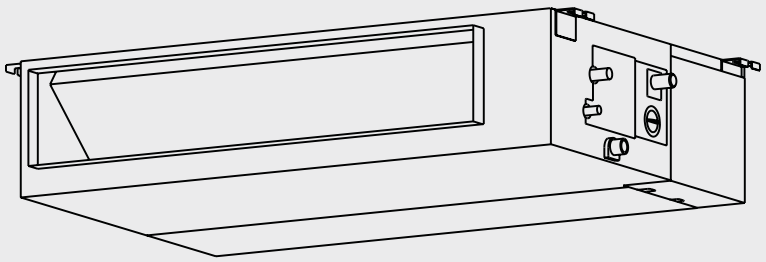
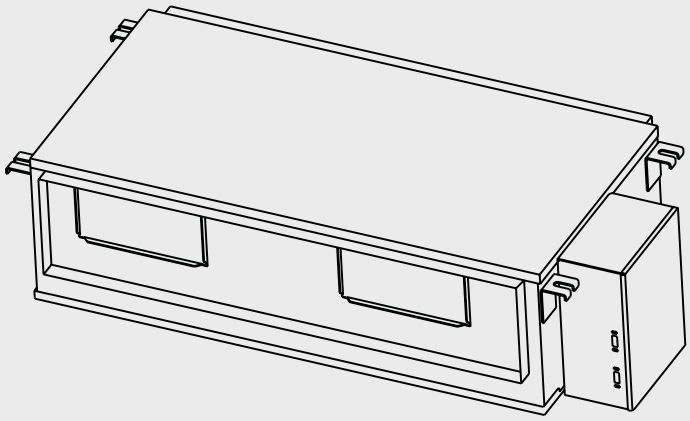
BOSCH

User Manual

Ducted Type (Medium & High Static) Air Conditioner/Heat Pump

Climate 5000 Series - Gen 4





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1 Key to Symbols and Safety Instructions

1.1 Key to Symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.

The following keywords are defined and can be used in this document:

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor to moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

Important information

The info symbol indicates important information where there is no risk to people or property.

1.2 Explanation of Symbols Displayed on the Indoor Unit / Outdoor Unit

Symbol	
	WARNING This symbol shows that this appliance used a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	CAUTION This symbol shows that the operation manual should be read carefully.
	CAUTION This symbol shows that a service personnel should be handling this equipment with reference to the installation manual.
	CAUTION This symbol shows that information is available such as the operating manual or installation manual.

Table 1

1.3 Safety

Please read safety precautions before installation

Incorrect installation due to ignoring instructions can cause serious damage or injury.

WARNING

Improper or dangerous operation!

Installation must be performed by a licensed contractor, and per the instructions in the installation manual. Improper installation can cause water leakage, electrical shock, or fire.

In North America, installation must be performed in accordance with the requirement of NEC (National Electric Code) and CEC (Canadian Electric Code) by licensed and qualified personnel only.

Only contact a licensed contractor for repair or maintenance of this unit.

WARNING

Electrical hazard!

Do not modify the length of the power supply cord or use an extension cord to power the unit.

Do not share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electrical shock.

WARNING

Contains lead!

This product can expose you to chemicals including Lead and Lead components, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

WARNING

Installation requirements!

Installation must be performed by a licensed contractor, and per the instructions in the installation manual. Improper installation can cause water leakage, electrical shock, or fire.

In North America, installation must be performed in accordance with the requirement of NEC (National Electric Code) and CEC (Canadian Electric Code) by licensed and qualified personnel only.

Only contact a licensed contractor for repair or maintenance of this unit.

Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.

Install the unit in a solid location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and/or damage.

WARNING

Electrical hazard!

For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. The power supply to the outdoor unit requires a service disconnect at the unit. Only use a dedicated circuit. Never share a power source connected to this system. Insufficient electrical capacity or defects in electrical work can cause electrical shock or fire.

For all electrical work, use the specified cables. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock.

All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.

In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.

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

The product must be properly grounded at the time of installation, or electrical shock may occur.

If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device(RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

CAUTION

Fire hazard!

For units that have an auxiliary electric heater, do not install the unit within 1 meter (3 feet) of any combustible materials.

Do not install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.

Do not operate your air conditioner in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.

NOTICE

Property damage!

Install condensate drainage piping according to the instructions in this manual. Improper condensate drainage may cause water damage to your home and property.

CAUTION

Contains refrigerant!

This air-conditioning unit contains fluorinated gases. For specific information on the type of gas and the amount, please refer to the relevant label on the outdoor unit itself.

Installation, service, maintenance and repair of this unit must be performed by a certified technician.

Product removal and recycling must be performed by a certified technician.

If the system has a leak-detection system installed, it must be checked for leaks at least every 12 months.

When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.

NOTICE

Product damage!

Fuse specifications: The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent protection. The specifications of the fuse are printed on the circuit board , for example : T3.15AL/250VAC, T5AL/250VAC, T3.15A/250VAC, T5A/250VAC, T20A/250VAC, T30A/250VAC,etc.

Only blast-proof ceramic fuses can be used.

WARNING

Flammable refrigerant!

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).

Do not pierce or burn.

Be aware that refrigerants may not contain an odor.

CAUTION

Fire, personal injury, product damage!

Remove all static electricity before touching units.

NOTICE

Improper operation, product damage!

Generation 4 Mini-Split products use R454B refrigerant and cannot be combined with models from previous Mini-Split generations (R410A refrigerant).

In addition, you must ONLY use R454B if additional refrigerant needs to be added into the system. Do NOT use any other refrigerant type.

2 Unit Specifications and Features

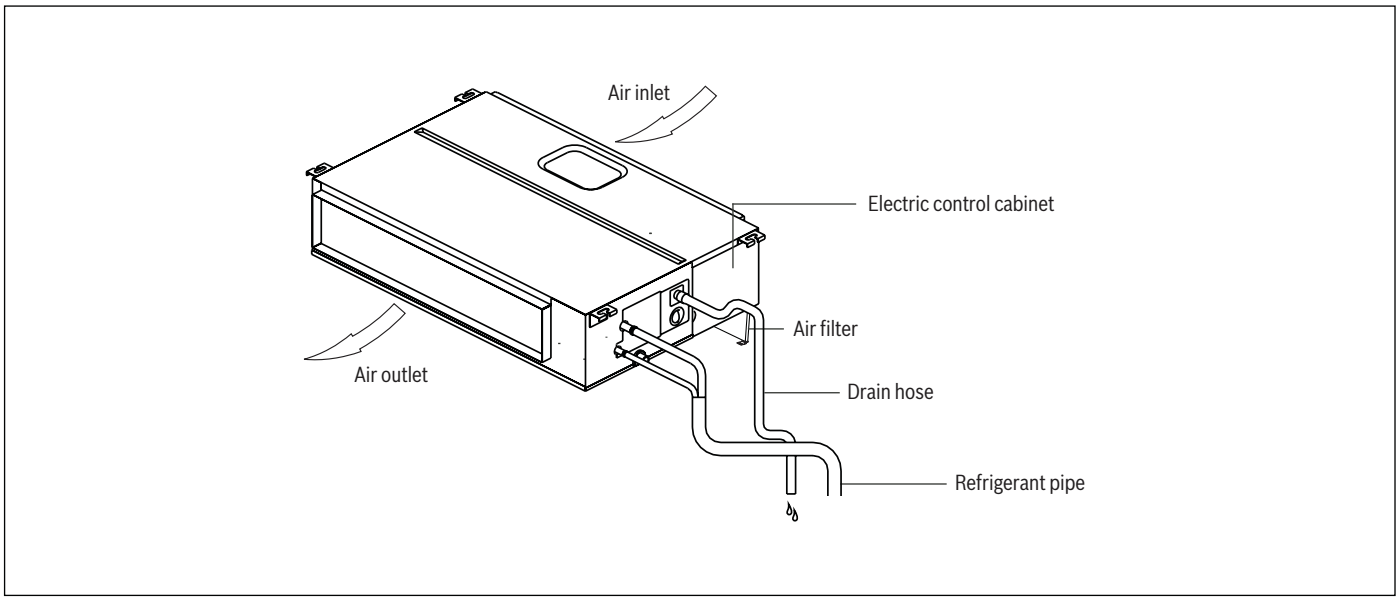

Figure 1

2.1 Achieving Optimal Performance

Optimal performance for the COOL, HEAT, and DRY modes can be achieved in the following temperature ranges. When your air conditioner is used outside of these ranges, certain safety protection features will activate and cause the unit to perform less than optimally.

Piping extension beyond flare form

		COOL mode	HEAT mode	DRY mode
Room Temperature		17ºC - 32ºC	0ºC - 30ºC	10ºC - 32ºC
		63ºF - 90ºF	32ºF - 86ºF	50ºF - 90ºF
Outdoor Temperature	Regular (9K ~ 24K)	-25ºC - 50ºC	-25ºC - 30ºC	0ºC - 50ºC
		-13ºF - 122ºF	-13ºF - 86ºF	32ºF - 122ºF
	Max Performance (9K ~ 24K)	-30ºC - 50ºC	-30ºC - 30ºC	0ºC - 50ºC
		-22ºF - 122ºF	-22ºF - 86ºF	32ºF - 122ºF
	LCAC (30K ~ 60K)	-15ºC - 50ºC	-15ºC - 30ºC	0ºC - 50ºC
		5ºF - 122ºF	5ºF - 86ºF	32ºF - 122ºF

Table 2

When the outside temperature is below 0ºC (32ºF), we strongly recommend keeping the unit plugged in at all times to ensure smooth ongoing performance. A base pan heater is used in the outdoor unit to prevent ice build-up. Ice may build up if the unit is unplugged.

2.2 Other Features

Auto-Restart

If the unit loses power, it will automatically restart with the prior settings once power has been restored.

Heat Exchanger Dust Removal Function

This feature helps keep the outdoor coil cleaner and may extend the duration between regular maintenance intervals depending on local conditions. When the unit is turned off, a 10 seconds delay occurs then the outdoor fan runs in reverse rotation for 70 seconds to blow off loose accumulated dust and debris.

Refrigerant Leakage Detection

When the system detects a malfunction of the refrigerant, the indoor unit will automatically display the following error codes:

- “EL0C (System lacks refrigerant)” ,
- “EHC1 (Refrigerant sensor detects leakage)”,
- “EHC2 (Working condition of the refrigerant sensor is out of range and leakage is detected)”,
- “EHC3 (Working condition of the refrigerant sensor is out of range)”, or
- “ECC1 (Other indoor unit refrigerant sensor detects leakage (Multi-zone)”.
- When “EHC1” or “EHC2” error occurs, the buzzer will continue to beep for 5 to 6 minutes before stopping. You can also press any button on the remote controller to stop the buzzer.

Follow Me

Once the follow me function is active, the remote control will send a signal every 3 minutes, with no beeps. The unit automatically sets the temperature according to the measurements from the remote control.

For a detailed explanation of your unit’s advanced functionality (such as TURBO mode and its self-cleaning functions), refer to the Remote Control Manual.

Energy Saving Tips

- DO NOT expose the unit to excessive temperature levels.
- Keep curtains closed during heating and cooling operation.
- Doors and windows should be kept closed to keep cool or warm air in the room.
- DO NOT place objects near the air inlet and outlet of the unit. This will reduce the efficiency of the unit.
- Set a timer and use the built-in SLEEP/ECONOMY mode if applicable.
- If you don't plan to use the unit for a long time, remove the batteries from the remote control.
- Clean the air filter every two weeks. A dirty filter can reduce cooling or heating efficiency.
- Adjust louvers properly and avoid direct airflow.

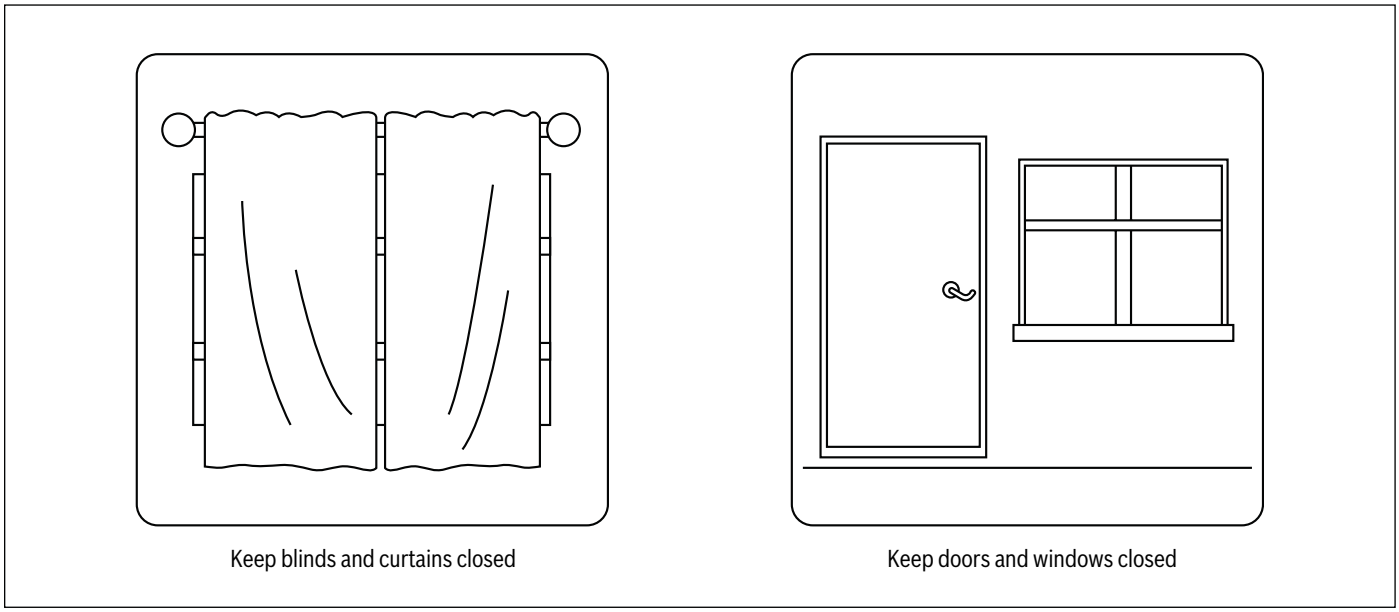

Figure 2

3 Manual Operation (Without Remote)

3.1 How to Operate Your Unit Without the Remote Control

In the event that your remote control fails to work, your unit can be operated manually with the MANUAL CONTROL button located on the indoor unit. Note that manual operation is not a long-term solution, and that operating the unit with your remote control is strongly recommended.

To operate your unit manually:

1. Locate the MANUAL CONTROL button on the left-hand side of the display board (Figure 4).
2. Press the MANUAL CONTROL button one time to activate FORCED AUTO mode. In this mode, the unit will keep running with the temperature set point fixed at 75°F (24°C).
3. Press the MANUAL CONTROL button again to activate FORCED COOLING mode. In this mode, the unit will stay at the forced cooling mode for 30 minutes and change to the force auto mode.
4. Press the MANUAL CONTROL button a third time to turn the unit off.

NOTICE

Improper operation!

The manual button is intended for testing purposes and emergency operation only. Please do not use this function unless the remote is lost and it is absolutely necessary. To restore regular operation, use the remote control to activate the unit.

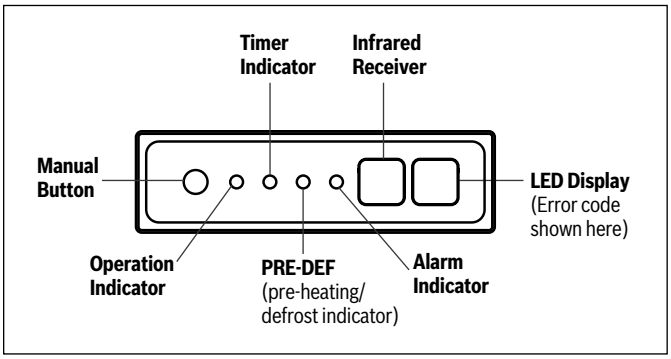

Figure 3

4 Care and Maintenance

4.1 Cleaning Precautions

CAUTION

Personal injury, product damage!

- Any maintenance and cleaning of indoor and outdoor units must be performed by qualified service personnel only.
- Any unit repairs must be performed by qualified service personnel only.

WARNING

Electrical hazard!

Always turn off your air conditioner system and disconnect its power supply before cleaning or maintenance.

- Do not use chemicals or chemically treated cloths to clean the unit.
- Do not use benzene, paint thinner, polishing powder or other solvents to clean the unit. They can cause the plastic surface to crack or deform.

4.2 Cleaning Your Air Filter

NOTICE

Product damage!

Do not touch air freshening filter for at least 10 minutes after turning off the unit.

WARNING

Electrical hazard!

- Before changing the filter or cleaning, turn off the unit and disconnect its power supply.
- When removing the filter, do not touch metal parts in the unit. The sharp metal edges can cut you.
- Do not use water to clean the inside of the indoor or outdoor unit. This can destroy insulation and cause electrical shock.
- Do not expose filter to direct sunlight when drying. This can shrink the filter.

A clogged air conditioner can reduce the cooling efficiency of your unit, and can also be bad for your health. Make sure to clean the filter once every three months.

9k - 18k models

1. With the rear ventilated model, remove the filter as shown below.

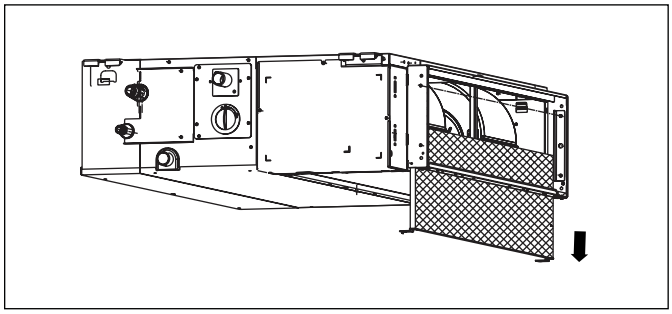

Figure 4

2. With the bottom ventilated model, remove the filter as shown below.

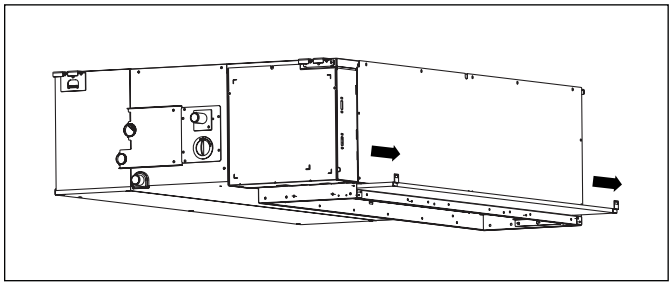

Figure 5

24k - 60k models

1. Clean dirt from the air filter using a vacuum cleaner or washing with water.
- If dirt is conspicuous, wash with a neutral detergent in lukewarm water.
- If hot water (40°C /104°F or more) is used, it may deform the filter.

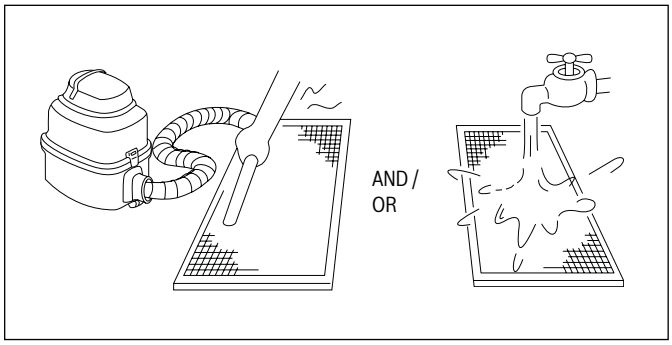

Figure 6

2. Rinse the filter with clean water and allow it to air-dry. DO NOT let the filter dry in direct sunlight.
3. Reinstall the filter.

4.3 Repairing Refrigerant Leaks

Refrigerant Leak Detection System

In the event of a refrigerant leak, the LCD screen will display “EC” and the LED indicator light will flash.

WARNING

Contains refrigerant!

If the refrigerant leaks, turn off the system and any other combustible heating devices, ventilate the room and call a certified technician immediately. Refrigerant is both toxic and flammable. DO NOT use the system until the leak is repaired.

NOTICE

Improper operation, product damage!

When adding refrigerant, use ONLY R454B. This product cannot be used with any other type of refrigerant!

4.4 Maintenance – Long Periods of Non-Use

When the system is to be used again:

1. Remove any obstacles blocking the vents of both the indoor and outdoor units.
2. Clean the air filter of the indoor unit. Reinstall the clean, dry air filter in its original position.
3. Turn on the main power switch at least 12 hours prior to operating the unit.

Storing the unit while not in use:

1. Run the system on FAN mode for 12 hours in a warm room to dry it and prevent mold.
2. Turn off the system and unplug it.
3. Clean the air filter according to the instructions. Reinstall the clean, dry filter before storing.
4. Remove the batteries from the remote control.

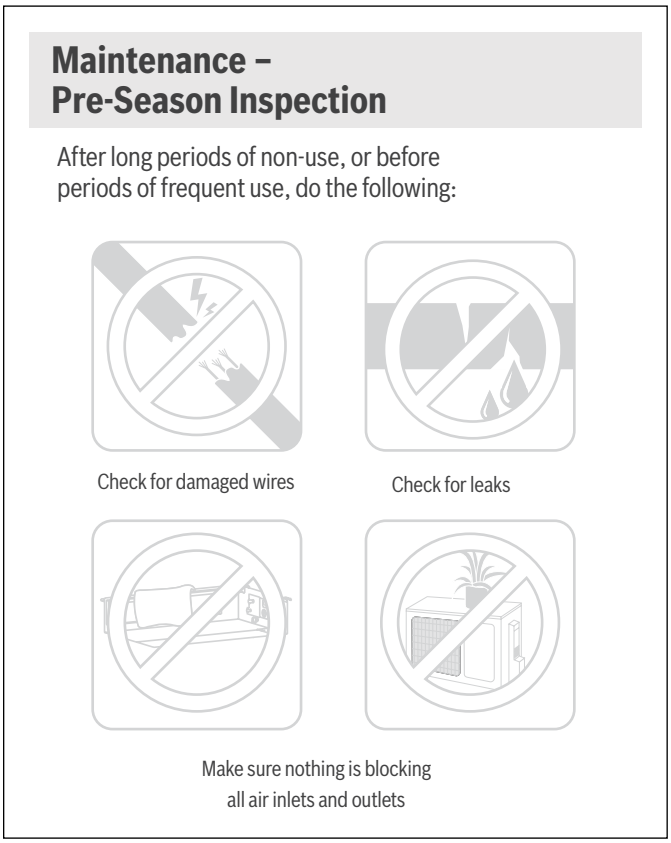

Figure 7

5 Troubleshooting

CAUTION

System malfunction!

If ANY of the following conditions occurs, turn off the unit immediately!

- The operation light continues to flash rapidly after the unit has been restarted.
- The remote control buttons do not work.
- The unit continually trips fuses or circuit breakers.
- A foreign object or water enters the air conditioner.
- Other abnormal situations.

DO NOT ATTEMPT TO FIX THESE YOURSELF! CONTACT A QUALIFIED SERVICE PERSON

If a problem persists, contact a local dealer or a qualified service provider. Provide them with a detailed description of the unit malfunction as well as your model number and unit serial number.

5.1 Common Issues

CAUTION

System failure!

Most of following problems are not a malfunction , but please contact an Authorized Service Provider if the problem is uncertain.

Issue	Possible Causes
Unit does not turn on when pressing the ON/ OFF button	The Unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
	If the Operation light and PRE-DEF (Pre-heating/ Defrost) indicators are lit up, the outdoor temperature is too cold and the unit's anti-cold wind is activated in order to defrost the unit.
	In Cooling-Only Models: If the "Fan Only" indicator is lit up, the outdoor temperature is too cold and the unit's anti-freeze protection is activated in order to defrost the unit.
The indoor unit emits white mist	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.
The unit changes from COOL/HEAT mode to FAN mode	The unit may change its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating in the previously selected mode again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will continue operating when the temperature fluctuates again.
The indoor unit makes noises	The drain pump can generate a squeaking sound.
Both the indoor and outdoor units emit white mist	A rushing air sound may occur when the louver resets its position.
	A squeaking sound may occur after running the unit in HEAT mode due to expansion & contraction of the unit's plastic parts.
	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.
Both the indoor unit and outdoor unit make noises	Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units.
	Squeaking sound: Normal expansion and contraction of plastic and metal parts caused by the temperature changes during operation can cause squeaking noises.
	Low hissing sound when the system starts, has just stopped running, or is defrosting: This noise is normal and is caused by the refrigerant gas stopping or changing direction.
The outdoor unit makes noises	The unit will make different sounds based on operating mode.
Dust is emitted from either the indoor or outdoor unit	The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.
The unit emits a bad odor	The unit's filters have become moldy and should be cleaned.

Table 3

5.2 Troubleshooting Tips

Problem	Possible Causes	Solution
The unit is not working	Power failure	Wait for the power to be restored
	The power switch is off	Turn on the power
	Check remote control batteries	Replace the remote control batteries
	The unit's 3-minute anti-short cycle has been activated	Wait three minutes after restarting the unit
	The fuse is burned out	Replace the fuse
Poor cooling performance	Temperature setting may be higher than ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty	Remove the filter and clean it according to instructions
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction and turn it back on
	Doors and windows are open	Make sure that all doors and windows are closed while operating the unit
	Excessive heat is generated by sunlight	Close windows and curtains during periods of high heat or bright sunshine
	Low refrigerant due to leak or long-term use	Check for leaks, repair if necessary and and top off with R454B refrigerant
The unit starts and stops frequently	There's too much or too little refrigerant in the system	Check system refrigerant operation. Ensure charge is per specification
	There is air, incompressible gas or foreign material in the refrigeration system	Evacuate and recharge the system with R454B refrigerant per specification
	System circuit is blocked	Determine which circuit is blocked and replace the malfunctioning piece of equipment
	The compressor is broken	Replace the compressor
	The voltage is too high or too low	Install a voltage regulator to regulate the voltage
Poor heating performance	The outdoor temperature is lower than 7°C (44.5°F)	Check for leaks and recharge the system with R454B refrigerant per specification
	Cold air is entering through doors and windows	Make sure that all doors and windows are closed during use
	Low refrigerant due to leak or long-term use	Check for leaks, repair if necessary and top off with R454B refrigerant

Table 4

5.3 Error Codes

CAUTION

System failure!

If below error codes appear, please turn off the system and contact an Authorized Service Provider.

When the indoor unit encounters a recognized error, then an error code will be displayed on the HMI screen with letters first, then numbers. These error codes are described in the following table below.

Error Code	Cause
EC07	ODU fan speed out of control
EC51	ODU EEPROM parameter error
EC52	ODU coil temp. sensor (T3) error
EC53	ODU ambient temp. sensor (TP) error
EC54	COMP. discharge temp. sensor (TP) error
EC56	IDU coil outlet temp. sensor (T2B) error (Multi-zone)
EH00	IDU EEPROM malfunction
EH03	IDU fan speed out of control
EH0A	Indoor EEPROM (Electrically Erasable Programmable Read-Only Memory) error
EH0E	Water level alarm malfunction
EH12	Main unit or secondary units malfunction
EH3A	External fan DC bus voltage is too low protection
EH3b	External fan DC bus voltage is too high fault
EH60	IDU room temp. sensor (T1) error
EH61	IDU evaporator coil temp. sensor (T2) error
EHbA	Communication error between the IDU and the external fan module
EHC1	Refrigerant sensor detects leakage
EHC2	Refrigerant sensor is out of range and leakage is detected
EHC3	Refrigerant sensor is out of range
EL01	IDU & ODU communication error
EL0C	Systems lacks refrigerant
EL11	Communication malfunction between main unit and secondary units
FHCC	Refrigerant sensor error
PC00	ODU IPM module protection
PC01	ODU voltage protection
PC02	Compressor top (or IPM) temp. protection.
PC03	Pressure protection (low or high pressure) (for some models)
PC04	Inverter compressor drive error
PC0L	Low ambient temperature protection (for some models)
FC	Forced Cooling (Not an error code)
....	IDU's mode conflict (Multi-zone)

Table 5

6 Disposal Guidelines

Components

Many parts in the Air Conditioner can be fully recycled in the end of the product life. Contact your city authorities for information about the disposal of recyclable products.

Refrigerant

At the end of the service life of this appliance and prior to its environmental disposal, a person qualifi ed to work with refrigerant circuits must recover the refrigerant from within the sealed system.

CAUTION

Contains refrigerant!

- Improper disposal of this appliance endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.
- Disposing of this product correctly will help ensure that the waste undergoes the necessary treatment, recovery and recycling.

Online Help Resources

Alternatively, please visit our Service & Support webpage to find FAQs, videos, service bulletins, and more; www.boschheatingcooling.com/service or use your cellphone to scan the code below.

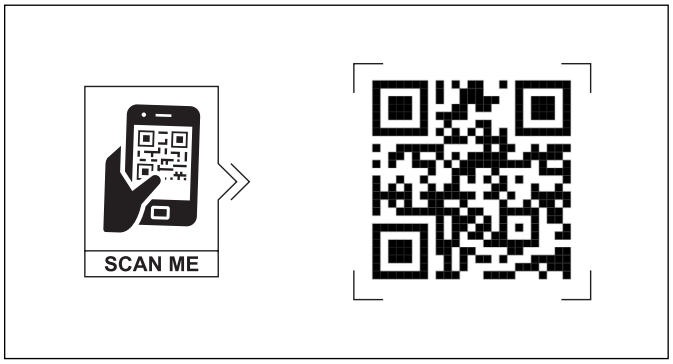

Figure 8

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