accessories to install the system as required by the Installation Site. Improper installation may result in water leakage, Electrical Shock, Fire, and/or Equipment failure.

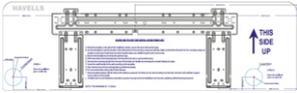
PART	PICTURE	QUANTITY
<p><b>Mounting Plate</b></p>		<p><b>1 Number</b></p>
<p><b>Wall Anchors</b></p>		<p><b>6~8 Numbers (Depending upon models)</b></p>
<p><b>Mounting Plate Fixing Screw</b></p>		<p><b>6~8 Numbers (Depending upon models)</b></p>
<p><b>Remote Control</b></p>		<p><b>1 Number</b></p>
<p><b>Wall Putty</b></p>		<p><b>1 Number (Sealant for Wall Sleeve)</b></p>

**Note:** Illustrations are for explanatory purposes only - The actual shape and size may vary.

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<p><b>Battery</b></p>		<p><b>2 Numbers</b></p>
<p><b>Drain joint</b></p>		<p><b>1 Number</b></p>
<p><b>Manuals</b>  <b>1) Product Manual</b>  <b>2) Wi-Fi Manual</b></p>		<p><b>1 Each</b></p>
<p><b>Drain Pipe</b></p>		<p><b>1 Number</b></p>
<p><b>Plastic Wall Sleeve</b></p>		<p><b>1 Number</b></p>
<p><b>Interconnecting wire</b></p>		<p><b>1 Number</b>  <b>(4 core x 26 ft x 1.3 sq.mm)</b></p>
<p><b>Drain Pipe Extension</b></p>		<p><b>2 Numbers</b></p>

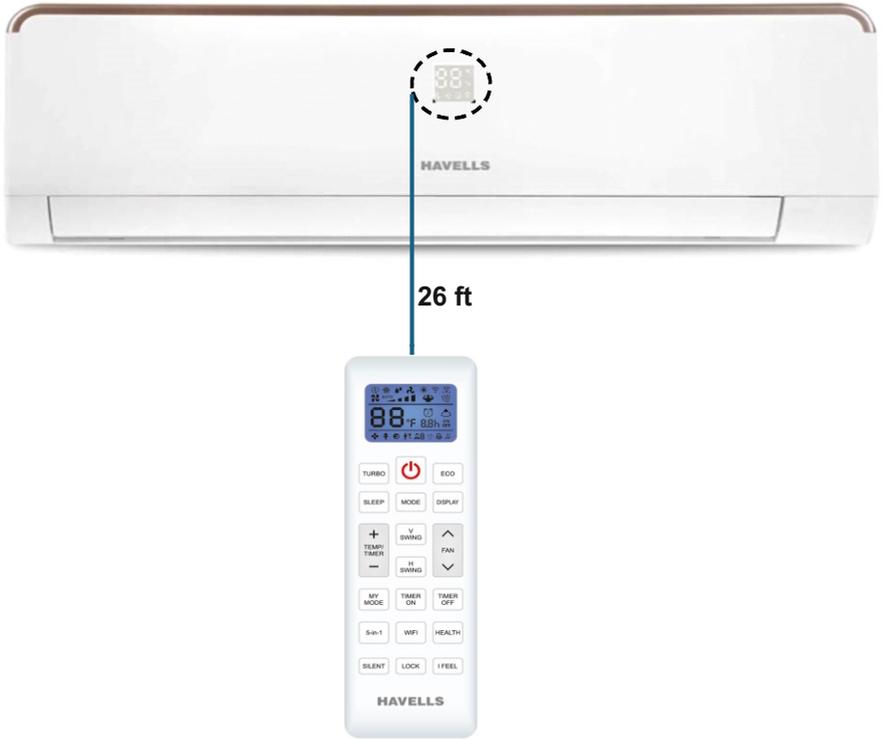
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<p><b>Stencil for Mounting Plate</b></p>		<p><b>1 Number</b></p>
<p><b>Interconnecting Pipe</b>  <b>1) Suction Pipe</b>  <b>2) Discharge Pipe</b></p>		<p><b>1 Each</b></p>
<p><b>Non-Adhesive Wrapping Tape</b></p>		<p><b>1 Number</b></p>
<p><b>Leg Rubber Pads</b></p>		<p><b>4 Numbers</b></p>

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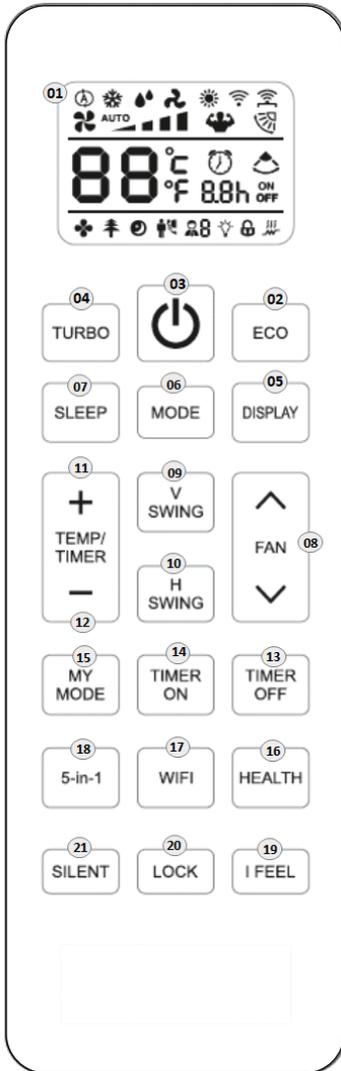
*Display content or the position may be different from the above graphics, please refer to actual product. Asterisk \* marked functions are optional and available in selected models only. The company reserves the right to change/modify in the content. The steps and process may differ: Please follow the App/Product actual screen.*

**Maximum distance for remote control to work properly is 26 ft. with the Indoor Unit being in the line of sight."**



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# REMOTE FEATURES

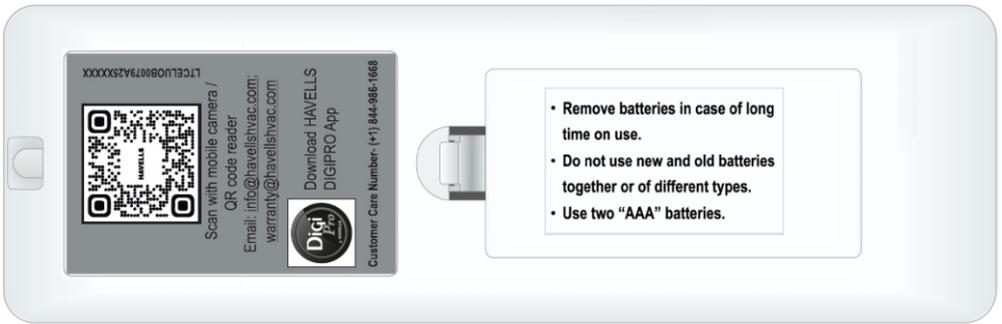


1. LCD DISPLAY
2. \* ECO BUTTON
3. POWER BUTTON
4. \* TURBO BUTTON
5. \* DISPLAY BUTTON
6. \* MODE BUTTON
7. \* SLEEP BUTTON
8. \* FAN BUTTON
9. \* V-SWING BUTTON
10. \* H-SWING BUTTON
11. PLUS BUTTON
12. MINUS BUTTON
13. \* TIMER OFF BUTTON
14. \* TIMER ON BUTTON
15. \* MY MODE BUTTON
16. \* HEALTH BUTTON
17. \* WIFI BUTTON
18. \* 5-in-1 / 6-in-1 BUTTON
19. \* I FEEL BUTTON
20. \* LOCK BUTTON
21. \* SILENT BUTTON

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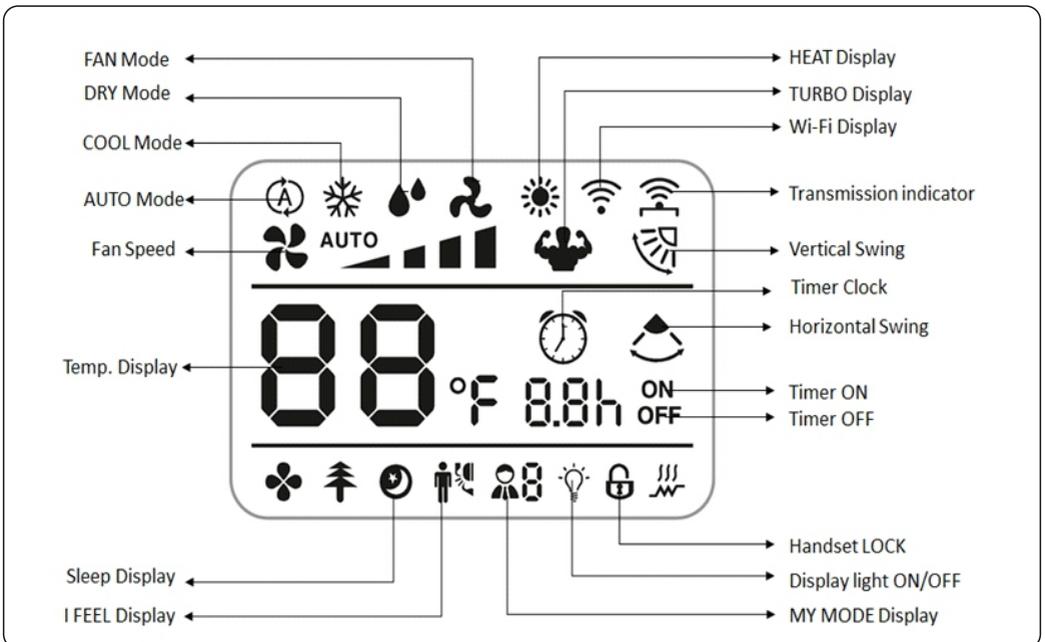
# REMOTE FEATURES

For more information regarding the product refer the QR code at the back side of Remote.



# REMOTE HANDSET LCD INFORMATION

- △ The display and some functions of the remote control may vary according to the model.
- △ The shape and position of buttons and indicators may vary according to the model, but their functions will be the same.
- △ The unit confirms the correct reception of each button with a beep.



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# OPERATION GUIDE

## MAIN FEATURES

- DUAL DIGIT DIGITAL HIDDEN DISPLAY & LED INDICATOR DISPLAY OPTIONS
  - WIRELESS REMOTE HANDSET
  - MULTIPLE OPERATING MODES [AUTO, COOL, DRY, FAN, \*HEAT]
  - DIGITAL CONTROL OF SET TEMPERATURE RANGE 61°F TO 88°F
  - MULTIPLE FAN SPEED (AUTO, LOW, LOW-MID, MEDIUM, HIGH-MID AND HIGH)
  - ON & OFF TIMERS (24 HOURS)
  - \*5-in-1 / 6-in-1
  - \*I-FEEL
  - FILTER CLEANING INDICATION
  - TURBO, SILENT, SLEEP, \*WIFI, ECO & MY MODE FUNCTIONS
- 

## OPERATION OF WIRELESS REMOTE HANDSET

The wireless remote handset is a versatile and user-friendly gadget that allows users to control the Heat Pump system's Cooling, Heating, and other functions. It's simple to understand providing LCD display with LCD backlighting along with night glow buttons.

### FACTORY RESET

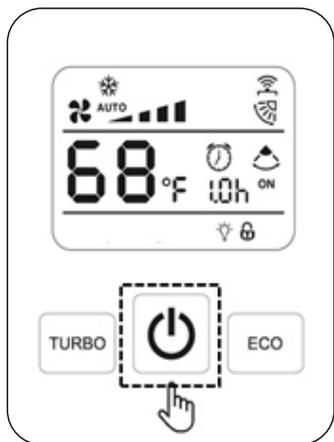
Remote handset can be reset to factory setting by removing the batteries and waiting 30s before reinstalling.

After reset all icons on remote handset LCD will turn ON for 3 s.

### DEFAULT SETTINGS

By default, remote handset will be set to COOL mode, 76°F set temperature, Display/ function ON, Auto fan Speed in Standby/OFF State. Backlight will also turn on for some time.

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## POWER ON/OFF BUTTON

Press POWER  button to turn the Heat Pump ON or OFF.



## POWER ON STATE

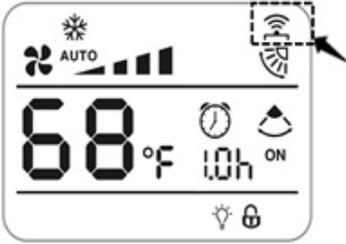
During Power ON state, the two partition lines will illuminate on remote handset display. In this state you can use all function and features for remote handset.



## POWER OFF/STANDBY STATE

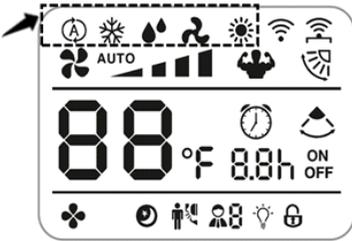
During Power OFF/Standby state, the two partition lines will disappear from the remote handset display. In this state you can set ON/OFF Timer, LIGHT/DISPLAY, WI-FI.

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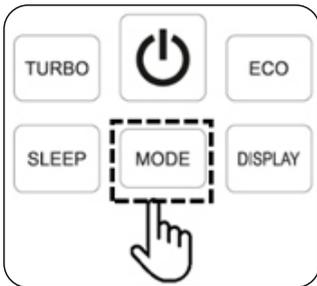
## IR TRANSMISSION INDICATOR

Whenever signal is sent through remote handset  icon will be displayed on remote handset.



## \* MODE

Use MODE button to select one of the available modes. The selected mode will be displayed on the remote handset and the appropriate indication will illuminate on remote handset display.



Each time you press the Mode button, operating mode will change in cyclic order from **AUTO, COOL, DRY, FAN, & HEAT.**



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### \* AUTO

Use Auto mode to perform comfortable Cooling and Heating Automatically. When the difference between the room temperature and the set temperature decreases, the Heat Pump controls the fan speed and compressor speed automatically.

- When “AUTO” Mode is activated, the handset Display shows AUTO Mode icon, 76°F Set temperature, and AUTO FAN-SPEED icon.

 ► MODE ► Select AUTO 



### \* COOL

In Cool mode, the Heat Pump will cool your room as per your preference selected using remote handset. You can adjust the set temperature, Fan speed, Swing Angles, etc. System varies Compressor Speed to maintain the desired temperature.

**Setting temperature range is 61°F to 88°F from the wireless remote handset. By default, set temperature is 76°F after replacing the batteries.**

- If the Outdoor temperature is much higher than the Indoor set temperature, it may take time to bring the Indoor temperature to the desired level.
- When “COOL” Mode is activated, then Handset LCD shows COOL Mode icon, Set temperature, and SET FAN-SPEED icon. In transition from ON mode to OFF mode, Set Temperature will not change & it will show the previous set temp.

 ► MODE ► Select COOL 

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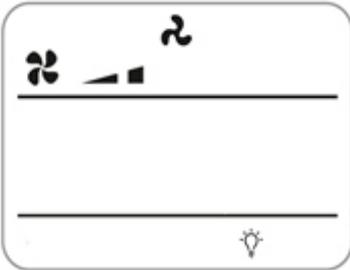


### \*DRY

In this mode the Heat Pump acts like a dehumidifier and removes moisture from Indoor Air. Dry mode makes the Air feel refreshing in a Humid climate.

- When “DRY” Mode is activated, then Handset LCD shows DRY Mode icon, 76°F Set temperature, LOW FAN SPEED.
- In transition from ON mode to OFF mode Set Temperature will not change & it will show the previous set temp. User can change set temperature by PLUS/MINUS keys in Dry mode **but cannot change Fan Speed.**

 ► MODE ► Select DRY 



### \*FAN

Fan mode can be selected to circulate air in your room. Fan mode will be helpful to refresh the stale air in your room.

- When “FAN” Mode is activated, then Handset LCD shows Fan Mode icon & SET FAN-SPEED. There are 6 Speeds in Fan Mode which are **SILENT, LOW, LOW MID, MED, HIGH-MID & HIGH** only.
- Set temperature does not appear in fan mode.

 ► MODE ► Select FAN 

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## \*HEAT

In this mode you can warm your room using heat mode.

- Fan may not operate, and Flap will be set to default for some time in the beginning to prevent cold breeze.
- Since the Heat Pump Heats the room by taking heat energy from Outdoor Air, the Heating Capacity may decrease when Outdoor temperature is extremely low.
- Use an additional heating appliance in combination with the Heat Pump if you feel the Heat Pump heats insufficiently.

• When "HEAT" Mode is activated, then Handset LCD shows HEAT icon, 76°F Set temperature, SET FAN-SPEED. In transition from ON mode to OFF mode, Set Temperature will not change & it will show the previous set temp.

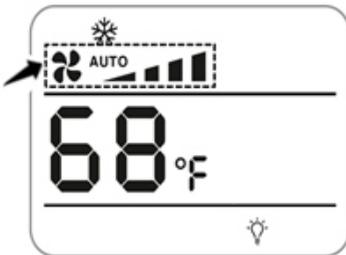


MODE ▶ Select HEAT



## \*Manual / Forced Defrost function

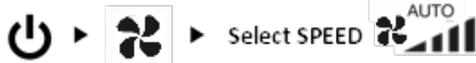
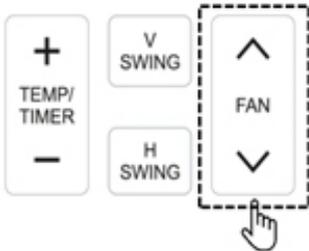
- If necessary, user can press the Silent button 4 times within 5 seconds under Heating mode to start the forced/Manual Defrosting. It will Defrost the Outdoor ice much faster.
- This can only be done when Outdoor ambient temperature is less than 50 °F.
- If Defrosting starts, then Indoor unit will make two short buzzers sound. After sometime of starting , Indoor unit display shows 'dF' until defrost is complete.
- If conditions are not met, then Indoor unit will make 3 short buzzer sounds as denial.



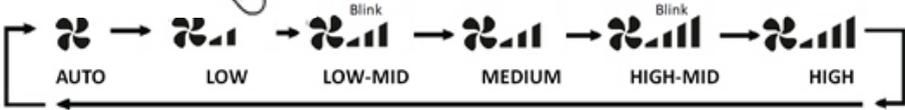
## FAN

Select the fan button to select the desired fan speed. The selected fan speed will be displayed on the remote handset and the appropriate indication will illuminate on remote handset display.

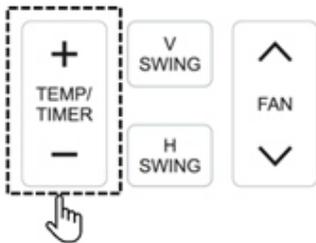
*Display content or the position may be different from the above graphics, please refer to actual product. Asterisk \* marked functions are optional and available in selected models only. The company reserves the right to change/modify in the content. The steps and process may differ: Please follow the App/Product actual screen.*



Each time you press the FAN button, FAN SPEED will change as per the below cyclic order. Press UP/DOWN button in FAN to increase or decrease the fan speed. Silent function can be selected directly in the remote with dedicated SILENT button.



- Fan speed can be changed from **AUTO** to **HIGH** under **COOL, HEAT, I-FEEL, C3, C4, C5, CA, MY MODE SETTING & SLEEP** modes/functions.
- Fan speed can be changed from **SILENT** to **HIGH** under FAN Mode.
- Fan speed can be changed under **TURBO** and **SILENT** functions and function will exit.
- Fan speed cannot be changed under **AUTO, DRY, ECO**, modes/functions.
- Fan speed can be changed from **AUTO** to **LOW** under **C1** settings.
- Fan speed can be changed from **AUTO** to **MEDIUM** under **C2** settings.



### + (PLUS) / - (MINUS)

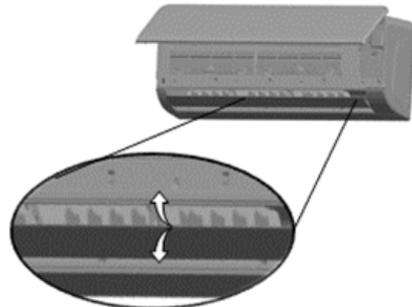
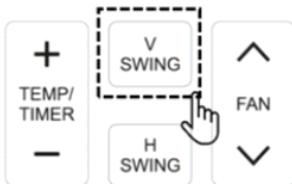
Press + (PLUS) / - (MINUS) button to increase or decrease set temperature in different modes. Using this button, you can also increase or decrease timer in **TIMER ON & TIMER OFF** function.

- + (Plus) / - (Minus) buttons cannot be operated under **AUTO, FAN, ECO & MY MODE** functions/modes.



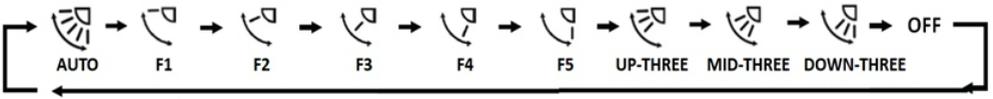
### \*VERTICAL SWING

Press **V SWING** button on the remote controller to select desire air flow direction.



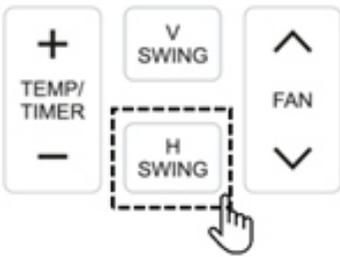
*Display content or the position may be different from the above graphics, please refer to actual product. Asterisk \* marked functions are optional and available in selected models only. The company reserves the right to change/modify in the content. The steps and process may differ: Please follow the App/Product actual screen.*

Each time when you press the V SWING button, air flow blade will change as per below cyclic order.



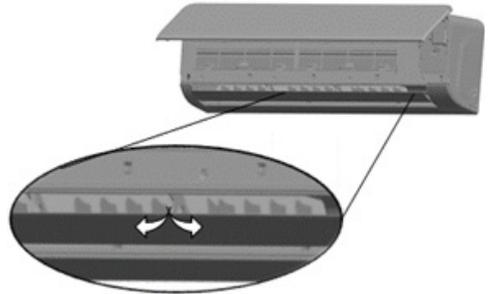
The selected swing position will be displayed on the remote handset and the appropriate indication will illuminate on remote handset display

**Note:** If you adjust the vertical air flow blade manually, it may not close completely when you turn off the Heat Pump.



### \*HORIZONTAL SWING

Press **H SWING** button on the remote controller to select desire air flow direction



Press **H SWING** button in the remote handset to enable Auto Swing and icon will appear on remote handset display. Press the button again to disable this function and icon will disappear from remote handset display.

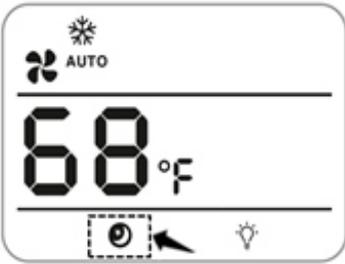
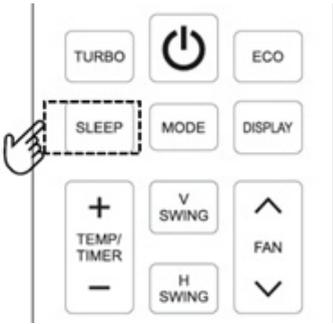


**Note:**

If you adjust the vertical air flow blade manually, it may not close completely when you turn off the Heat Pump. Horizontal swing is an optional feature available in selected models only.

It is not recommended to manual control horizontal & vertical louvers as this may result in damage to parts & may result in safety concerns.

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### \*SLEEP

You can set the SLEEP function by pressing SLEEP button from the remote handset and  icon will appear on remote handset display, press the button again to disable this function and the  icon will disappear.

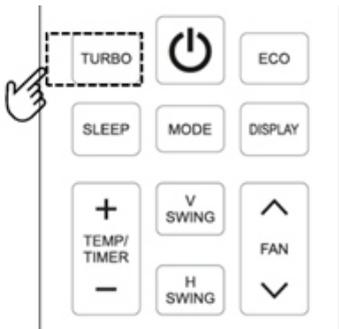
When Sleep function is selected, on Indoor display  icon will glow & display  light will get dim. After eight consecutive hours Sleep function will automatically exit.

#### Note:

In sleep mode, the user set temperature will increase automatically in the background.

- SLEEP selection is not possible under AUTO, DRY, FAN, I-FEEL & MY MODE functions modes.
- SLEEP selection under TURBO and ECO will exit the respective function/mode and SLEEP mode will be activated.

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## \*TURBO

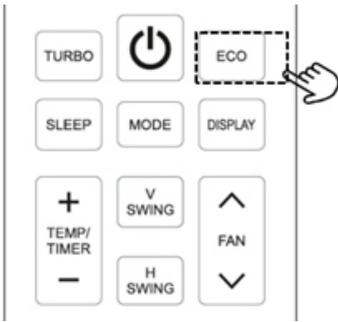
You can set the **TURBO** function to use powerful cooling/heating. Press **TURBO** button from the remote handset to enable this function and  icon will appear on remote handset display. Press the button again to disable this function and the  icon will disappear.



When “**TURBO**” key is pressed, Remote Handset LCD shows “  ” icon & Fan Speed set to high.

- **TURBO** selection is not possible under, **AUTO, DRY, FAN, C1, C2, C3 & MY MODE** functions modes.
- **TURBO** selection under **ECO** and **SLEEP** will exit the respective function/mode and **TURBO** mode will be activated.

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### \*ECO

You can set the ECO function by pressing ECO button from the remote handset. Press the button again to disable this function.

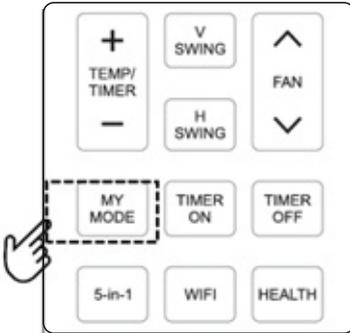


Ec will be displayed at set temperature screen when this function is selected.

- ECO selection is not possible under AUTO, DRY, FAN, 5-in-1/6-in-1 & MY MODE functions/modes.
- ECO selection under TURBO and SLEEP will exit the respective function/mode and ECO mode will be activated.

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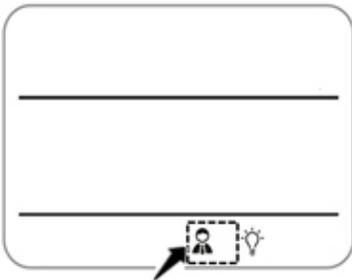
## \*MY MODE



You can set MY MODE function by pressing the MY MODE button continuously for 2 seconds from the remote handset and  icon will appear on remote handset display.

Press the button again continuously for 2 seconds to disable this function and  icon will disappear from remote handset display.

In MY MODE setting you can save your/ preferred setting like, **MODE, FAN SPEED, SET TEMPERATURE, H-SWING, V-SWING** in remote handset memory.



To setup MY MODE setting, in normal mode press the MY MODE button continuously for a long time. Remote handset will go into MY MODE setting menu and icon will start blinking. By default in MY MODE, mode will set to COOL, fan speed will set to AUTO, set temperature will set to 76 °F.

To exit MY MODE from setting menu, press the MY MODE button again continuously for 2 seconds.

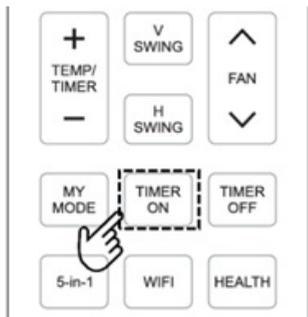
- MY MODE selection under **COOL, AUTO, DRY, HEAT, FAN, ECO, TURBO, SLEEP & I-FEEL** modes/functions is possible and Heat Pump will exit previous mode and start running as per MY MODE.
- Selection of MY MODE is not possible under 5-in-1/6-in-1 mode.



### Note:

*After battery replacement, You will need to setup MY MODE setting again.*

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## \*TIMER

In this remote handset you can set TIMER ON/ TIMER OFF separately as well as together at any state of remote. Timer can be set from 30 min to 24 h. From 30 min to 10 h you can select timer in 30 min time. From 10 h to 24 h you can set timer in 60 min time intervals.



### \*TIMER ON

You can set the TIMER ON function by pressing TIMER ON.  icon and **ON** icon will start blinking on remote handset **8.8h** will set to 0.0 h Press + (PLUS) / - (MINUS) button to select the desired hour. Press TIMER ON button again to save the timer.



### \*TIMER OFF

You can set the TIMER OFF function by pressing TIMER OFF.  icon and **OFF** icon will start blinking on remote handset **8.8h** will set to 0.0 h. Press + (PLUS) / - (MINUS) button to select the desired hour. Press TIMER OFF button again to save the timer.

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## TIMER ON & OFF COMBINATION

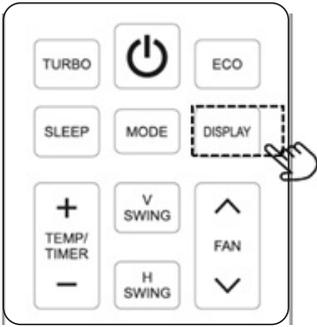
When the Heat Pump is in ON state	When the Heat Pump is in OFF/STANDBY state
<p><b>Preset time in TIMER ON is longer than TIMER OFF</b>                      Eg : TIMER ON set to 5 h &amp; TIMER OFF is set to 1 h, the air conditioner will operate TIMER OFF and unit will turn OFF after 1 hour from the moment you have set the timer. Your Heat Pump will turn ON after 4 hours after unit turned OFF.</p>	<p><b>Preset time in TIMER ON is longer than TIMER OFF</b>                      E.g. TIMER ON set to 5 h &amp; TIMER OFF is set to 1 h, the Heat Pump will operate TIMER OFF and unit will remain OFF. Your Heat Pump will turn ON after 5 hours from the moment you have set the timer.</p>
<p><b>Preset time in TIMER ON is shorter than TIMER OFF</b>                      Eg : TIMER ON set to 10 h &amp; TIMER OFF is set to 13 h, the air conditioner will operate TIMER ON and unit will remain ON. Your Heat Pump will turn OFF after 13 hours from the moment you set the timer.</p>	<p><b>Preset time in TIMER ON is shorter than TIMER OFF</b>                      Eg : TIMER ON set to 10 h &amp; TIMER OFF is set to 13 h, the air conditioner will operate TIMER ON first and unit will turn ON after 10 hours from the moment you have set the timer. Your Heat Pump will turn OFF after 3 hours after unit turned ON.</p>



*Note: Timer ON & OFF Setting should be different from each other. First timer as per time will be available on remote handset display. After the completion of timer, respective timer will disappear from the remote handset.*

*If battery is removed, TIMER setting will erase from the remote handset only.*

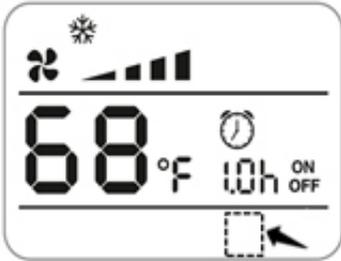
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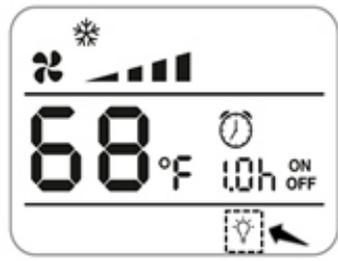
### \*DISPLAY

You can turn ON or OFF the Indoor display panel by using this function. Default factory setting, this function is always ON and icon will illuminate on remote handset. By pressing DISPLAY button, you can turn OFF Indoor display and will disappear on remote handset display. Press DISPLAY button again to turn on this function.

#### When the DISPLAY is OFF



#### When the DISPLAY is ON

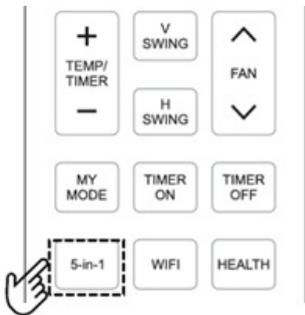


### \*BUZZER

When powered On, the buzzer will give one long beep.

When powered Off, the buzzer will give one long beep.

When feature not applicable for model, Buzzer will give 3 short beeps/no beeps.



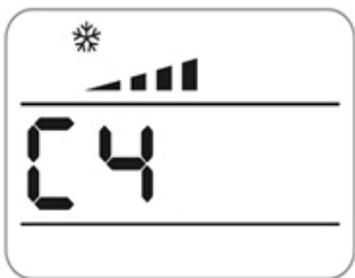
### \*5-in-1

You can select different capacity levels using this function. This function can work only in **AUTO, COOL,\*HEAT** modes.

Default factory setting Heat Pump will run in CA. Selected Capacity level will change as per cyclic order.

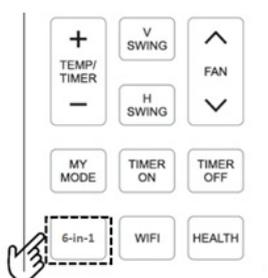


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Press the 5-in-1 button for the first time, preset selected level will show on remote handset display. Press the button again within 3 seconds to change the capacity as **C1, C2, C3, C4** and the respective capacity level will be displayed on the remote handset as well as on Indoor display. When capacity C1 to C4 is selected, “**C1**,”“**C2**,”“**C3**” & “**C4**” will appear on display as shown and when **CA** is selected, “**CA**” will appear on remote handset for 2-3 seconds, and then will disappear.

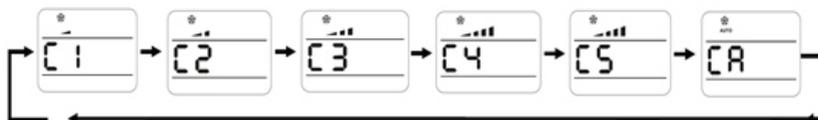
 *Note: In C1, C2, C3, the Heat Pump will run in lesser capacity than the rated capacity.*



### \*6-in-1

You can select different capacity levels using this function. This function can work only in **AUTO, COOL,\*HEAT** mode.

Default factory setting Heat Pump will run in **CA**. Selected Capacity level will change as per cyclic order.



Press 6-in-1 button for the first time, preset selected level will show on remote handset display. Press the button again within 3 seconds to change the capacity as **C1, C2, C3, C4, C5** and the respective capacity level will be displayed on the remote handset as well as on Indoor display.

When the capacity C1 to C4 is selected, “**C1**,”“**C2**,” “**C3**,” “**C4**”&“**C5**” will appear on display as shown and when **CA** is selected, “**CA**” will appear on remote handset for 2-3 seconds, and then will disappear.

 *Note: In C1, C2, C3, the Heat Pump will run in lesser capacity than the rated capacity.*

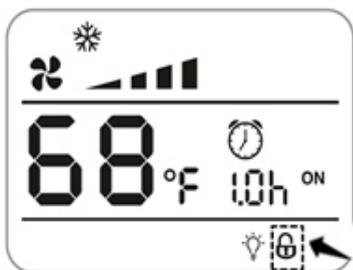
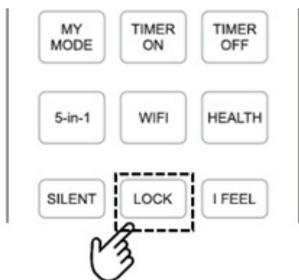
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## Fan speeds under 5-in-1/6-in-1 feature

- Fan speed can be changed from **AUTO** to **LOW** under **C1** settings.
- Fan speed can be changed from **AUTO** to **MEDIUM** under **C2** settings.
- Fan speed can be changed from **AUTO** to **HIGH** under **C3, C4 & C5** settings.

## 5-in-1/6-in-1 selection under different modes/functions

- Selection of 5-in-1/6-in-1 is possible under **AUTO, COOL & HEAT** modes.
- Selection of 5-in-1/6-in-1 is not possible under **DRY, FAN & MY MODE** modes /functions.
- Selection of 5-in-1/6-in-1 under **TURBO, ECO, SLEEP** modes/functions is possible but will exit the respective mode/function.



### \*LOCK

This is a child lock feature. Press and hold \*LOCK button continuously for some time to lock the remote handset at the current Setting.  icon will appear on remote handset display when the remote is locked. You will not be able to change any function until it is unlocked. During remote lock condition, if you press any button,  icon will blink for some time to indicate that the lock function is currently activated. To unlock press and hold the button again continuously for some time. After unlocking  icon will disappear from remote display.

### RESET

Using this function, you can reset your remote handset to default factory setting. Reset the remote handset by removing the batteries from remote handset and pressing any key without inserting the batteries. After reinstalling the batteries, remote will restart in default factory mode.

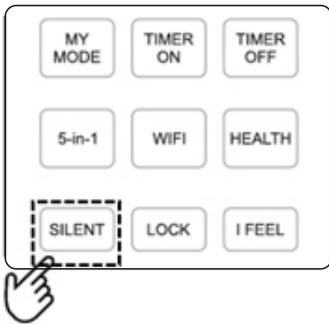
 **Note:** After reset or removal of batteries, remote handset memory will also get reset and all the saved functions like MY MODE, TIMER, PRESET setting will erase from the remote handset memory.

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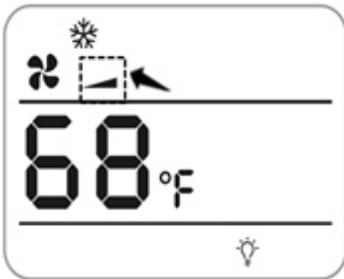
### \*BLOW

This function is by default always ON in your Heat Pump. Whenever the Indoor coil has moisture, this function automatically dries up the Indoor coil before going into OFF/ Standby state. During this period, a reverse counter of 60 seconds will start, horizontal louver will be slightly open, and fan will run to dry out the Indoor coil. After the counter set to zero, fan will stop, and horizontal louver will close fully.



### \*SILENT

Use the SILENT function to reduce Indoor side operation noise. Press \*SILENT button from your remote handset to enable this function. When silent function is set, Heat Pump Indoor will run in lowest speed. When SILENT function is set, SILENT icon will illuminate in remote handset display.



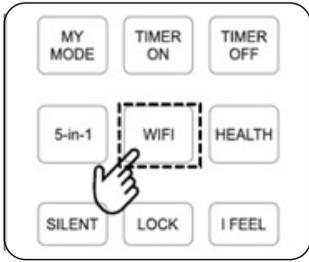
Silent speed can be selected from FAN speed button but for the Remote handsets without Silent button only.

SILENT function will exit once fan speed is changed.

### SILENT selection under different modes & functions.

- Selection of Silent function is possible under **COOL, FAN, HEAT, SLEEP & 5-in-1/6-in-1** modes/functions.
- Selection of Silent function is not possible under **AUTO, DRY, MY MODE & ECO** modes functions.
- Selection of Silent function is possible under **TURBO** but **TURBO** function will exit.

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### \*WIFI

Your Heat Pump is WIFI ready. Long Press WIFI button on our remote handset to turn on pairing mode in your Heat Pump. WIFI icon on your remote handset will illuminate.



### \*I-FEEL

When the “I FEEL” key is pressed, I Feel icon  will start blinking continuously until it exits. Do it again to deactivate this function. This function enables the remote control to measure the temperature at its current location, and send this signal to the Heat Pump to optimize the temperature around you and to ensure comfort.



It will automatically deactivate after 2 hours.

- Selection of I-FEEL function is not possible under **DRY, FAN, MY MODE, and SLEEP** modes functions.

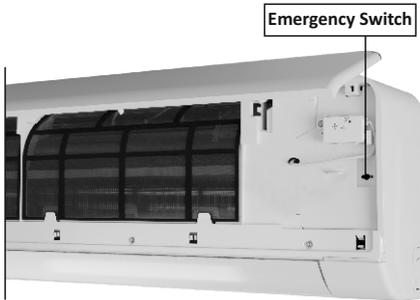
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## MEMORY

During a power failure, the Heat Pump will remember the last setting and resume after the power is restored.

## Time Delay/Balance Count

Each time the compressor is off there will always be a 3 min delay time before the compressor restarts.



## EMERGENCY/AUX. BUTTON

During loss of remote handset, you can turn ON/OFF your Heat Pump using emergency or auxiliary button available on Indoor side unit. Heat Pump will operate in AUTO mode as present temperature 76 °F and fan will set to Auto Swing.

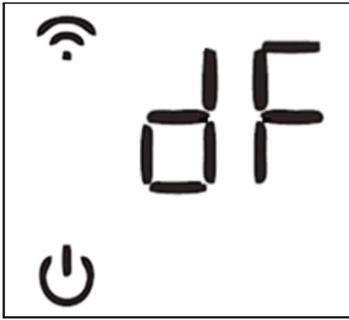


## \*FILTER CLEANING

Regular cleaning of air filter will keep your Heat Pump efficient and maintain hygiene. A filter cleaning reminder [E] [L] appears on the Indoor unit display to indicate filter cleaning. The time between cleaning may vary, depending on the usage and environmental conditions.

- Remove the filter from the Indoor unit.
- Use a soft brush or vacuum cleaner to remove any dust or debris on the filter.
- Clean the filter under running water.
- Rinse the filter and let it dry in air. (Drying in direct sunlight is not recommended.)
- Reinstall the filter into Indoor unit.
- Reset the filter-cleaning reminder by pressing TURBO button four times.

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### **\*DEFROST (Cooling/Heating)**

#### **DEFROST IN COOLING CONDITION**

When Indoor side coil temperature is very low and the humidity is very high, frost may develop and appear on the coil, which may decrease cooling efficiency. When these conditions are met while running in Cool mode, the Heat Pump runs the defrost mode for some time to remove frost from the heat exchanger. During this time, 'dF' indication will be displayed on Indoor display panel.

#### **\*DEFROST IN HEATING CONDITION**

When the Outdoor side temperature is low and the humidity is high, frost may develop and appear on the Outdoor coil, which may decrease and appear on the Outdoor coil, which may decrease heating efficiency.

When these conditions are met while running in Heat mode, the Heat Pump runs the Defrost function for some time to remove frost from the heat exchanger.

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## \*SELF CLEAN FUNCTION

- **The Self-clean function is used to clean the Indoor evaporator of dust, molds etc. Duration of this function is 26 min.**
  - In COOL/HEAT MODE, Press **I feel key + Silent** key together for 10 sec, signal is transmitted" and SC will appear on the remote
  - After receiving the self-cleaning start signal, the internal unit starts to perform the automatic cleaning function, and the screen displays **"SC"**.
  - The system runs in cool mode and then in hot mode in some specific sequence under this function.
  - It is normal if there is some noise during this function process, as plastic materials expand with heat and contract with cold.
  - It is suggested to utilize this function in every 3 months.
- 

## \*8°C HEATING FUNCTION

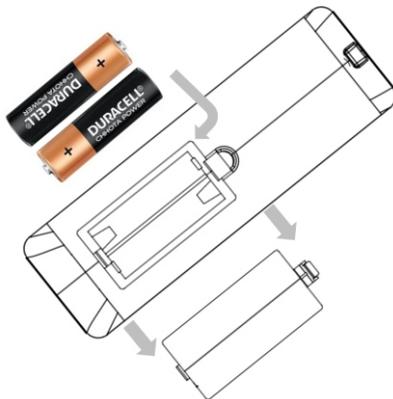
- **This feature is designed to maintain a minimum Indoor temperature of 8°C (46°F) during cold weather. When activated, Heat pump runs in heating mode at a low power level to ensure Indoor temperatures does not drop below 8°C (46°F) . This function provides heating at low temperature in unoccupied houses during winter for the purpose of protecting equipments or housing appliances which may be destroyed by the extreme cold weather. It is beneficial in winter climates where heating is needed even when no one is present.**
- Press ECO button 4 times in 5 seconds under Heat mode running condition to activate this function. Activating this function will display '8H' on Indoor Unit display for 3 seconds along with 2 short beeps to acknowledge that function has been activated.
- Do it again to deactivate this function. Deactivating this function will produce one long beep as an acknowledgement of deactivation.
- This function will auto start the Heat Pump in heat mode when the room temperature is lower than 8°C (46°F) and unit will operate in accordance to maintain this temperature.
- Heat Pump will return to standby state when temperature is achieved. This process will keep repeating to maintain temperature until deactivated from remote.
- Throughout this function, Indoor unit will display '8H'.
- This function will be activated and deactivated under Heat mode running state only, but will start working under Standby state only.
- This function will not work if user has set On timer or Off timer in Heat Pump. It will start working again as soon as Timer is over or removed.

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# REMOTE HANDSET

## Replacement of Batteries

- Remove the battery cover plate from the rear of the remote control, as shown in the below figure.
- Install the batteries according to the direction (+ and -) shown on the Remote Control. Reinstall the battery cover.
- ⚠ **Use 2 AAA (1.5V) Batteries.**
- Do not use Rechargeable Batteries.
- Replace the old Batteries with new ones of the same type when the display is no longer legible.
- Do not dispose batteries as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.



## Usage Instructions

1. Direct the remote control toward the Heat Pump.
2. Check that there are no objects between the remote control and the Signal receptor in the Indoor unit.
3. Never leave the remote control exposed to the rays of the sun.
4. The distance between signal sender and receiving window should be not be more than 26 ft.
5. Signal may be interfered easily with in the room where there is a Fluorescent Lamp or Wireless telephone; Remote Controller should be close to Indoor unit during operation.
6. Replace with new Batteries of the same size when replacement is required.
7. When you don't use remote controller for a long time, please remove the Batteries.
8. If the display on remote controller is fuzzy or there is no display, please replace Batteries.

 **Note:** Usage of Rechargeable Batteries/ non confirming Batteries, exposure to direct Heat source & Sunlight may result in Battery leakage & can cause remote explosion.

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# ERRORS & TROUBLESHOOTING

## MINI SPLIT HEAT PUMP

Cases	Outdoor Light Flashes	Indoor LED Flashes	Indoor Display	Fault Details
Fault	25	25	EE	Indoor machine EE fault
	1	1	E0	Outdoor EE fault
	26	26	E1	Indoor fan fault
	27	27	E2	Indoor fan zero-crossing detection abnormal
	28	28	E3	Indoor coil fault and sensor fault
	29	29	E4	Indoor ambient temperature sensor fault
	30	30	E5	Refrigerant Leak fault <i>(Optional)</i>
	2	2	E6	Indoor and outdoor machine communication fault
	/	3	E9 / EF	WiFi module fault <i>(Optional)</i>
	24	24	EH	Humidity sensor fault <i>(Optional)</i>
	/	37	EP	PM <sub>2.5</sub> sensor fault <i>(Optional)</i>
	/	38	EU	Voice module communication fault <i>(Optional)</i>
	/	/	CL	Filter Cleaning Reminder indication <i>(Optional)</i>
	/	/	go	Good to Go <i>(Optional)</i>
	/	/	ng	Not good to Go <i>(Optional)</i>
	4	4	F1	Compressor starting abnormal /Phase failure
	5	5	F2	Compressor out-of-step fault
	6	6	F3	IPM module fault
	7	7	F4	Compressor shell roof fault/protection
	8	8	F5	Discharge temperature sensor fault
	9	9	F6	Suction temperature sensor fault <i>(Optional)</i>
	10	10	F7	Outdoor coil temperature sensor fault
	11	11	F8	Outdoor ambient temperature sensor fault
	12	12	F9	Outdoor DC fan fault <i>(Optional)</i>
Protection	13	13	P1	Outdoor machine AC current protection
	14	14	P2	Compressor phase current protection
	15	15	P3	Outdoor unit over-high/over-low AC voltage protection
	16	16	P4	DC voltage over-high or over-low voltage protection
	17	17	P5	IPM over-high temperature protection
	18	18	P6	Discharge temperature overheat protection
	19	19	P7	Cooling indoor coil anti-freezing protection
	20	20	P8	Cooling outdoor coil overheat protection
	21	21	P9	Heating indoor coil overheat protection <i>(Optional)</i>
	22	22	PC	Cooling outdoor ambient temperature over-low protection
	23	23	PH	Heating outdoor ambient temperature over-high protection <i>(Optional)</i>
	Fault	31	31	L1
32		32	L2	Drive bus voltage over-low protection
33		33	L3	Drive phase current overload fault
Indication	34	34	L4	Phase current sampling abnormal
	/	/	Ht	Heat Mode Indication



**Note:** • Check the LED light flashed from second cycle.

- For running Self Check / Self Diagnosis, press Display button 8 times in 10 seconds soon after unit powered on from Mains

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# OPERATION INSTRUCTIONS

Setting the temperature beyond the specified range may cause the protection device to start and the unit may fail to operate. Therefore, try to use the unit in the following temperature conditions:

Temperature MODE	HEATING	COOLING	DRY
<b>Indoor Operating Range (Min. ~ Max.)</b>	0°C~26.7°C (32°F ~80°F)	16°C~31°C (61°F ~88°F)	
<b>Outdoor Operating Range (Min. ~ Max.)</b>	-15°C~24°C (5°F ~75°F)	15°C~50°C (59°F ~122°F)	

With the power supply connected, restart the unit after shutdown, or switch it to another mode during operation, and the unit protection device will start. The compressor will resume operation after 3 minutes.

## Characteristics of heating operation

### Preheating:

When the heating function is enabled, the Indoor unit will take 2~5 minutes for preheating, after that the unit will start heating and blow warm air.

### Defrosting:

During heating, if the Outdoor unit is frosted, the unit will enable the Automatic defrosting function to improve the heating effect. During defrosting, the Indoor and Outdoor fans stop running. The Heat Pump will resume heating automatically after Defrost is complete. During defrost running, Indoor unit will display 'dF'

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# INSTALLATION INSTRUCTIONS

## Pipe Length and Additional Refrigerant

Inverter Models Capacity (Btu/h)	18K
Length of pipe with standard charge	7.5m/24ft (Min. 3.5 m/11.5 ft)
Maximum distance between Indoor and Outdoor unit	10m/32ft
Additional refrigerant charge	25g/m
Maximum difference in level between Indoor and Outdoor unit	10m/32ft
Type of refrigerant	R32

## Torque Parameters

PIPE Size	Newton meter [N x m]	Pound-force foot (lbf-ft)	Kilogram-force meter (kgf-m)
1/4" (φ6.35)	18 - 20	24.4 - 27.1	2.4 - 2.7
3/8" (φ9.52)	30 - 35	40.6 - 47.4	4.1 - 4.8
1/2" (φ12)	45 - 50	61.0 - 67.7	6.2 - 6.9
5/8" (φ15.88)	60 - 65	81.3 - 88.1	8.2 - 8.9

## Dedicated Distribution Device and Wire for Heat Pump

Min. Circuit Ampacity of Heat Pump (A)	Minimum Wire Cross-sectional Area(mm <sup>2</sup> )	Specification of Socket or Switch (A)	Fuse Specification (A)
≤8	0.75	15	15
>8 and ≤10	1.0	15	15
>10 and ≤15	1.5	20	25
>15 and ≤24	2.5	25	40
>24 and ≤28	4.0	35	45
>28 and ≤32	6.0	40	55

 **Note:** This table is only for reference, the installation shall meet the requirements of local laws and regulations.

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# MAINTENANCE NOTICE

## Attention:

For Maintenance or scrap, please contact authorized service centers.

Maintenance by unqualified personnel may cause dangers.

## FACTORY RESET:

Remote handset can be reset to factory setting by putting batteries back again after removing the battery from the handset for some time.

After reset all icons on remote handset LCD will turn ON for 3 s.

## ★ Qualification requirements of maintenance personnel

1. Special training in addition to standard refrigerating equipment repair procedures is required when servicing equipment with flammable refrigerants. In many countries, this training is carried out by national training organizations that are accredited to teach the relevant national competency standards that may be set in legislation. The achieved competence should be documented by a certificate.
2. The maintenance and repair of the Heat Pump must be conducted according to the method recommended by the manufacturer. If other professionals are needed to help maintain and repair the equipment, it should be conducted under the supervision of individuals who have the qualification to repair AC equipped with flammable refrigerant.
3. All Electrical connections for the Heat Pump to be done by a Qualified PRO/Installer who is well aware of Local Guidelines & Regulations.
4. These products contains R-32 (Mildly flammable refrigerant). Hence the Installer/PRO servicing, installing and maintaining these Mini Split Units should be well qualified and certified as per local Laws to handle such activities .

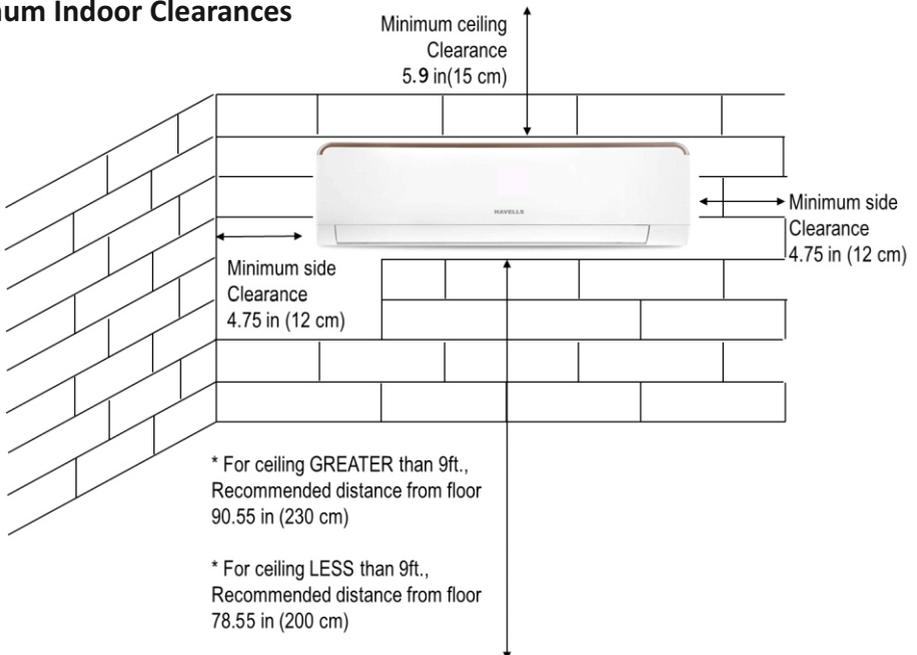
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# INDOOR UNIT INSTALLATION

## Step 1: Select Installation location

- 1.1 Ensure the installation complies with the installation Minimum dimensions (defined below) and meets the Minimum and Maximum connecting piping length (as defined in the **INSTALLATION INSTRUCTIONS**).
- 1.2 Air Inlet and Outlet should be clear of obstructions, ensuring proper Airflow throughout the room.
- 1.3 Condensate should be Easily and Safely Drained.
- 1.4 All connections can be Easily made to Outdoor unit.
- 1.5 Indoor unit is out of reach of children at all times.
- 1.6 A mounting wall strong enough to withstand four times the full weight and vibration of the unit.
- 1.7 Filter can be easily accessed for cleaning.
- 1.8 Leave enough free space to allow access for Routine Maintenance.
- 1.9 Install at least 10 ft. (3 m) away from the Antenna of TV set or radio. Operation of the Heat Pump may interfere with radio or TV reception in areas where reception is weak. An amplifier may be required for the affected device.
- 1.10 Do not install in a laundry room or by a swimming pool due to the corrosive environment.

## Minimum Indoor Clearances



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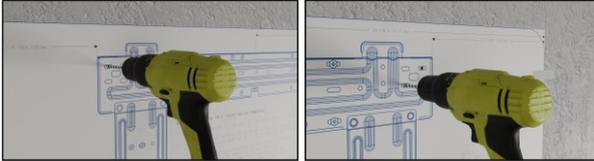
# INDOOR UNIT INSTALLATION

## Step 2: Install Mounting Plate

- 2.1. Take out the stencil for mounting plate
- 2.2. Adjust the stencil for mounting plate to a horizontal state with a level and Mark the screw hole positions on the wall. Ensure to meet the minimum installation dimension requirements of Step 1.

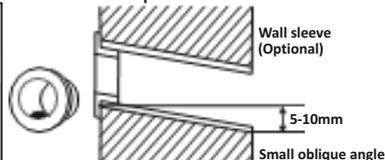


- 2.3. Drill holes in the marked position with Drill & insert wall anchors into the drill holes



- 2.4. A hole should be drilled for refrigerant piping, the drainage pipe, and connecting cables.

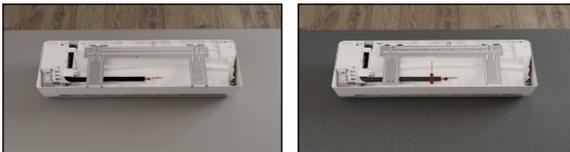
- Determine the location of wall hole based on the position of the mounting plate.



- The hole should have a 2.6 in (65mm) diameter at minimum and a small oblique angle to facilitate drainage. For this a suitable wood hole saw of 2.5 in (64mm) can be used.
- Drill the wall hole with core drill of suitable size(given in above point) and with a small oblique angle lower than the indoor end about 5mm to 10mm.

**Caution:** When drilling the wall hole, make sure to avoid wires, plumbing and other sensitive components.

- 2.5. Remove the mounting plate from the back of indoor unit.



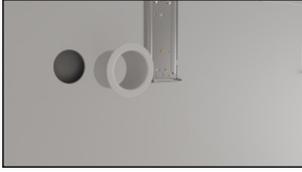
- 2.6. Remove the mounting plate stencil and secure the mounting plate to the wall with screws.



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# INDOOR UNIT INSTALLATION

- 2.7. Install the wall sleeve and wall sleeve cover (both are optional parts) to protect the connection parts.



## Note:

1. Make sure the mounting plate is firm and flat against the wall after installation.
2. This figure shown may be different from the actual object.
3. A Mounting wall should be strong enough to withstand four times the full weight and vibration of Indoor Unit.

## Step 3: Prepare exterior wall hole

Before the refrigerant piping can be installed and connected to the Indoor and Outdoor units, some additional steps are required to prepare the exterior.

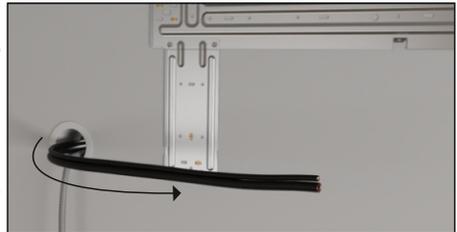
- 3.1. Install finishing ring/cap to the exterior portion of the wall hole.



## CAUTION

Be extremely careful not to dent or damage the piping while bending it down the exterior wall, as this could negatively affect the performance.

- 3.2. Place your hand on the underside of the piping coming through the exterior wall hole (from Indoor unit), close to the wall. With your other hand, using even pressure, carefully bend the piping downward toward the wall, being mindful not to damage or dent the piping in the process.

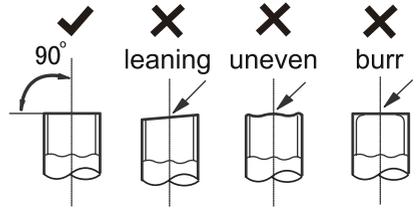


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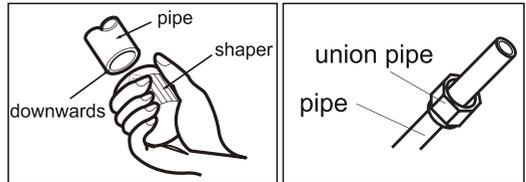
# INDOOR UNIT INSTALLATION

## 3.3 Only applicable for the areas which requires cutting of tubes.

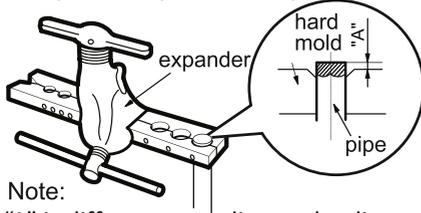
1. Confirm the pipe length according to the distance of Indoor and Outdoor unit.  
Cut the required pipe with pipe cutter.



2. Remove the burrs with shaper and prevent the burrs from getting into the pipe. Remove the burrs on the Indoor connection pipe and Outdoor valve, install the union nut on the pipe.



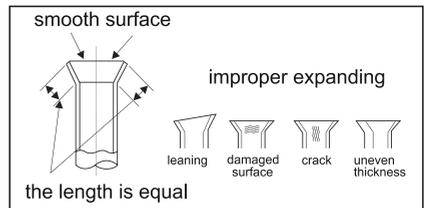
3. Expand the port with expander.



Note:  
"A" is different according to the diameter, please refer to the front side table.

Outer diameter (mm)	A(mm)	
	Max	Min
Φ6-6.35(1/4")	1.3	0.7
Φ9.52(3/8")	1.6	1.0
Φ12-12.7(1/2")	1.8	1.0
Φ15.8-16(5/8")	2.4	2.2

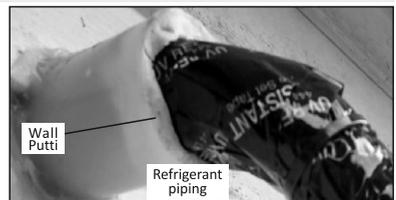
4. Check the quality of expanding port  
If there is any blemish, expand the port again according to the steps above.



**NOTE:** Pay attention to dust prevention and take relevant safety measures when opening the hole.

**CAUTION:** Don't mix Refrigerant types.

- 3.4. Pack the wall hole with the supplied wall putti to seal the hole, filling any space that was not taken up by the refrigerant piping and lines.

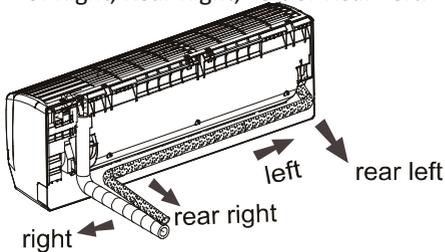


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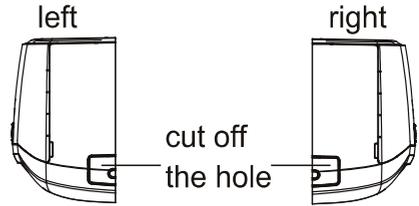
# INDOOR UNIT INSTALLATION

## Step 4: Connecting Refrigerant Pipe

4.1. The pipe can be led out in the direction of Right, Rear Right, Left or Rear Left.

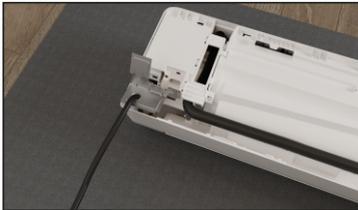


4.2. When select leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.

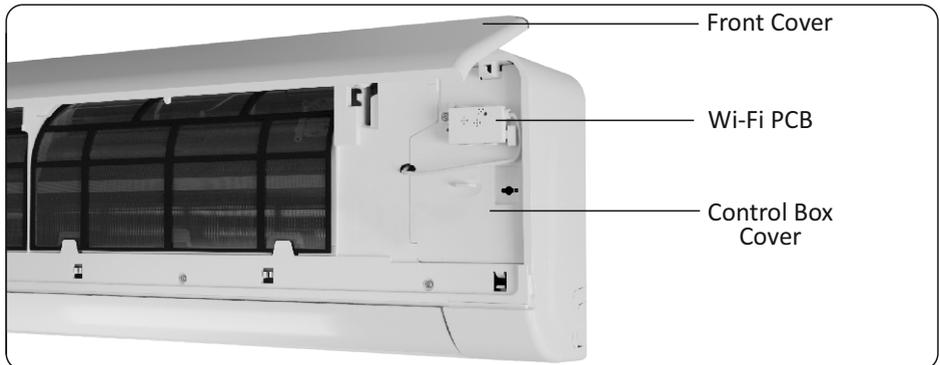


## Step 5: Connect Wiring

- 5.1 Choose the right Cables Size determined by the maximum operating current on the nameplate with suitable margins and factor of safety. Wire are selected as per recommended Heat Pump load, user manual guidelines and location governance bodies guidelines.
- 5.2 Open the Front Panel of Indoor unit.
- 5.3 Use a Screwdriver, open the Electric Control Box Cover, to Reveal the terminal block.
- 5.4 Open the Indoor Unit conduit from back side of Indoor Unit and connect interconnecting wire to Indoor Unit.



- 5.5 Insert one end of the cable into the position of control box from the back of the right end of the Indoor unit.



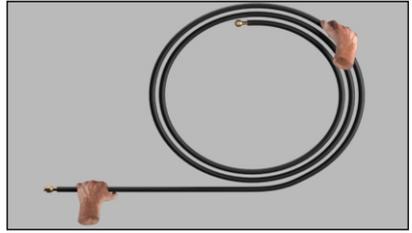
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# INDOOR UNIT INSTALLATION

## Step 6: Unwind Interconnecting pipe

6.1. Use your hands to slowly unwind the copper piping of one end of the interconnecting pipe. The end you unwind will connect to the Indoor unit piping. You should unwind the end until the connectors are close to flat on the ground (with little to no bend). If this is not done, it could make the line set



difficult to maneuver when aligning the connectors with the air handler piping. Only unwind as much as necessary for your application, and allow any excess to remain coiled.

### MINIMUM BEND RADIUS

When bending connective refrigerant piping, it needs to have a minimum bend radius of 4 inches.

### CAUTION

If the pipe is repeatedly bent or extended, it will become hard and difficult to manipulate. Avoid bending or extending the pipe more than 3 times, or excessively, as it could break.

## Step 7: Connect the Interconnecting pipe to Indoor Unit

### IMPORTANT INFORMATION

#### PLEASE READ FULLY BEFORE PROCEEDING TO NEXT STEP

- Follow the detailed instructions for connecting the Inter-connecting pipe to the Indoor unit and Outdoor units. We can only provide a warranty if the Inter-connecting pipe is installed correctly as described in the instructions.
- To prevent leaks, ensure that the Inter-connecting pipe are free from dirt, moisture or foreign bodies will adversely affect the function of the connectors and could lead to a risk of refrigerant loss (not covered by the warranty).
- Only install the Inter-connecting pipe Outdoors in dry weather.
- The Inter-connecting pipe must not be plastered over after being installed.
- Always wear work gloves and goggles and use caution when handling refrigerant. Please make sure that refrigerant is never allowed to enter the environment. Improper handling of refrigerant may be harmful to your health.

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# INDOOR UNIT INSTALLATION

- The equipment must never be operated without the Inter-connecting pipe connected, otherwise the equipment will be damaged immediately.
- Interconnecting pipe connections only be tightened using the appropriate open ended or crescent (adjustable-type) wrenches.
- DO NOT remove the sealing caps and stoppers from the Inter-connecting pipe until immediately before they are to be connected.
- DO NOT smoke during the installation.

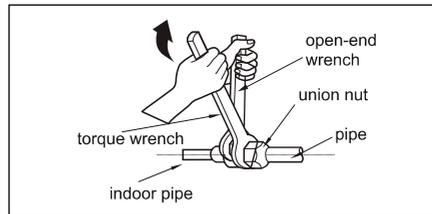
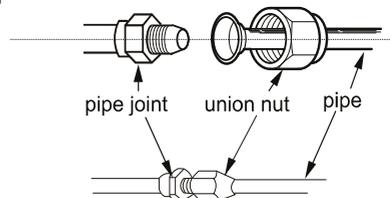
## Refrigerant Pipe Connectors (both ends):

If the screw connections are tightened with too little torque, they will leak. If they are tightened with too much torque, the screw connections could suffer damage. Please refer to the torque requirements section for more information. If you do not feel confident connecting the Inter-connecting pipe connectors yourself, it is imperative that you contact the Havells customer service team or an HVAC professional.

7.1 Aim the pipe joint at the corresponding bell mouth.

7.2 Pre-tightening the union nut with hand.

7.3 Adjust the torque force by referring to section installation instructions. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench. Repeat the same process for the second pipe.



### IMPORTANT:

Before you continue, it is essential that you read the following instructions fully and carefully.

**Warning:** It is recommended that the installation of drain pipe & connecting tube should be done through trained & certified installer only. Also thorough care needs to be taken by installer so there is no water leakage or refrigerant leakage at later stages. Failure to do so may result in property damage due to water leakage & personal injury due to refrigerant leakage & associated physical damage to human & property.

Based on the availability of wrenches in some of the sizes needed, the recommended method is to use crescent wrenches that can be adjusted to fit the size each step requires

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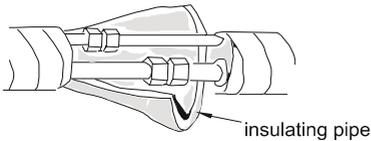
# INDOOR UNIT INSTALLATION

- Opened-ended wrench sizes needed (1 x each of these)
- 1x Torque Wrench
- 1x Allen key, 5 mm
- 1x Phillips-head screwdriver
- 1x leak-detection spray or a soapy water solution
- (Liquid detergent/mix, applied by brush or spray bottle)

12k	1/2" (12.7 mm)	1/4" (6.35 mm)
18k	1/2" (12.7 mm)	1/4" (6.35 mm)

or 2x Crexcent  
(adjustable-type)  
Wrenches

- 7.4 Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.



## NOTE:

However, it is possible to complete installation of refrigerant Inter-connecting pipe with conventional open-ended/ crescent wrenches. It is imperative, however, that you not over-tighten the connector, and that once the lines have been fully connected. If you do not feel comfortable attempting this, please contact a qualified HVAC technician.

Work quickly and make sure the screw connectors do not become crooked as you tighten them.

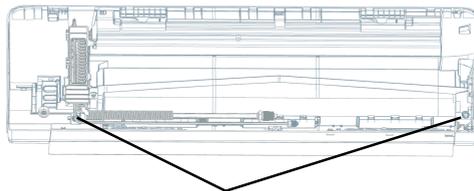


## CAUTION

For your safety, always wear goggles and work gloves when connecting the pipes.

## Step 8: Connect Drainage Hose

- 8.1 The unit has two Drain holes one at left side and other at right side.



## Drainage Ports

- 8.2 Choose the one as per site requirement. Keep closed (plugged) the Drain hole which is not to be used.

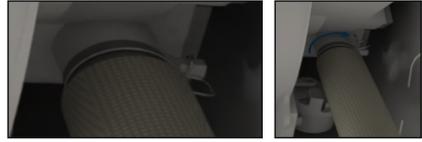


**Note:** Make sure there is no twists or dents, and the pipes should be placed Obliquely downward to avoid blockage, to ensure proper drainage.

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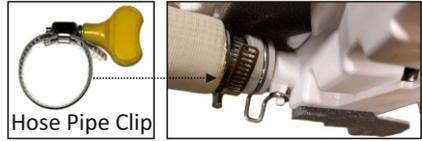
# INDOOR UNIT INSTALLATION

- 8.3 Connect the Drainage Hose to the required Drainage port, ensure the joint is firm and the sealing effect is good. Also the lock provided should be seated properly.



## NOTE:

For additional protection, please use the Hose Pipe Clip for better grip and proper connections while installation of Drainpipe.



- 8.4 Wrap the joint firmly with environment sealants Teflon tape to ensure no leaks.
- 8.5 Ensure that all Drain pipe joints are good and there is no leakage else fix the same before going to next step.
- 8.6 Remove the air filter from the Indoor unit and pour a small amount of water into the drain pan to ensure that the water exits the bottom of the unit and flows through the drain and drain pipe smoothly.

## NOTE ON DRAIN HOSE PLACEMENT

### ⚠ CAUTION

**Make sure to arrange the drain hose correctly according to Figure.**

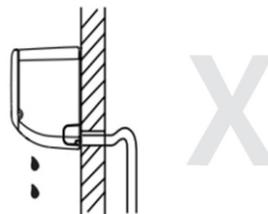
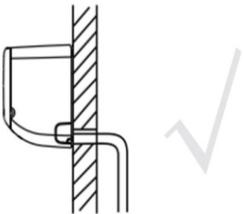
- ⊘ DO NOT kink the drain hose.
- ⊘ DO NOT put the end of the drain Hose in water or a container that will collect water.
- ⊘ DO NOT create a water trap.

## ENSURE UNUSED DRAIN HOLE IS PLUGGED

To prevent unwanted leaks, be sure that the factory installed hollow center rubber plug is installed in the unused drain hole.

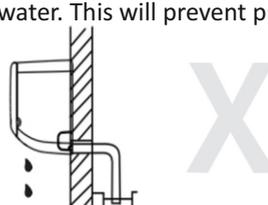
Make sure there are **NO** Kinks or dents in the hose to ensure proper drainage.

**NOT CORRECT** KINKS in the drain hose will create water traps.



**NOT CORRECT** DENTS in the drain hose will create water traps.

**NOT CORRECT** DO NOT place the end of the drain hose in water or in containers that collect water. This will prevent proper drainage.



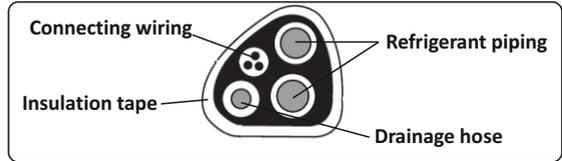
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# INDOOR UNIT INSTALLATION

## Step 9: Wrap Piping and Cable

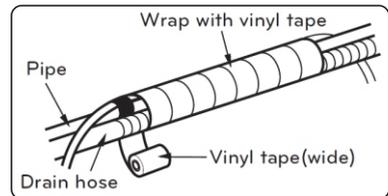
After the refrigerant pipes, connecting wires and drainage hose are all installed, in order to save space, protect and insulate them, it must be bundle with insulating tape before passing them through the wall hole.

- 9.1 Arrange the pipes, cables and drainage hose well as per the below picture. Wrap the joint firmly with Teflon tape to ensure no leaks.



**Note:** (I) Make sure the drainage hose is at the bottom. (II) Avoid crossing and bending of parts.

- 9.2 Using the insulating tape wrap the refrigerant pipes, connecting wires and drainage hose together tightly.



### IMPORTANT:

**Do not complete these steps until all of the refrigerant piping connections have been checked for leaks.**



**NOTE:**  
DO NOT wrap the end of the drain hose.

## Step 10: Mount Indoor Unit

- 10.1 Slowly pass the refrigerant pipes, connecting wires and drainage hose wrapped bundle through the wall hole.
- 10.2 Hook the top of Indoor unit on the mounting plate.
- 10.3 Apply slight pressure to the left and right sides of the Indoor unit, make sure the Indoor unit is hooked firmly.
- 10.4 Push down the bottom of Indoor unit to let the snaps onto the hooks of the mounting plate, and make sure it is hooked firmly.

**Sometimes, if the refrigerant pipes were already embedded in the wall, or if you want to connecting the pipes and wires on the wall, do as below:**

1. Hook the top of the Indoor unit on the mounting plate without piping and wiring.
2. Lift the Indoor unit opposite the wall, unfold the bracket on the mounting plate, and use this bracket to prop up the Indoor unit, there will be a big space for operation.
3. Do the refrigerant piping, wiring, connect drainage hose, and wrap them as Step 4 to 9.

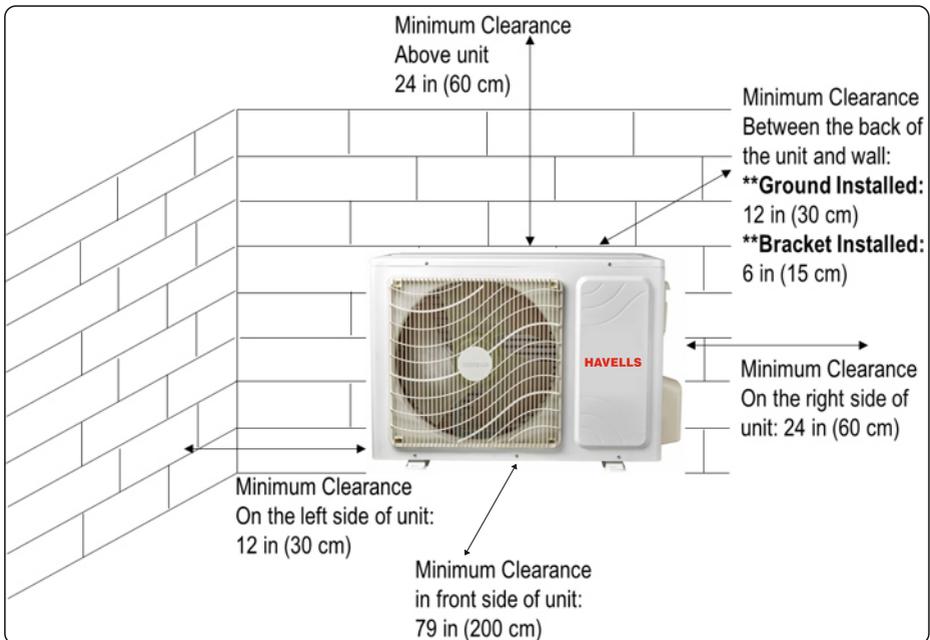
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# OUTDOOR UNIT INSTALLATION

## Step 1: Select Installation Location

Select a site that allows for the following:

- 1.1 Do not install the Outdoor unit near sources of Heat, Steam or Flammable Gas as direct fire source.
- 1.2 Do not install the unit in Too Windy or Dusty places.
- 1.3 Do not install the unit where people often pass. Select a place where the Air discharge and operating sound will not disturb the neighbours.
- 1.4 Avoid installing the unit where it will be Exposed to direct sunlight (otherwise use a protection, that should not interfere with the Air flow).
- 1.5 Reserve the spaces, as shown in the picture for the Air to circulate freely. Failing to do the same may deteriorate the Heat pump performance.
- 1.6 Install the Outdoor unit in a safe and solid place.
- 1.7 If the Outdoor unit is subject to vibration, place Leg Rubber Pads onto the feet of the unit as provided.
- 1.8 Take Snow Protection measures. Contact your Installer/PRO for the details of Snow Protection measures, such as the use of a Snow Protection Hood.



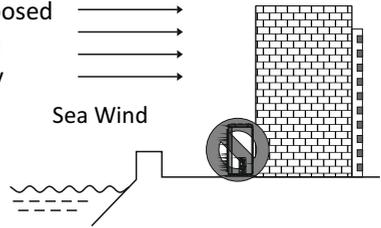
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# OUTDOOR UNIT INSTALLATION

## Step 2: Installation guide at the seaside(Outdoor Units)

2.1. Air conditioners should not be installed in areas where corrosive gases, such as Acid alkaline gas, are produced.

2.2. Do not install the product, where it could be exposed to Sea Wind (Salty Wind) directly. It can result in corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.



2.3. If Outdoor unit is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise it needs additional anticorrosion treatment on the heat exchanger.

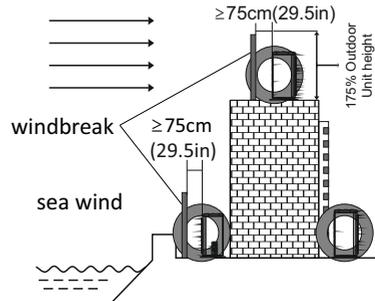
2.4. In Nostance, the Outdoor Unit should be placed in environments where sea water can directly touch the Outdoor Units. As direct sea water can cause electrical shocks & corrosion to the units.

2.5. Select a well-drained place.

2.6 Install the Outdoor unit on the opposite side of the sea wind direction, or set up a windbreak to avoid exposed to the sea wind.

2.7 The windbreak should be strong enough like concrete to prevent the sea wind from the sea. The height and width should be more than 175% of the Outdoor unit.

2.8 It should be keep more than 75cm (29.5in) of space between Outdoor unit and the windbreak for easy air flow(As shown).



### Note:

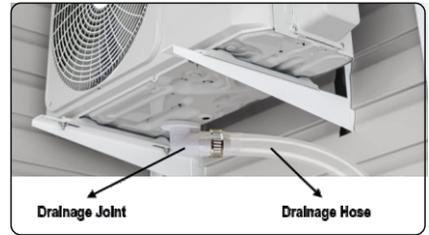
- Periodic (once/year) cleaning of the dust or salt particles stuck on the heat exchanger by clean Neutral PH water.

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# OUTDOOR UNIT INSTALLATION

## Step 3: Install Drainage Hose

- 3.1 Insert the drainage joint to the hole at the bottom of the Outdoor unit.
- 3.2 Connect the drainage hose to the joint and make the connection well enough.
- 3.3 It is advisable to use drain pipes as it helps in neat and clean water discharge from the Outdoor Units.



## Step 4: Fix Outdoor Unit

- 4.1 According to the Outdoor unit installation dimensions, mark the installation position for Mounting bolts .
- 4.2 Drill holes and clean the Concrete Dust and place the bolts .
- 4.3 If applicable install 4 Leg rubber Pads before placing the Outdoor unit (Optional). This will reduce vibrations and noise.
- 4.4 Carefully Place the Outdoor unit base on suitable location. Outdoor units are heavy, hence suitable care should be taken.
- 4.5 Use wrench to fix the Outdoor unit firmly with bolts.

### Note:

The Outdoor unit can be fixed on a wall-mounting bracket. Follow the instruction of the wall-mounting bracket to fix on wall, and then fasten the Outdoor unit on it and keep it Horizontal.

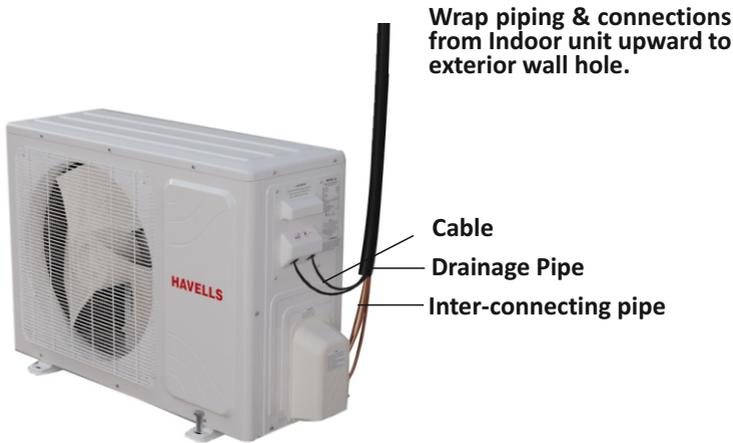
The wall-mounting bracket along with the wall must be able to support at least 4 times the weight of Outdoor unit.



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# OUTDOOR UNIT INSTALLATION

## Step 5: Install Wiring



**Outdoor Unit (Condenser)**

### BEFORE PERFORMING ELECTRICAL WORK, READ THESE REGULATIONS

- ⊘ DO NOT connect another appliance to the outlet for the unit. Only connect the unit to an individual branch circuit outlet.
  - ⊘ DO NOT allow wires to touch or rest against the refrigerant piping, compressor, or any other moving parts within the unit.
1. All wiring must comply with local and national electrical codes, regulations, and must be installed by a licensed electrician.
  2. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the Indoor and Outdoor units.
  3. If there is a serious safety issue with the power supply, stop work immediately. Explain the issue to the client, and refuse to continue the installation until the safety issue is properly resolved.
  4. Power voltage should be within 90-110% of the rated voltage. An insufficient power supply can cause a malfunction, electrical shock, and/or fire.
  5. If connecting power to fixed wiring, a surge protector and main power switch should be installed.

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# OUTDOOR UNIT INSTALLATION

6. The circuit, including any switches, should have a capacity 1.5 times the maximum unit current (amps).
7. A qualified technician must use an approved circuit breaker or switch that disconnects all poles and has a contact separation of at least 1/8 in (3 mm) incorporated in the fixed wiring.
8. Make sure the unit/system is properly grounded.
9. Every wire must be firmly and securely connected. Loose wiring can cause the terminal to overheat, which could result in a malfunction and/or fire.
10. If the unit has an auxiliary electric heater, it must be installed as least 40 in (1 m) away from combustible materials.
11. To avoid electrical shock, never touch the electrical components soon after the power supply has been turned off. Always wait 10 minutes or more before touching the electrical components once the power has been turned off.

- 5.1 Use a Hex/ Phillips screwdriver to unscrew Outdoor terminal cover, grasp and press gently to take it down.



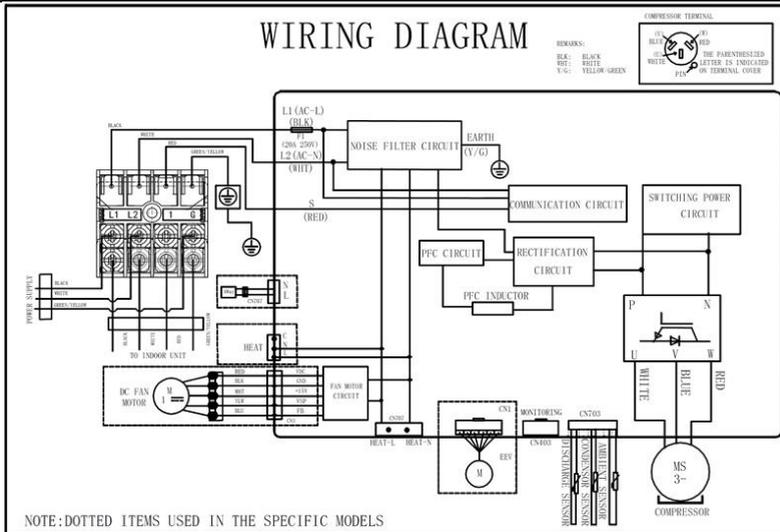
- 5.2 Now fix Power and Interconnecting cable one by one as shown in figure.



- 5.3 Refer the wiring diagram pasted on Top of the Controller, connect the connecting wires to the corresponding terminals, and ensure all connections are firmly and securely. Screw wire thimbles on Terminal Block at ~ 1.0 N-m Torque.

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# OUTDOOR UNIT INSTALLATION



**Note:** When connecting the wires of Indoor and Outdoor units, the power should be cut off.



## Step 6: Connecting Refrigerant Pipe

6.1 Unscrew the Valve Cover, grasp and remove it gently



6.2 Remove the Dead Nuts from the service valves.



**NOTE:** Ensure the adapters attached to the Outdoor valves have been tightened properly before attempting to connect the Inter-connecting pipe.

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# OUTDOOR UNIT INSTALLATION

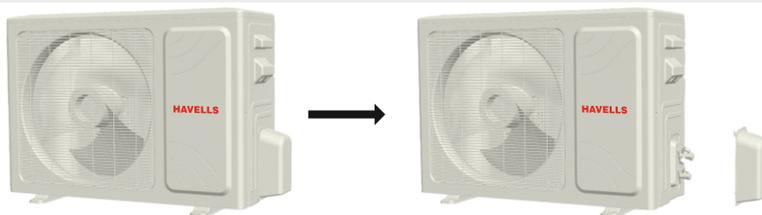
- 6.3 Now check, whether there is any sundry on the port of the connecting pipe and make ensure the port is clean.
- 6.4 After align the center, rotate the flare nut of the connecting pipe to tighten the nut as tightly as possible by hand.



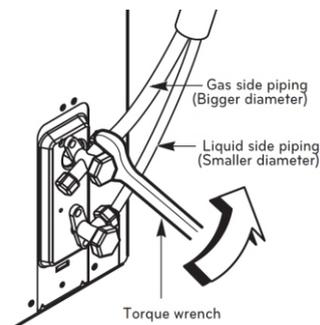
- 6.5 Use a spanner hold the body of the valve and use a torque wrench to tighten the flare nut according to the torque values in the torque requirements table. (Refer to the torque requirements table on section **INSTALLATION INSTRUCTIONS**).

## NOTE:

However, it is possible to complete installation of refrigerant Inter-connecting pipe with conventional open-ended/ crescent wrenches. It is imperative, however, that you not over-tighten the connector, and that once the lines have been fully connected. If you do not feel comfortable attempting this, please contact a qualified HVAC technician.



Take down the valve cover



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# OUTDOOR UNIT INSTALLATION

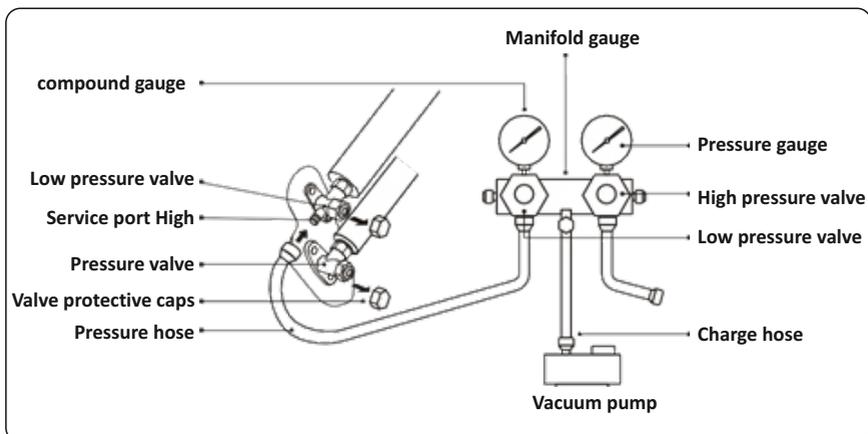
## Step 7: Vacuum Pumping

- 7.1 Use a spanner to take down the Dead Nuts from the Service port, Low Pressure valve and High Pressure valve of the Outdoor unit.
- 7.2 Connect the pressure hose of manifold gauge to the service port on the Outdoor unit Low Pressure valve.
- 7.3 Connect the charging hose from the manifold gauge to the Vacuum Pump.
- 7.4 Open the Low Pressure valve of the manifold gauge and close the High Pressure valve.
- 7.5 Turn on the Vacuum Pump to Vacuum the system.
- 7.6 The Vacuum time should not be less than 15 minutes, or make sure the compound gauge indicates -14.7Psi/-0.1 MPa (-76 cmHg)
- 7.7 Now close the Low Pressure valve of the manifold gauge and turn off the Vacuum.
- 7.8 Hold the Pressure for 5 minutes, make sure that the rebound of compound gauge pointer does not exceed 0.72Psi(0.005Mpa/3.7cmHg).
- 7.9 Open the Low Pressure valve counter clockwise for 1/4 turn with hexagonal wrench to let a little refrigerant fill in the system, and close the Low Pressure valve after 5 seconds and quickly remove the Pressure hose.
- 7.10 Check all Indoor and Outdoor joints for leakage with soapy water or leak detector.
- 7.11 Fully open the Low Pressure valve and High Pressure valve of the Outdoor unit with hexagonal wrench.
- 7.12 Reinstall the Dead Nuts of the service port, Low Pressure valve and High Pressure valve of the Outdoor unit.
- 7.13 Reinstall the Valve Cover.



### NOTE:

Vacuum is a critical process, unless required Vacuum levels are achieved. Continue the Vacuum Process and don't progress with next steps.



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# OUTDOOR UNIT INSTALLATION



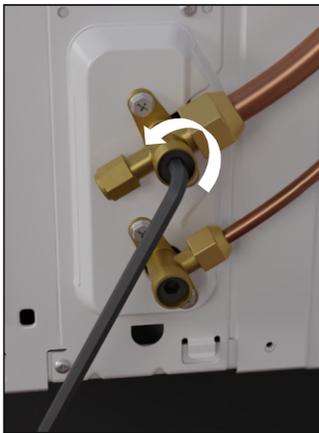
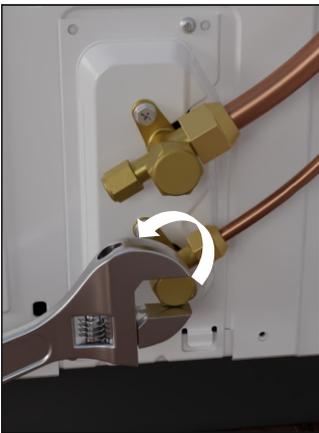
## Step 8: Opening the refrigerant valves of the Outdoor unit

- 8.1. Open the valve by turning it counter-clockwise as far as it will go. DO NOT force it. The valve is now open. Screw the cover back onto the top valve and tighten it well to ensure that it is properly sealed.
- 8.2. Align the refrigerant pipes so they line up with the corresponding valves and have enough slack.



### NOTE:

The refrigerant pipes must be connected to the valves with as little stress as possible. Unscrew the flare nut and place the screw connector of the refrigerant line just onto the threads of the Outdoor unit, tightening the first few threads by hand.



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# OUTDOOR UNIT INSTALLATION

## CAUTION

If the valves are not fully opened, it could cause the system to malfunction and suffer damage.

3. After completing steps 1 and 2, you will now need to check all of the piping connections (at Indoor unit and Outdoor unit) for leaks. You can do this by using leak detection spray, or applying a soapy water solution (liquid detergent/water mixture) to the connection via a spray bottle or brush. If any bubbles begin to form, that indicates there is a leak, and the connection needs to be re-tightened. Tighten the connection and recheck it for leaks.

## IMPORTANT:

You will be asked to check for leaks at the piping connections multiple times throughout the following steps of the installation, because the pressures within the lines will change once the unit is turned on and this could reveal leaks not present during the initial check. These are imperative to make sure your connections are not allowing refrigerant to escape the system. When checking for leaks, if any bubbles form, it indicates the system has a leak and the screw connector needs to be retightened.

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# TEST OPERATION

## Inspections Before Test Run

Do the following checks before test run.

Description	Inspection method
Electrical safety inspection	<ul style="list-style-type: none"> <li>● Check whether the power supply voltage complies with specification.</li> <li>● Check whether there is any wrong or missing connection between the power lines, signal line and earth wires.</li> <li>● Check whether the earth resistance and insulation resistance comply with requirements.</li> </ul>
Installation safety inspection	<ul style="list-style-type: none"> <li>● Confirm the direction and smoothness of drainage pipe. Confirm that the joint of refrigerant pipe is installed completely.</li> <li>● Confirm the safety of Outdoor unit, mounting plate and Indoor unit installation.</li> <li>● Confirm that the valves are fully open.</li> <li>● Confirm that there are no foreign objects or tools left inside the unit. Complete installation of Indoor unit air inlet grille and panel</li> </ul>
Refrigerant leakage detection	<ul style="list-style-type: none"> <li>● The piping joint, the connector of the two valves of the Outdoor unit, the valve spool, the welding port, etc., where leakage may occur.</li> <li>● Foam detection method: <ul style="list-style-type: none"> <li>● Apply soapy water or foam evenly on the parts where leakage may occur, and observe whether bubbles appear or not, if not, it indicates that the leakage detection result is safe.</li> </ul> </li> <li>● Leak detector method: <ul style="list-style-type: none"> <li>● Use a professional leak detector and read the instruction of operation, detect at the position where leakage may occur.</li> <li>● The duration of leak detection for each position should last for 3 minutes or more;</li> <li>● If the test result shows that there is leakage, the nut should be tightened and tested again until there is no leakage;</li> <li>● After the leak detection is completed, wrap the exposed pipe connector of Indoor unit with thermal insulation material and wrap with insulation tape.</li> </ul> </li> </ul>

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## TEST RUN INSTRUCTION

1. Turn on the power supply.
2. Press the ON/OFF button on the remote controller to turn on the Heat Pump.
3. Press the Mode button to switch the mode COOL and HEAT.

In each mode set as below:

COOL-Set the lowest temperature

HEAT-Set the highest temperature

4. Run about 8 minutes in each mode and check all functions are properly run and respond the remote controller. Functions check as recommended:
  - 4.1 If the outlet air temperature respond the cool and heat mode
  - 4.2 If the water drains properly from the drainage hose
  - 4.3 If the Louver and deflectors(optional) rotate properly
5. Observe the test run state of the Heat Pump at least 30 minutes.
6. After the successfully test run, return the normal setting and press ON/OFF button on the remote controller to turn off the unit.
7. Inform the user to read this manual carefully before use, and demonstrate to the user how to use the Heat Pump, the necessary knowledge for service and maintenance, and the reminder for storage of accessories.

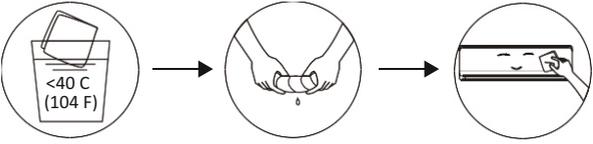


### NOTE:

If the ambient temperature is excess the range refer to section OPERATION INSTRUCTIONS, and it can not run COOL or HEAT mode, lift the front panel and refer to the emergency button operation to run the COOL and HEAT mode.

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# MAINTENANCE

<p><b>Warning</b></p>	<ul style="list-style-type: none"> <li>● When cleaning, you must shut down the machine and cut off the power supply for more than 5 minutes.</li> <li>● Under no circumstances should the Heat Pump be flushed with water.</li> <li>● Volatile liquid (e.g. thinner or gasoline) will damage the air conditioner, so only use soft dry cloth or wet cloth dipped with neutral detergent to clean the Heat Pump.</li> <li>● Pay attention to cleaning the filter screen regularly to avoid dust covering which will affect the filter screen effect. When the operating environment is dusty, the cleaning frequency should be increased appropriately.</li> <li>● After removing the filter screen, do not touch the fins of the Indoor unit to avoid scratching.</li> </ul>
<p><b>Clean the unit</b></p>	 <p>Wring it dry, Gentle wipe the unit surface</p> <p>Tip: Wipe frequently to keep Heat Pump clean and good appearance .</p>
<p><b>Clean the filter</b></p>	 <p>Take out the filter from the unit</p> <p>Clean the filter with soapy water and air dry it</p> <p>Replace the filter</p> <p>Opposite to the direction of taking out the filter</p> <p>Tip: When you find accumulated dust in the filter, please clean the filter in time to ensure the clean, healthy and efficient operation inside the Heat Pump</p>
<p><b>Service and maintenance</b></p>	<ul style="list-style-type: none"> <li>● When the Heat Pump is not in use for a long time, do the following work: Take out the batteries of the remote controller and disconnect the power supply of the Heat Pump.</li> <li>● When starting to use after long-term shutdown:             <ol style="list-style-type: none"> <li>1. Clean the unit and filter screen;</li> <li>2. Check whether there are obstacles at the air inlet and outlet of Indoor and Outdoor units;</li> <li>3. Check whether the drain pipe is unobstructed; Install the batteries of the remote controller and check whether the power is on.</li> </ol> </li> </ul>

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# INFORMATION ON SERVICING

## Checking the area

Before beginning work, conduct safety checks to minimize the risk of ignition. When repairing the refrigerating system, take the following precautions before work.

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## Work procedure

Work shall be conducted under a controlled procedure to minimise the risk of working in the presence of R-32 or vapour.

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## General working area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.

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## Work in confined spaces shall be avoided.

The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable materials.

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## Checking for presence of refrigerant

The working area shall be checked with an appropriate refrigerant detector before and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with R-32, i.e. non-sparking, adequately sealed or intrinsically safe.

---

## Fire extinguishing equipment

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be made available at hand. Prepare a dry powder or CO2 fire extinguisher adjacent to the working area.

---

## No ignition sources

During work on a refrigeration system which involves exposing any piping work that contains or has contained R-32, any sources of ignition shall not be used in a manner that may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept at a safe distance from the site of installation, repairing, or removing space. Before starting work, the area around the equipment shall be examined to make sure that there are no flammable hazard or ignition risks. No Smoking signs shall be displayed.

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# INFORMATION ON SERVICING

## Ventilated area

Ensure that the working area is open or that it is adequately ventilated before work. Adequate ventilation shall be maintained during the entire period of work.

The ventilation should disperse any released refrigerant and preferably discharge it into the external atmosphere.

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# INFORMATION ON SERVICING

## Checking the refrigeration equipment

Where electrical components are to be changed, the new components shall be fit for the purpose and have the correct specifications.

The manufacturer's maintenance and service guidelines shall be followed at all times. If there are any unclear points, consult the manufacturer's technical department for assistance.

The following checks shall be applied to any installation work involving R-32:

- The amount of charge is in accordance with the size of the room where the refrigerant containing parts are installed;
  - The ventilation machinery and outlets are operating adequately and are not obstructed;
  - If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
  - Marking on the equipment is visible and legible. Markings and signs that are illegible shall be corrected;
  - Refrigeration pipes or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, or the refrigerant containing components are constructed of materials which are inherently resistant to corrosion or are suitably protected against corrosion.
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## Checking electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. In case there is any fault that could endanger safety, no electrical supply shall be connected to the circuit until the fault is satisfactorily dealt with.

Initial safety checks shall include:

- That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- That no live electrical components and wiring are exposed while charging, recovering or purging the system;
- That the equipment is earthed at all times.

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# INFORMATION ON SERVICING

## Repairs to sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon before the removal of any sealed covers, etc. If it is absolutely necessary to have power supplied to equipment during servicing, continuously operating leak detection shall be installed at the most dangerous point of the system in order to warn of a potentially hazardous situation.

Particular attention shall be paid to the following: ensure that working on electrical components does not alter the casing in such a way that affects the level of protection including damage to cables, excessive number of connections, terminals different from the original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that the equipment is mounted securely.

Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated before working on them.

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## Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance load to the circuit without ensuring that this will not exceed the permissible voltage and current for the equipment in use.

Only intrinsically safe components can be worked on in the presence of a flammable atmosphere.

The test apparatus shall be of correct rating.

Replace components only with parts specified by the manufacturer. Using other parts may result in ignition of the refrigerant leaked into the atmosphere.

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## Wiring

Check that wiring is not subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of ageing or continuous vibration from sources such as compressors or fans.

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## Detecting of R-32

Under no circumstances shall potential sources of ignition be used in the search for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

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# INFORMATION ON SERVICING

## Leak detection methods

The following leak detection methods can be applied for systems containing R-32. Electronic leak detectors shall be used to detect R-32, but the sensitivity may not be adequate or may need re-calibration (detection equipment shall be calibrated in a refrigerant-free area). Ensure that the detector is not a potential source of ignition and that it is suitable for the refrigerant used. Leak detection equipment shall be set to the percentage of the lower flammability limit (LFL) of the refrigerant and calibrated to fit the refrigerant employed. The appropriate percentage of gas (maximum 25%) shall be confirmed.

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper piping work.

If a leak is suspected, all naked flames shall be removed or extinguished.

If a refrigerant leakage which requires brazing is found, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the point of the leakage. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

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## Removal and evacuation

When breaking the refrigerant circuit to make repairs or any other purpose, conventional procedures may be used. However, flammability must be taken into consideration. The following procedure shall be adhered to:

- Remove refrigerant;
- Purge the circuit with inert gas;
- Evacuate the inert gas;
- Purge again with inert gas;
- Carry out cutting or brazing of the circuit.

The refrigerant shall be recovered into the correct recovery cylinders. The system shall be cleaned with OFN to render the unit safe. (= Flushing) This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved through breaking the vacuum by filling the system with OFN until the working pressure is achieved, then venting the OFN into the atmosphere, and finally pulling the system down to vacuum again. This process shall be repeated until no refrigerant remains within the system. After the last OFN charge is finished, the system shall be vented down to atmospheric pressure to enable work. This operation is especially important if brazing operations on the piping work are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and that there is ventilation available.

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# INFORMATION ON SERVICING

## Charging procedures

In addition to conventional charging procedures, the following requirements shall be met. Ensure that the charging equipment to be used is not contaminated by different refrigerants. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.

1. Cylinders shall be kept upright.
2. Ensure that the refrigeration system is earthed before charging the system with refrigerant.
3. Label the system when charging is complete (if not already).
4. Extreme care shall be taken not to overfill the refrigeration system.

Before recharging, the system shall be tested for leakage with OFN. On completion of charging, the system shall be tested before commissioning. Follow up leakage test shall be carried out before leaving the site.

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## Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details. It is recommended to train technicians so that all of the refrigerant is recovered safely. In case analysis is required before re-using the reclaimed refrigerant, an oil and refrigerant sample shall be taken before proceeding with decommissioning. It is essential that electrical power is available before work.

1. Comprehend the equipment and its operation.
2. Isolate the system electrically.
3. Before starting work, ensure that:
  - Mechanical handling equipment is available if required, for handling refrigerant cylinders;
  - Protective equipment can be used in compliance with specifications;
  - The recovery process is supervised by a competent person at all times;
  - Recovery equipment and cylinders conform to the appropriate standards.
4. Pump down the refrigerant system, if possible.
5. If vacuum cannot be ensured, apply a manifold so that refrigerant can be removed from various parts of the system.
6. Make sure that the cylinder is situated on the scale before recovery takes place.
7. Start the refrigerant recovery device and operate it in accordance with the manufacturer's instructions.
8. Do not overfill cylinders. (Do not exceed 80% liquid charge volume).

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## INFORMATION ON SERVICING

9. Do not exceed the maximum working pressure of the cylinder, even temporarily.
  10. When the cylinders have been filled correctly and the process is completed, make sure that the cylinders and the equipment are removed from site promptly and all valves on the equipment are closed.
  11. Recovered refrigerant shall not be charged into another refrigeration system before it has been cleaned and checked.
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### Labelling

Equipment shall be labelled stating that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains R-32.

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### Refrigerant recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended to conduct training so that all refrigerants can be removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are used.

Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used must be designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be equipped with a pressure relief valve and associated shut-off valves in good working order. If possible, empty recovery cylinders shall be cooled in a separate place before recovery is conducted. The recovery equipment shall be in good working order with instructions concerning the equipment at hand, and shall be suitable for the recovery of R-32. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be equipped with leak-free disconnect couplings and in good condition. Before using the recovery device, check that it has undergone proper maintenance, that it is in satisfactory working order, and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant leakage. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, with the relevant Waste Transfer Note attached. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oil are to be removed, ensure that the refrigerant melted into the oil has been evacuated to an acceptable level to make certain that R-32 does not remain within the oil. The evacuation process shall be carried out before returning the compressor to the supplier. Only electric heating to the compressor body shall be employed to accelerate this process. Oil drained from the system shall be treated safely.

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## DISPOSAL GUIDELINE

This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. DO NOT dispose of this product as household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

Dispose of the appliance at designated municipal electronic waste collection facility.

When buying a new appliance, the retailer will take back the old appliance free of charge.

The manufacturer will also take back the old appliance free of charge.

Sell the appliance to certified scrap metal dealers.

Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.



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# HAVELLS

**Havells India Ltd.**

QRG Towers, 2D , Sector-126, Expressway, Noida -201304, U.P 110001 (INDIA)

**Registered USA office address :** Havells HVAC LLC, USA , 215 Park Ave S, 11<sup>TH</sup> Floor, Manhattan, NY 10003C

**Warehouse location :** Havells HVAC LLC, C/O 18 Brigs , 773 Cranbury - South River Rd, Monroe Township, NJ 08831

Website : <https://havellshvac.com/>

Email id : [hvacinfo@havells.com](mailto:hvacinfo@havells.com); [hvacwarranty@havells.com](mailto:hvacwarranty@havells.com)

Customer care Contact number : (+1) 844-986-1668



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