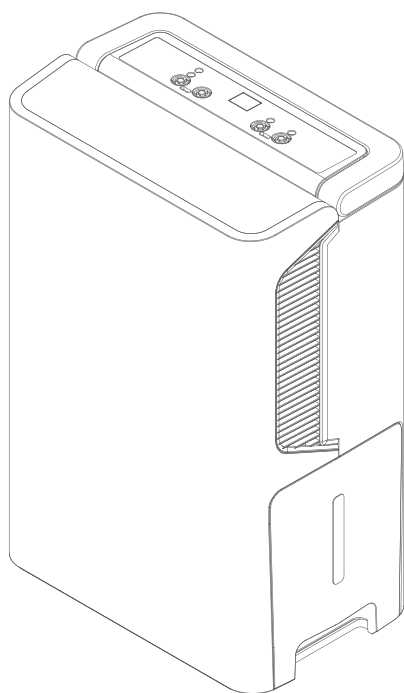




DEHUMIDIFIER

제습기

LMD-12L



USER MANUAL

Please read this manual carefully before use and keep properly

SAFETY PRECAUTIONS

1. Only install and operate this appliance as outlined in this instruction manual. At all times, use care when using this appliance.
2. Do not modify this appliance in any way to avoid danger.
3. Electrical equipment and installations regulated by national legislation must be followed.
4. Children must not use this appliance unsupervised.
5. For safety reasons, anyone with psychological, physical or any medical condition that may impair judgment should only use this appliance when under the supervision of a responsible adult.
6. For safety sake, never use a damaged power cable; always refer to the manufacturer or an authorized technical service centre if appliance requires repair.
7. It is essential that the appliance is connected to an efficient earth system checked by a qualified electrician.
8. The use of extension cables is not recommended.
9. The Air filter should be cleaned a minimum of once every two weeks.
10. Do not place the dehumidifier near any heating appliance.
11. The appliance should be transported upright or on its side. Any internal circuit water should be emptied before moving. Do not turn on the appliance for at least one hour before starting it.
12. Flammable substances or pressurised containers (eg aerosol cans) should be kept a minimum of 50cms away.
13. The appliance should not be installed in rooms containing sulphur, gas or oil.
14. Do not disconnect the appliance by pulling on the power cable; always disconnect the appliance before any cleaning or maintenance is undertaken.
15. Do not store anything on top of the appliance, especially heavy or hot objects.
16. Repairs must only be undertaken by authorised service centres of the manufacturer. Failure to comply may be dangerous.
17. Do not store the appliance covered with plastic bags.
18. Remember the environment when disposing of packaging around the appliance and when the appliance has reached its used by date.
19. A warning that the appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
20. A warning to keep ventilation openings clear of obstruction.
21. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
22. Children shall not play with the appliance.
23. Cleaning and user maintenance shall not be made by children without supervision.

WARNING

Additional warnings for appliances with R290 refrigerant gas (refer to the rating plate for the type of refrigerant gas used)



READ THE MANUAL CAREFULLY BEFORE USING THE APPLIANCE



1. R290 refrigerant gas complies with European environmental directives.
2. This appliance contains approximately 0.053 kg of R290 refrigerant gas. The maximum refrigerant charge amount is 0.3 kg;
3. The minimum rated airflow is 125 m³/h;
4. Do not pierce or burn.
5. Use only implements recommended by the manufacturer for defrosting or cleaning.
6. Do not use the appliance in a room with continuously operating sources of ignition (eg. Open flames, an operating gas appliance or an operating electrical heaters.
7. Do not perforate any of the components in the refrigerant circuit. Refrigerant gas may be odorless.
8. A surface area greater than 4 m² is necessary for the installation, use and storage of the appliance.
9. Stagnation of possible leaks of refrigerant gas in unventilated rooms could lead to fire or an explosion hazard should the refrigerant come in contact with electric heaters, stoves or other sources of ignition.
10. Use care when storing the appliance to prevent mechanical faults.
11. Only persons authorized by an accredited agency certifying their competence to handle refrigerants in compliance with sector legislation should work on refrigerant circuits.
12. Maintenance and repairs requiring the assistance of other qualified personnel must be carried out under the supervision of specialists in the use of inflammable refrigerants.

WARNING



WARNING

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 odour,

Appliance shall be installed, operated and stored in a room with a floor area larger than 4 m².

INSTRUCTION FOR REPAIRING APPLIANCES CONTAINING R 290

1. Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

2. General work area

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

3. Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to 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 flammable refrigerants, i.e. nonsparking, adequately sealed or intrinsically safe.

4. Presence of fire extinguisher

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

5. No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

6. Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

7. Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using flammable refrigerants: the charge

INSTRUCTION FOR REPAIRING APPLIANCES CONTAINING R 290

size is in accordance with the room size within which the refrigerant containing parts are installed; the ventilation machinery and outlets are operating adequately and are not obstructed;

8. Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised. Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that there no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding

9. Repairs to sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that apparatus 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,

NOTE 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 prior to working on them.

10. Repair to intrinsically safe components

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

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating. Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

11. Cabling

Check that cabling will not be 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 aging or continual vibration from sources such as compressors or fans.

INSTRUCTION FOR REPAIRING APPLIANCES CONTAINING R 290

12. Detection of flammable refrigerants

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

13. Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, 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 is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25% maximum) is 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 pipe-work.

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

If a leakage of refrigerant is found which requires brazing, 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 leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

14. Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to: remove refrigerant; purge the circuit with inert gas; evacuate; purge again with inert gas; open the circuit by cutting or brazing. The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be "flushed" with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task. Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place. Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

15. Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.

INSTRUCTION FOR REPAIRING APPLIANCES CONTAINING R 290

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

Prior to recharging the system it shall be pressure tested with OFN. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

16. Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure ensure that:

mechanical handling equipment is available, if required, for handling refrigerant cylinders; all personal protective equipment is available and being used correctly; the recovery process is supervised at all times by a competent person; recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with manufacturer's instructions.

h) Do not overfill cylinders. (No more than 80% volume liquid charge).

i) Do not exceed the maximum working pressure of the cylinder, even temporarily.

j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.

k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

17. Labelling

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

18. Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total

INSTRUCTION FOR REPAIRING APPLIANCES CONTAINING R 290

system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants.

In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

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

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.'

19. Transport of equipment containing flammable refrigerants (Annex CC.1)

Compliance with the transport regulations

20. Discarded appliances supplies flammable refrigerants

See National Regulations.

21. Storage of equipment/appliances

The storage of equipment should be in accordance with the manufacturer's instructions.

22. Storage of packed (unsold) equipment

Storage package protection should be constructed such that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge. The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.

23. Marking of equipment using signs

See local regulations

24. Electrical components that can arc or spark, which are not considered ignition sources due to compliance with 22.116.1 points b), c), d), or f) only be replaced with parts specified by the appliance manufacturer. Replacement with other parts may result in the ignition of refrigerant in the event of a leak;

WARNING

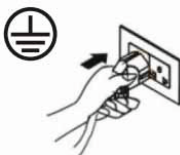
- Do not fold the power cord as shown below.



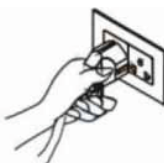
- Make sure the plug is clean!



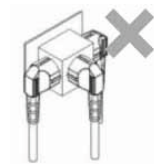
- Make sure the plug is placed fully & firm into the socket!



- After turning the unit off, please take the plug out of the socket.



- Do not use multiple sockets, adapters & extension cords.



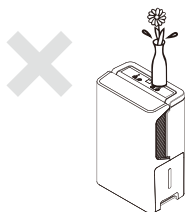
- Do not have wet hands when connecting the power plug.



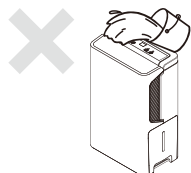
If the power cord on this unit is damaged it must be placed by the manufacturer, its service agent or qualified persons in order to avoid a hazard.

CAUTIONS

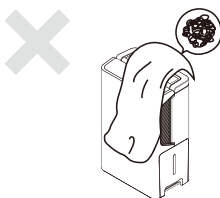
- Do not place anything on top of the control panel!



- Do not wet the machine or the control panel!



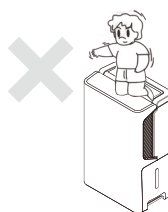
- Do not place anything over the inlet or outlet points.



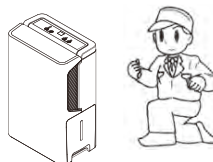
- Keep the flammable gas/oil away from the machine!



- Do not let children play with the unit or control!



- Ask professionals to do the servicing!



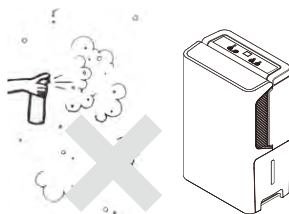
The appliance shall be installed in accordance with national wiring regulations.

CAUTIONS

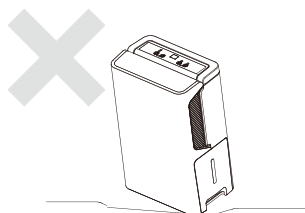
- Do not pull the power cord to avoid broken cord, which lead to danger.



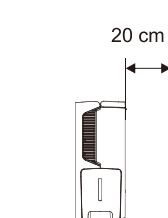
- Do not use insect, oil or paint spray around the machine, it might cause damage to the plastic parts or start a fire.



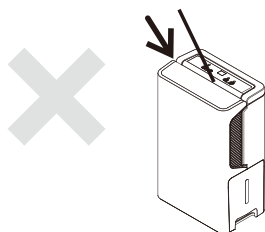
- Do not place the machine on an uneven ground, to avoid shaking, noise and leakage of water.



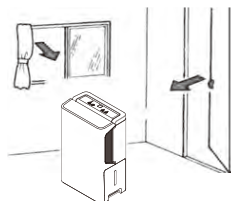
- Please always keep the unit 20 cm away from the wall to dissipate the heat properly.



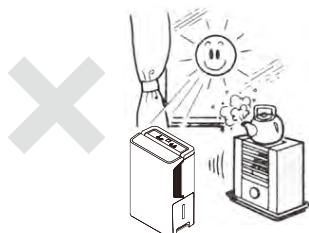
- It is dangerous to put anything into the machine.



- Close all the open windows to reach the maximum possible efficiency of removing moisture.



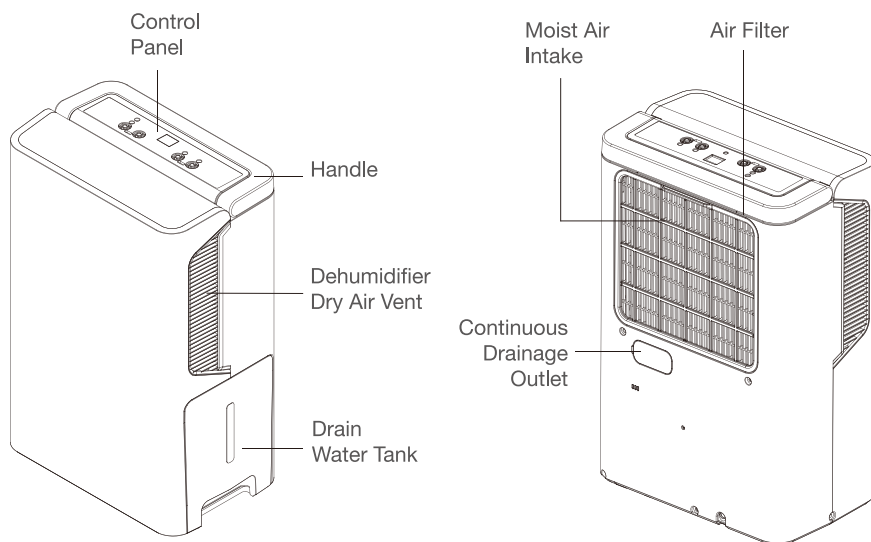
- Keep the machine away from any type of heat sources.



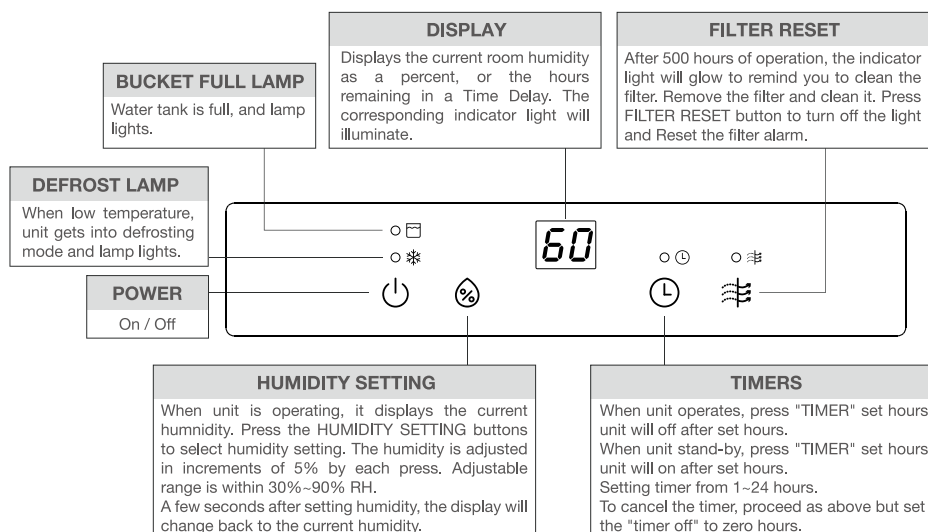
- When moving or put in storage, do not place the dehumidifier on side way or upside down and avoid violent shaking.



IDENTIFICATION OF PARTS



FUNCTION EXPLANATION



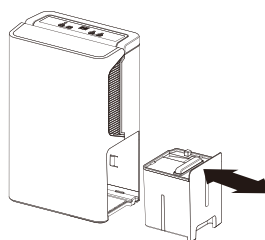
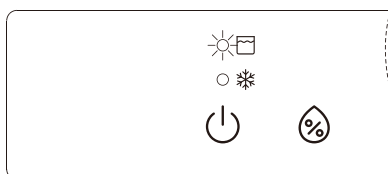
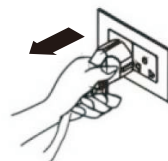
Note: This dehumidifier will be always continuously operated for 24 hours and then 1 hour off as a safety protection. The unit will restart working automatically after one hour.

OPERATING INSTRUCTIONS

• Start Operation

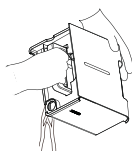
1) Insert the plug into a suitable wall socket. The dehumidifier is suitable for operation on an electricity supply having the same voltage as that shown on its rating label.

2) Make sure the water tank is correctly located. (After switching on the machine for the first time, if the "Bucket Full" lamp illuminates, just pull out the water tank, check the "float" lever is able to move freely, then return the water tank to the correct position.)



• When Water tank Full Lamp Is On

When the water tank is full, the indication lamp will light up and the dehumidifier will stop operating. Remove the water from the tank, then place the water tank back to its proper position. The machine will start operating again.



Remove the water in the water tank with two hands

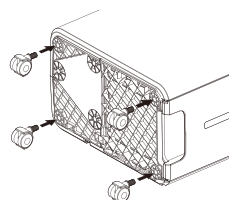
• Defrost

When operating in low temperatures (less than 12°C) the surface of the evaporator will accumulate frost and effect the efficiency of the dehumidifier. When this happens the machine will go into periodic defrost mode automatically. This is quite normal. Defrost lamp will come on. The unit will operate in temperatures down to 5°C. Defrost time may vary. If the dehumidifier freezes up turn the unit off for few hours and then restart. It is not recommended to use the dehumidifier in temperatures below 5°C.

• Wheel installation

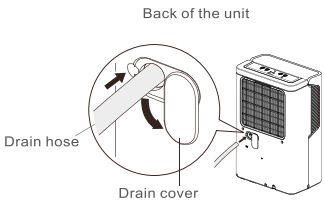
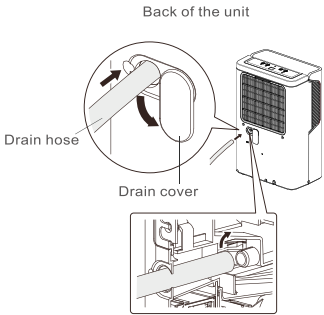
The installation of wheels is recommended to avoid damage to the floor.

1. Remove the wheels from the water tank.
2. Lay the dehumidifier on its side.
3. Locate the arrow on the bottom of the dehumidifier and insert the wheel according to the direction of the arrow.
4. Insert the wheel in as far as it will go.
5. Repeat steps 1-4 for the other 3 wheels.



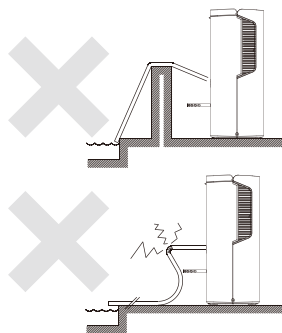
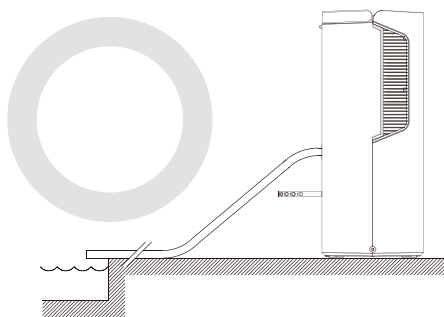
CONTINUOUS DRAINAGE

- The function of continuous drainage can be started in following steps when there is a good condition of drainage near by the unit.

1. Open the water stopper cover.	 Back of the unit Drain hose Drain cover
2. When the water tank is not taken out, the drain pipe can be directly extended into the drain hole.	 Back of the unit Drain hose Drain cover

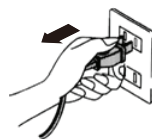
• The Proper Way To Place The Water Drainage PVC Hose

When using continuous drainage, the hose must be placed below the drainage hole. Most avoid uneven ground and over folded hose.



MAINTENANCE

Please make sure the dehumidifier is unplugged before servicing or cleaning the machine, for safety reasons!



1) Clean the Shell:

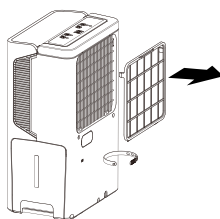
- A. Wipe the shell using soft and clean cloth.
- B. If the dehumidifier is very dirty, please use mild detergent then wipe off the detergent with half dried cloth.
- C. Do not wash the machine with a hose, it will cause leakage of electricity.

2) Clean the Air Filter:

The purpose of the air filter is to filter the dust or unclean material in the air. If the filter is blocked by the dust the usage of the electricity will be greater than normal and there is a risk of overheating. For the best more efficient of removing moisture, please clean the filter every two weeks. Do not use in dusty area.

• Cleaning Steps :

1. Pull out the filter gently.



2. Clean the air filter by vacuum cleaner or washing with clean water then dry the filter using dry cloth.



3. Place the air filter back to it's position.

EMERGENCY

Please unplug the machine when there is something wrong. Contact the store immediately. Do not disassemble the dehumidifier yourself!

SPECIFICATIONS

Figures noted, in the contents are for reference only; variation may result due to application in different countries or regions, and shall be based on the best of practical operation.

Model	LMD-12L
Voltage/Frequency	AC 220-240V~50Hz
Rated power consumption	235W
Capacity	12 L/D (30°C 80%RH)
Refrigerant	R290/0.053 kg
Dimensions (W)x(H)x(D)	301 x 193 x 485 mm
Weight	8.2 kg
Working Temperature	5°C-32°C
Fuse	T.1 A.L 250V

"Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice."

