



EN ■ Dehumidifier

Translation of the original manual

READ CAREFULLY AND STORE FOR FUTURE USE.

- This appliance may be used by children 8 years of age and older and by persons with physical or mental impairments or by inexperienced persons, if they are properly supervised or have been informed about how to use the product in a safe manner and understand the potential dangers. Cleaning and maintenance performed by the user must not be performed by unsupervised children. Children must not play with the appliance.
- If the power cord is damaged, it must be replaced by an authorised service centre or by another similarly qualified person, this will prevent the creation of a dangerous situation. It is forbidden to use the appliance if it has a damaged power cord.
- The appliance must be stored in a manner that prevents its mechanical damage.
- The appliance must be stored in a well ventilated location, where the dimensions of the room correspond to the dimensions specified for its operation.
- The appliance must be stored in a room where there an open flame is not continuously in use (e.g. running gas appliance) or where there are sources of fire (e.g. running electrical heating element).
- Before connecting the appliance to a power socket, check that the rated voltage on its rating label matches the electrical voltage in the power socket.
- Connect the appliance only to a properly grounded socket.
- The power socket must be freely accessible so that it is possible to quickly disconnect the power cord from the power source if necessary.
- The appliance is designed for use at home, in offices and similar types of areas. Do not use it in very dusty or humid rooms such as laundries or bathrooms, in areas where chemical or explosive substances are stored, in industrial surroundings or outdoors!
- Do not place the appliance in the vicinity of an open flame or appliances that are sources of heat.
- Do not place the appliance on unstable surfaces such as carpets with very long and thick fibres.
- The appliance may only be used on a dry, stable, smooth and horizontal surface.
- The appliance is equipped with travel wheels so pay extra attention when handling it so that it does not fall down stairs or travel down from sloped areas. If necessary secure the wheels using the stoppers.
- Only use original parts to assemble the appliance. Before starting to assemble the appliance, make sure that it is turned off and disconnected from the power socket.
- Prior to connecting appliance to a power socket, make sure that the appliance is correctly assembled according to the instructions in this user's manual.

- Do not touch the appliance with wet or damp hands. This applies especially when it is connected to a power socket.
- Do not expose the appliance to dripping or spraying water or submerge it in water or another liquid.
- Do not cover or insert anything into the air inlet or air outlet openings. Otherwise, this could damage the appliance.
- During operation there needs to be sufficient space for air circulation of at least 30 cm on all sides of the appliance.
- To turn the appliance on or off, always use the appropriate buttons on the control panel. Do not turn off the appliance by disconnecting the power cord from the power socket.
- Always turn off the appliance and disconnect it from the power socket when leaving it without supervision, when not using it and before moving, disassembling or cleaning it.
- Do not attempt to remove the outer case of the appliance.
- Disconnect the appliance from the power socket by pulling on the plug, never pulling on the power cord. Otherwise, this could damage the power cord or the socket.
- In the event that the power cord or power plug are damaged in any way, do not use the appliance.
- Store the appliance in a vertical position. It may be transported in a vertical position or tilted on the side. If you have already used the appliance, check that all the condensate has been drained. After transporting it, wait at least 1 hour before using the appliance.
- Do not use the appliance if it is not working correctly, if it has been damaged or has been submerged in water. To avoid a hazardous situation arising, do not repair the device yourself or modify it in any way. Have all repairs or adjustments performed at an authorised service centre. By tampering with the appliance, you risk voiding your legal rights arising from unsatisfactory performance or quality warranty.



Read this user's manual carefully prior to installing or operating your new appliance. Make sure that you keep it for future reference.

Fire hazard.



- This appliance must not be used by persons (including children) with reduced physical, sensory or mental abilities or lacking experience and knowledge unless

under supervision or unless they have been instructed how to operate the appliance in a safe manner by a person that is responsible for their safety (applies for countries outside of Europe). Children should be supervised to ensure that they do not play with the appliance.

- The appliance must be installed in accordance with national electrical codes.
- An appliance equipped with an electric heating element must be located at least 1 m from explosive substances.
- Please contact an authorised service centre for repairs or maintenance of this appliance.
- Do not connect the appliance into a power socket that is loose or damaged.
- Do not use this appliance for purposes other than those described in this user's manual.
- Contact an authorised installation technician to install the appliance.
- In the event that the appliance is tipped over during use, immediately stop it and disconnect the power cord plug from the power socket. Visually inspect the appliance to make sure that it is not damaged. If you have any doubts that the appliance is damaged, please contact an authorised technician or customer service.
- The power cord must be disconnected from the power socket during a storm to prevent damaging the appliance in the event of a lightning strike.
- To reduce the risk of a fire hazard or injury by electrical shock, do not use this appliance with a semiconductor speed controller.
- Do not lead the power cord under the carpet. Do not cover the power cord with carpets, mats or similar items. Do not lead the power cord underneath furniture or the appliance itself. Lead the power cord so that it is not stepped on and can not be tripped over.
- Do not open the appliance while it is in operation.
- When the air filter is removed, do not touch the metal parts of the appliance.
- The manufacturer's rating label is located on the rear panel of the appliance and contains electrical and other technical specifications of this appliance.
- Check that the appliance is properly grounded. Proper grounding is important for minimizing the risk of injury by electrical shock or a fire hazard. To prevent the risk of injury by electrical shock, the power cord has a grounding pin.
- If the power socket into which you plan to plug in the appliance is not properly grounded or is not protected by a delay fuse or circuit breaker (the necessary fuse or circuit breaker is determined by the maximum current of the appliance. Maximum current is marked on the rating label on the appliance), please contact a qualified electrician to install a properly grounded power socket.
- Make sure that the power socket is easily accessible after the installation of the appliance.

- **Do not use extension cords or power adapters with this appliance.** Nevertheless, if the use of an extension cord is necessary, only use extension cords authorised for use with the dehumidifier (available in most hobby markets).
- To avoid potential injury to people, always disconnect the power plug from the power socket prior to installation and/or servicing.
- All electrical wiring must be performed strictly in accordance with the electrical diagram located on the middle partition of the appliance (located behind the condensate tank).
- Please bear in mind the specifications of the fuse - the PCB of the appliance is designed with a fuse to ensure protection against excessive electrical current. The specifications of the fuse are printed on the mother board, i.e. T3.15A/250V (or 350 V), etc.
- To prevent injury to the operator or other persons or damage to property, adhere to the following measures. Incorrect use as a result of ignoring these measures may cause injuries or damage.



WARNING:

This symbol indicates the risk of serious injury or death.



ATTENTION:

This symbol indicates the risk of injury or damage to property.



WARNING

Do not exceed the rated voltage in your power socket or connected appliance. Otherwise, there is a risk of injury by electrical shock or a fire as a result of excessive heat.

Do not turn the appliance on or off by disconnecting it from the power socket. There is a risk of injury by electrical shock or a fire as a result of excessive heat.

Do not damage the power cord and do not use an unspecified power cord. There is a risk of injury by electrical shock or a fire.

Do not modify the length of the power cord, avoid sharing the same power socket with another appliance. There is a risk of injury by electrical shock or a fire as a result of excessive heat.

Do not connect or disconnect the power cord when you have wet hands. There is a risk of injury by electrical shock.

Do not place the appliance in the vicinity of a heat source. Plastic parts could melt and cause a fire.

If you register an unusual sound, unpleasant odours or smoke coming out of the appliance, disconnect the power plug from the power socket. There is a risk of fire and injury by electrical shock.

You should never attempt to disassemble or repair the appliance yourself. There is a risk of damaging the appliance or injury by electrical shock.

Turn off the appliance and disconnect the power cord from the power socket before cleaning it. There is a risk of injury by electrical shock or other injuries.

Do not use the appliance in the vicinity of flammable gases or explosives such as petrol, benzene, solvents, etc. There exists a risk of explosion or fire.

Do not drink or use the water from the condensate tank. It contains harmful substances that may cause vomiting or digestion problems.

Do not remove the condensate tank while the appliance is in operation. There is a risk of the protection of the appliance being damaged and injury by electrical shock.



ATTENTION

Do not use the appliance in small areas. Insufficient ventilation may cause overheating and fire.

Do not place the appliance in a location where water or other liquids could spray on it. Water can enter into the appliance and damage the insulation. It can cause injury by electrical shock or a fire.

Place the appliance in an even, stable location. If the appliance were to tip over, the condensate could leak out, which could cause damage to property or injury by electrical shock or a fire.

Do not cover the inflow or outflow vents with wiping cloths or towels, etc. Insufficient ventilation may cause overheating and fire.

Be especially careful when the appliance is in the same room as a babies, small children, older people and people with insufficient sensitivity to moisture.

Do not use the appliance in locations where chemicals are handled. The appliance may be damaged by the effect of diffused chemicals and solvents in the air.

Never put fingers or other foreign objects into the grille or vents. Be especially careful when children are present. There is a risk of injury by electrical shock or damage to the appliance.

Do not place heavy objects on the power cord, and make sure that the power cord is not crimped or in any way deformed. There is a risk of fire or injury by electrical shock.

Do not climb on the appliance or sit on it. There is a risk of injury resulting from a fall or damaging the appliance if it tipped over.

Always insert the filters in safely. Clean the filters once every two weeks. Operating the appliance without filters may result in its damage.

If water enters into the appliance, turn it off and disconnect it from the power socket. Contact an authorised service centre. There is a risk of damaging the appliance or an accident occurring.

Do not put vases with flowers or other containers filled with water on the appliance. Water may pour out and enter into the appliance and damage the insulation, cause injury by electrical shock or a fire.

SPECIFIC INFORMATION FOR APPLIANCES USING REFRIGERANT GAS R290

- Carefully study all the warnings.
- For defrosting and cleaning, do not use any other tools than those recommended by the manufacturer.
- This appliance must be located in an environment that has no continuously running fire sources (for example an open fire, a gas appliance or electrical appliances).
- Do not perform any drilling and do not burn it.
- Refrigerant gases may be odourless.
- This appliance must be located in rooms with an area greater than 4 m².
- This appliance contains approx. 75 g of refrigerant gas R290.
- R290 is a refrigerant gas that meets European environmental protection directives. Do not make holes or drill into any part of the cooling circuit.
- The room in which this appliance is installed, operated or stored must prevent the collection of such leaked refrigerants, that could be the cause of explosion or fire as a result of the refrigerant igniting following the start up of electrical heaters, cookers or other sources of ignition.
- The appliance must be stored in such a manner that its mechanical damage is prevented.
- Persons working with or repairing cooling circuits must have appropriate authorisation issued by an authorised institution that certifies this person's competence to work with refrigerants in accordance with the specific assessment of the association for this sector.
- Maintenance tasks must be performed solely on the basis of the recommendations of this appliance's manufacturer. Maintenance and repair tasks that required the contribution of other qualified expert personnel may only be performed under the supervision of specialised experts in the flammable refrigerants sector.
- Adhere to national codes relating to gas.
- Do not cover the vents.

Notes about fluorinated gases

- Fluorinated greenhouse gases are contained in a hermetically sealed device. To obtain specific information regarding the type and the fluorinated greenhouse gas equivalent of CO₂ in tonnes (on certain models), please refer to the relevant label on the appliance.
- Installation, service, maintenance and repairs of the appliance must be performed only by a certified technician.
- Removal and recycling of the appliance must only be performed by a certified technician.

Symbols than may be found on the appliance.



WARNING

This symbol indicates that this appliance uses a flammable coolant. If coolant were to leak and subsequently be exposed to an external source of heat, this would present a fire hazard.



ATTENTION

This symbol indicates that the user's manual should be studied carefully.



ATTENTION

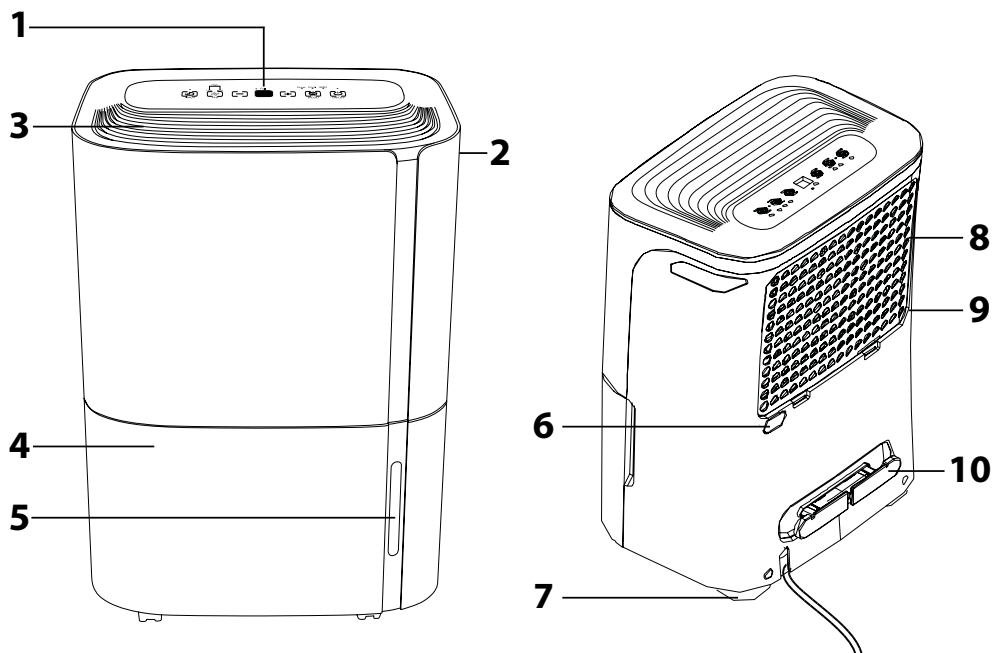
This symbol indicates that a service technician can work on this appliance, while respecting the installation instructions.



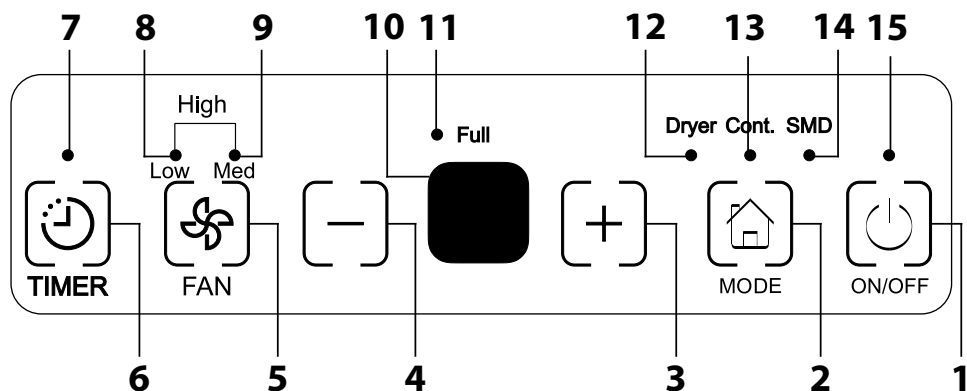
ATTENTION

This symbol indicates the availability of information in the form of a user's manual and installation instructions.

A



B



EN Dehumidifier

User's manual

- Prior to using this appliance, please read the user's manual thoroughly, even in cases, when one has already familiarised themselves with previous use of similar types of appliances. Only use the appliance in the manner described in this user's manual. Keep this user's manual in a safe place where it can be easily retrieved for future use.
- We recommend saving the original cardboard box, packaging material, purchase receipt and responsibility statement of the vendor or warranty card for at least the duration of the legal liability for unsatisfactory performance or quality. In the event of transportation, we recommend that you pack the appliance in the original box from the manufacturer.

DESCRIPTION OF THE APPLIANCE

- | | |
|--|--|
| A1 Control panel | A7 Travel wheels |
| A2 Handles (on both sides) | A8 Air inlet grille |
| A3 Air outlet grille | A9 Air filter (located behind a grille) |
| A4 Condensate tank | A10 Power cord holder (used only for storage) |
| A5 Viewing window | |
| A6 Drain hose connection outlet | |

DESCRIPTION OF THE CONTROL PANEL

- | | |
|--|---|
| B1 On/Off button | B9 Medium fan speed indicator lights |
| B2 MODE button (for selecting an operating mode) | B10 Display |
| B3 Plus (+) button | B11 Full condensate tank indicator light |
| B4 Minus (-) button | B12 Drying mode indicator light |
| B5 FAN button (fan speed control) | B13 Continuous dehumidification mode indicator light |
| B6 TIMER button (timer control) | B14 Smart dehumidification mode indicator light |
| B7 Timer indicator light | B15 Power On indicator light |
| B8 Low fan speed indicator lights | |

BEFORE FIRST USE

- Before first use, take the appliance and its accessories out of the packaging material and remove all promotional labels and stickers. Check that neither the appliance nor any of its parts is damaged.



Note:

Travel wheels **A7** may be removed on certain models. Screw the travel wheels to the underside of the appliance prior to using it. Do not travel over carpets, thresholds or other obstacles with the wheels. This could damage them.
Do not move the appliance when the condensate tank is full.
Certain models may also be supplied without travel wheels **A7**.

Installing the power cord holder

- When planning on not using the appliance and preparing to store it, install the holder that serves to conveniently store the power cord.
- Insert the holder into the cut-out at the rear of the appliance.

INSTALLATION LOCATION OF THE APPLIANCE

- Locate the appliance on an even, dry and stable surface within reach of a properly grounded power socket.
- Do not use the appliance outdoors.
- To ensure sufficient air circulation, leave at least 20 cm of free space around the sides of the appliance.
- Locate the appliance in a room where temperature does not fall below 5 °C. If the temperature were to fall below 5 °C, there is a risk of frost forming inside the appliance, which would reduce its efficiency.
- Do not locate the appliance in the vicinity of dryers, heating devices and other sources of heat.
- Use the appliance in locations where humidity could damage books or other valuable items.
- The appliance must be used in a closed room in order to ensure its maximum effectiveness. Therefore, close the doors and windows of the given room.

OPERATING THE APPLIANCE

- The dehumidifier is used for drying out, for example, flooded basements, rooms with an increased level of moisture, etc. Do not use it in areas where substances or items are stored requiring precise room temperature and humidity control.
- If using the appliance for the first time, it is important to allow it to run continuously for 24 hours.
- Use the appliance at an ambient temperature in the range 5 °C – 32 °C (41 °F – 90 °F) and humidity in the range 30 % – 80 %.
- Always wait at least 3 minutes before turning the appliance on again.
- Do not connect the appliance to a power socket to which another appliance is already connected. We recommend connecting the appliance to an independent circuit.
- Make sure that the condensate tank is correctly installed in the appliance, otherwise the appliance may not function correctly.

OPERATING THE APPLIANCE

- Make sure that the appliance is located in a suitable place and that it is correctly assembled. Then insert the power plug into a power socket.

Turning on / off

- Press button **B1** to turn on the appliance. Indicator light **B15** will turn on. In order to turn off the appliance, press button **B1** again.



Note:

When the appliance is turned on or off, the compressor may make a noise. This is normal.

- The appliance will turn off automatically if the condensate tank **A4** is full or incorrectly installed.
- If you turn the appliance off and then need to turn it on again quickly thereafter, the appliance will start again after approximately 3 minutes. This function protects the compressor against damage.
- The appliance is equipped with an automatic restart function (AUTO-RESTART) for the event of a power outage. Settings will remain stored in the memory of the appliance, and after power is restored, the appliance will automatically start in the previously set mode.
- When you have finished using it, turn off the appliance and disconnect the power cord from the power socket.

Display

- Depending on the selected mode, the display **A10** shows: set humidity in %, automatic start / shut-off time, current humidity in % (+/- 5 % in the range 30 % - 90 % relative humidity).

Selecting an operating mode

- To select an operating mode, use button **MODE B2**. Repeatedly press this button to select from the following modes: dehumidification, drying, continuous dehumidification or smart dehumidification.
- **Dehumidification mode:** in this mode, set the required humidity using the +/- buttons. No indicator light will be lit.
- **Drying mode:** indicator light **B12** will be lit when the drying mode is activated. In this mode, fan speed is automatically set to high and it is not possible to change it. It thereby ensures maximum effectiveness. It is important that this mode is used in a closed room. Check that no windows or doors are open. To ensure maximum effectiveness, spin dry the laundry in a washing machine. Point the appliance so that the air outlet is directed at the laundry from a distance of 30 – 50 cm. Drying results on thick and heavy laundry may not always be satisfactory.



Warning:

Do not cover the air outlet with laundry. There is a risk of the appliance overheating, a fire hazards or damage to the unit. Do not place wet laundry above the appliance or allow water to drip from the laundry on to the appliance. There is a risk of injury by electrical shock, potential to electrical wiring or damage to the appliance.

- **Continuous dehumidification mode:** indicator light **B13** will be lit when the continuous dehumidification mode is activated. In this mode, the appliance runs continuously until the condensate tank **A4** is completely full of condensate.
- **Smart dehumidification mode:** indicator light **B14** will be lit when the smart dehumidification mode is activated. In this mode, the appliance automatically detects the humidity in the room and maintains it in the optimal range of 45 % - 55 % depending on room temperature. In this mode it is not possible to set the humidity.

Setting the humidity

- Use buttons +/- to set the required humidity in the range 35 % - 85 % RH (relative humidity). Each time a button is pressed, the value will increase or decrease by 5 %. The set humidity will be shown on the display **B10**.

Setting fan speed

- Button **FAN B5** serves to set the fan speed: low (indicator light **B8** will be lit) – medium (indicator light **B9** will be lit) – high (both indicator lights **B8** and **B9** will be lit).
- For maximum dehumidification speed, set the fan to the high speed. If you need the fan to be more quiet or if humidity has declined, set the medium or slow fan speed.

Setting an automatic start

- While the appliance is turned off, press the **TIMER B6** button. Use buttons +/- to set the time after which the appliance will turn on automatically. You can set a time from 30 minutes to 24 hours, initially in 30-minute increments (up to 10 hours) and then in 1-hour increments.
- The set time is automatically saved to memory after approximately 5 seconds.

Automatic shut-off function

- While the appliance is turned on, press the **TIMER B6** button. Use buttons +/- to set the time after which the appliance will turn off automatically. You can set a time from 30 minutes to 24 hours, initially in 30-minute increments (up to 10 hours) and then in 1-hour increments.
- The set time is automatically saved to memory after approximately 5 seconds and the display **B10** will show the set humidity.

- If you turn the appliance on or off, while the automatic start or shut-off is set, the appliance will automatically cancel the start or shut-off function.
- If the message "P2" appears on the display B10, the automatic start / shut-off function will be cancelled.

Full condensate tank indicator

- When the indicator light B11 is lit on the control panel A1, the condensate tank A4 is full and the condensate needs to be emptied out. The appliance will stop running.
- Empty out the condensate tank A4 according to the instructions in chapter "Draining condensate into the tank" After installing the condensate tank A4 the appliance will automatically start up again.

Automatic defrosting

- In the event that frost forms around the vaporizer coil, the appliance will automatically switch to the automatic defrost mode until it eliminates the frost. In this mode, the compressor will turn on in regular intervals and the fan will run continuously.

DRAINING CONDENSATE

- For draining condensate, either the tank A4 or the drain hose A6 may be used.

Draining condensate into the tank

- Prior to turning on the appliance, check that outlet A6 is fitted with a plug.
- During operation, condensate will accumulate in the tank A4. As soon as it fills up, the indicator light B11 will be lit and the appliance will turn off automatically. Error message "P2" will appear on the display B10.
- Carefully slide out the condensate tank A4, careful not to spill any water. The bottom of the condensate tank A4 is not level, therefore do not stand it on the floor when the condensate tank A4 is full. Empty out the condensate tank A4 and insert it back into the appliance. Check that the condensate tank A4 is correctly installed. The appliance will automatically resume operation.
- When removing the condensate tank A4, be careful so as not to drop it and damage the internal parts of the appliance. Do not use excessive force when installing the condensate tank A4 into the appliance. Using brute force may damage the appliance.
- If there is any water in the installation area of the condensate tank A4, wipe it using a dry wiping cloth.

Continuous condensate draining via the drain hose

- For continuous draining of condensate, screw off the plastic plug anticlockwise from the drain hose outlet A6. Carefully store the plug for future use.



Note:

If there is water in the outlet when the plug is removed, wipe it using a dry wiping cloth.

- Properly screw in the threaded end of the drain hose A6 to the outlet. To ensure that condensate does not leak, check that the hose end is properly screwed in.
- Locate the free end of the hose so that the condensate can flow out freely. The container or place where the condensate is drained must be lower than the outlet A6. Do not bend or twist the hose.
- Set the required humidity and fan speed to start the appliance.



Note:

When not using the drain hose for continuous draining of condensate, screw off the hose, wipe away nay water and close the outlet A6 using the plug.

CLEANING AND MAINTENANCE

- Disconnect the power plug from the power socket before cleaning.



Note:

For cleaning, do not use cleaning products with an abrasive effect, solvents, etc. that could damage the appliance.



Warning:

To prevent the risk of injury by electrical shock, do not submerge the appliance, power cord or power plug in water or any another liquid.

Cleaning the condensate tank

- Empty out the condensate tank A4 whenever you finish using the appliance and wipe it using a wiping cloth.
- To prevent undesirable bacteria, micro-organism or moulds from multiplying inside the tank A4, clean it out at least once per month using a cloth dampened in lukewarm water with the addition of neutral detergent. Then rinse it out thoroughly using clean water, wipe it dry and insert it back into the appliance.
- Do not wash the tank A4 in a dishwasher.

Cleaning the air filter

- Release the grille A8 and then carefully remove the filter A9. Wash the filter A9 in warm water with a small amount of kitchen detergent. Then thoroughly rinse it under running water and allow it to dry naturally. Install the filter A9 back in its place. However, first make sure that the filter A9 is completely dry. Then reattach the grille A8.



Warning:

Do not use the appliance without the filter A9 being properly installed. Never wash the filter A9 in a dishwasher.

Cleaning the outer cover and air outlet grilles

- To clean the air outlet grille A3, the air inlet grille A8 and the outer cover, use a wiping cloth lightly dampened in lukewarm water with a small addition of neutral detergent. Make sure that water does not enter into the vents. In the event that grilles A3 and A8 are only dusty, a vacuum cleaner may be used to clean them.

Storage

- When not using the appliance for an extended period of time, disconnect the power plug from the power socket and clean it according to the instructions provided above.
- Clean the condensate tank A4 only 24 hours after turning the appliance off since even during this time a small amount of condensate may accumulate.
- Wind the power cord around the holder.
- Store the appliance in a dry, clean and well-ventilated location not exposed to extreme temperatures and out of children's reach.

TROUBLESHOOTING

Problem	Solution
The dehumidifier cannot be turned on.	Check that the power cord plug is correctly connected to a power socket. Check that fuses are in order. The dehumidifier reached the set humidity level or the condensate tank A4 is full. The condensate tank A4 is not correctly installed.
The dehumidifier is not removing humidity from the room.	The dehumidifier has only been running for a short time, please wait a few more moments. Make sure that there are no curtains, roller blinds or furniture in front of the dehumidifier. The humidity setting is insufficient. Check that the doors, windows and other openings in the room are properly closed. The temperature in the room is too low (below 5 °C). There is an oil heater or other appliance located in the room that may be creating humidity.
The dehumidifier is too noisy while running.	The air filter is clogged. The dehumidifier is tilted. The floor is not level.
Frost is forming inside the appliance.	The dehumidifier is equipped with an automatic defrost function, which is activated when frost starts to form.
There is water on the floor.	Check the hose for damage and that it is correctly attached. Disconnect the hose and use the condensate tank A4 to drain the condensate. Close outlet A6 using a plug.

Error messages

Error messages on the display	Meaning	Solution
A5	Humidity sensor error	Disconnect the power plug from the power socket and reconnect it. If the problem persists, please contact an authorised service centre.
E5	Vaporizer heat sensor error	Disconnect the power plug from the power socket and reconnect it. If the problem persists, please contact an authorised service centre.
P2	The condensate tank A4 is full or incorrectly installed.	Empty out the condensate tank A4 or install it correctly.

SERVICING INSTRUCTIONS

1.1 Area check

Before starting work on a system containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. When repairing a cooling system, the following measures must be adhered to prior to performing any work.

1.2 Work procedure

Work must be performed following a controlled procedure so that the risk of flammable gases or fumes being present during this time is minimised.

1.3 General work area

The whole maintenance crew and other personnel at the site must be informed about the nature of the works being performed. Work in tight areas must be prevented. The area around the work site must be divided into sections. It must be ensured that the conditions inside the area are safe by means of inspections of flammable materials.

1.4 Check for presence of a refrigerant

The area must be checked using an appropriate detector for the presence of refrigerant before and during work to ensure that technicians are aware of a potentially flammable atmosphere. It must be ensured that the device used for the detection of leaks is suitable for use on flammable refrigerants, i.e. non-sparking, appropriately sealed or intrinsically safe.

1.5 Presence of a fire extinguisher

In the event that any work is performed on the cooling device or associated parts under heat, then a suitable fire extinguisher must be on hand. In the vicinity of the filling area, there must be a powder or CO₂ fire extinguisher.

1.6 No ignition sources

No person performing work related to the cooling system that encompasses the uncovering of any pipes that contain or have contained flammable gases may use any ignition sources in a manner that could lead to a fire or explosion hazard. All possible ignition sources, including the smoking of cigarettes should be kept at a sufficient distance from the installation, repair, removal or disposal location, during which flammable refrigerant could potentially be released into the surrounding environment. Prior to starting work, the area around the appliance must be checked to ensure that there are no fire hazards or ignition risks present. A "smoking forbidden" sign must be installed.

1.7 Ventilated area

It must be ensured that the area is ventilated or appropriately ventilated prior to penetrating the system or performing any work under heat. The intensity of ventilation must continue for the time that works are performed. Ventilation should safely dissipate any released refrigerant and draw it out into the atmosphere as a priority.

1.8 Cooling system checks

In places where electrical components are replaced, these components must be suitable for this purpose and conform to correct specifications. The manufacturer's instructions for maintenance and service must always be followed. If any doubts arise, it is necessary to request help from the manufacturer's technical department.

On installations containing flammable refrigerants, it is necessary to perform the following checks:

- the amount of refrigerant corresponds to the size of the room in which components containing refrigerant are installed;
- ventilation systems and outlets are in full working order and are not clogged;
- if any indirect cooling circuit is used, the second circuit must be checked for the presence of refrigerant;
- the markings on the appliance must remain constantly visible and legible, and marking and signs that are illegible must be repaired;
- The cooling pipes and components are installed in locations where it is not probable that they will be exposed to any substances that could corrode the parts containing refrigerant, unless these components are built using materials that are inherently resistant to corrosion or are appropriately protected against corrosion.

1.9 Electrical device check

The repair and maintenance of electrical components must include safety checks and inspections of components.

In the event of a malfunction that could affect safety, no electrical power may be connected to the circuit until the malfunction is satisfactorily resolved. In the event that the malfunction cannot be immediately repaired but it is necessary to continue running the appliance, an appropriate temporary solution must be used. The owner of the appliance must be informed in such a way that all parties know about it.

The initial safety check must ensure:

- that capacitors are discharged: this must be performed in a safe way to prevent the possibility of sparking;
- that no electrical components or wiring is uncovered during the process of filling, draining or cleaning the system;
- that the grounding is not interrupted.

2. Repair of sealed components

When repairing sealed components, all the electrical power supply must be disconnected from the appliance on which work is being performed before sealed lids, etc. are removed. When it is absolutely necessary to have live power supply going into the appliance while servicing the appliance, it is necessary to install a permanent device in the most critical point to detect leakage so that a dangerous situation is averted.

Special attention must be paid to ensuring that as a result of the work performed on electrical components the cover is not changed to the extent of affecting the level of protection. This must also include damage to cables, excessive number of connections and terminals not performed according to original specifications, damaged gaskets, incorrect configuration of plugs, etc.

It is necessary to ensure that the appliance is mounted safely.

It is necessary to ensure that gaskets or sealing materials are not damaged in such a way that they no longer serve to prevent the entry of a flammable atmosphere. Spare parts must conform to the manufacturer's specifications.



NOTE:

The use of silicone gaskets and seals may suppress the efficiency of certain type of leak detection devices. Intrinsically safe components do not need to be disconnected prior to being worked on.

3. Repairs of intrinsically safe components

No permanently inductive or capacitive load may be placed on the circuit without it being ensured that thereby the permitted voltage and current for the used appliance is not exceeded.

Intrinsically safe components are the only type on which it is possible to work in a flammable environment even while under live current. Testing equipment must have correct specifications.

Parts are replaced using only parts specified by the manufacturer. Different parts could result in ignition of refrigerant upon leakage into the environment.

4. Cabling

Check that cabling is not exposed to wear and tear, corrosion, excessive pressure, vibrations, sharp edges or any other negative environmental effects. This check must also take into consideration the effects of ageing and permanent vibrations from sources such as compressors or fans.

5. Detection of flammable refrigerants

Under no circumstances may potential sources of ignition be used for locating or detecting refrigerant leaks.

A halogen burner (or any other type of detector utilising an open flame) must not be used.

6. Leak detection methods

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

For the detection of flammable refrigerants, electronic leak detectors must be used, however their sensitivity may not be appropriate or they may require recalibration. (Detection equipment must be calibrated in an area without any refrigerant present). It is important to ensure that the detector is not a potential ignition source and that it is suitable for the used refrigerant. The leak detector must be set to a percentage of LFL refrigerant and must be calibrated for the used refrigerant and the respective gas percentage is confirmed (maximum 25 %).

Leak detection liquids are suitable for use on most refrigerants, however, detergents containing chlorine must be excluded since chlorine may react with the refrigerant and corrode copper pipes.

In the event of a suspected leak, all open flames must be removed/extinguished.

In the event that the refrigerant leak is found and requires hard soldering, then all the refrigerant must be drained from the system or separated (by closing a valve) in a part of the system distant from the leak. The system must then be cleaned out using oxygen-free nitrogen (OFN) both before as well as after the hard soldering process.

7. Collection and pump discharge

In the event that the cooling circuit is breached due to repairs – or for any other reason – conventional procedures must be followed. It is, however, important to adhere to the best method due to flammability. It is necessary to adhere to the following procedure:

- collect the refrigerant;
- clean out the circuit using inert gas;
- pump out;
- again clean out using inert gas;
- open the circuit by cutting or hard soldering.

The contents of the circuit must be collected into correct collection cylinders. The system must be "flooded" with OFN (oxygen-free nitrogen) for the unit to remain safe. It may be necessary to repeat the procedure several times. For this task, neither compressed air nor oxygen may be used.

Flooding may be achieved by disrupting the vacuum in the system with the use of OFN, and by continued filling until the operating pressure is achieved, then venting into the atmosphere and finally lowering to a vacuum. This process must be repeated if refrigerant still remains in the system. When the last OFN cartridge is used, the system must be ventilated to atmospheric pressure to enable work to be performed. This activity is absolutely necessary if hard soldering is to be performed on the pipes.

It is necessary to ensure that the vacuum pump outlets are not nearby to any ignition source, and ventilation must be provided.

8. Filling procedure

Apart from conventional filling procedures, also the following requirements must be adhered to.

- It is necessary to ensure that no contamination by various refrigerants occurs when the filling device is used. Hoses or pipes must be as short as possible to minimise the amount of refrigerant contained inside of them.
- Cylinders must be held vertically.
- It is important to ensure that the cooling system is grounded prior to being filled with refrigerant.
- When filling is complete, the system must be marked with a label (if it does not have one already).
- It is necessary to pay extreme care to ensure that the cooling system is not overfilled. A pressure test using OFN must be performed before refilling the system. In the case of a leak, the system must be tested after being refilled but also before being put into operation. A verification test must be performed before leaving the installation location.

9. Taking out of operation

Prior to performing this procedure it is essential that the technician fully acquaints him/herself with the device and all its particulars. Correct practice of safely collecting all refrigerant is recommended. Prior to performing this activity, oil and refrigerant samples must be taken if an analysis is required prior to using the using the regenerated refrigerant for the first time. It is essential that prior to starting this activity that electricity is available.

- a) Acquainting one's self with the device and its activity.
- b) Electrical disconnection of the system.
- c) Prior to starting the procedure, ensure that:
 - if required, mechanical device for handling the cylinder with refrigerant is available;
 - all personal protective devices are available and used correctly;
 - the collection process is constantly under the supervision of a competent person;
 - the collection device and cylinders comply with respective norms.
- d) Pump out the cooling system if possible.
- e) If achieving vacuum is not possible, collection pipes are created to enable the collection of refrigerant from various parts of the system.
- f) Ensure that the cylinder is placed on the scale before the collection of refrigerant is started.
- g) The collection device is turned on and runs according to the manufacturer's instructions.
- h) Cylinders are not overfilled. (No more than 80% of liquid content capacity).
- i) The maximum operating pressure of the cylinder is not exceeded, even temporarily.
- j) When the cylinders are properly filled up and the procedure is complete, ensure that the cylinders and devices are immediately removed from the installation location and that all the separation valves on the device are closed.
- k) The collected refrigerant must not be filled into a different cooling system until it is cleaned and checked.

10. Marking with a label

The appliance must be marked with a label indicating that it has been put out of operation and is without refrigerant. The label must be dated and signed. It is ensured that there are labels on the appliance indicating that it contains flammable refrigerant.

11. Collection

When the refrigerant is collected from the system, either due to servicing or when it is put out of operation, it is recommended to adhere to proper practice and safely collect all the refrigerant.

When the refrigerant is transferred into the cylinders, it is necessary to ensure that appropriate cylinders for collecting refrigerant are used.

It is necessary to ensure that there is a sufficient number of cylinders available to contain the complete contents of the system. All the cylinders that are to be used must be intended for collecting refrigerant and be marked with a label for this refrigerant (i.e. special cylinders for collecting refrigerant). The cylinders must be complete with a safety valve and associated closing valves in good working condition. The empty collection cylinders are pumped empty and if possible cooled prior to collecting refrigerant.

The collection device must be in good operating condition with a set of manuals relating to the device, which are on hand and it must be suitable for collecting flammable refrigerants. Apart from this, a set of calibrated scales in good operating condition must also be available. Hoses must be complete with couplers without seepage and in good condition. Prior to using the collection device, check that it is in satisfactory operating condition, has been properly maintained and all the associated electrical components are sealed to prevent ignition in the event of refrigerant being released. If in any doubt, consult the manufacturer.

The collected refrigerant must be returned to the refrigerant supplier in the correct collection cylinder and with a respectively arranged waste transport letter. Refrigerants are not mixed in the collection units and especially not in the cylinders.

In the event that compressors or compressor oils are to be collected, ensure that they are pumped out to an acceptable level in order to ensure that flammable refrigerant does not remain in the lubricant. The pump discharge process must be performed before the compressor is returned to the supplier. To speed up this process, only electrically heated compressor elements may be used. When the oil is drained from the system, it must be disposed of safely.

TECHNICAL SPECIFICATIONS

	SDH 2020WH
Power supply	220 - 240 V ~ 50 Hz
Dehumidification capacity	20 l / 24 h
Rated input power	440 W
Rated current	2.3 A
Energy factor EEV	2.3 l / kWh
Starting current	10.0 A
Fuse type and current value	T3.15A
Condensate tank capacity	3 l
Refrigerant type and weight	R290 / 75 g
GWP (global warming potential)	3
Equivalent CO ₂	0.000225 tonnes
Air flow volume	168/125/99 m ³ /h (high / medium / slow fan speed)
Noise level	58/43/41 dB (A) (high / medium / slow fan speed)
Dimensions	350 × 245 × 510 mm
Weight net / gross	15.1/16.2 kg
Operating temperature	5 - 32 °C
Recommended room area	37 - 52 m ²

The declared noise emission level of the appliance is 58 dB(A), which represents a level A of acoustic power with respect to a reference acoustic power of 1 pW.

We reserve the right to change text and technical specifications.

INSTRUCTIONS AND INFORMATION REGARDING THE DISPOSAL OF USED PACKAGING MATERIALS

Dispose of used packaging material at site designated for waste in your municipality.

DISPOSAL OF USED ELECTRICAL AND ELECTRONIC EQUIPMENT



This symbol on products or original documents means that used electric or electronic products must not be added to ordinary municipal waste. For proper disposal, renewal and recycling hand over these appliances to determined collection points. Alternatively, in some European Union states or other European countries you may return your appliances to the local retailer when buying an equivalent new appliance.

Correct disposal of this product helps save valuable natural resources and prevents potential negative effects on the environment and human health, which could result from improper waste disposal. Ask your local authorities or collection facility for more details.

In accordance with national regulations penalties may be imposed for the incorrect disposal of this type of waste.

For business entities in European Union states

If you want to dispose of electric or electronic appliances, ask your retailer or supplier for the necessary information.

Disposal in other countries outside the European Union.

This symbol is valid in the European Union. If you wish to dispose of this product, request the necessary information about the correct disposal method from the local council or from your retailer.



This product meets all the basic requirements of EU directives related to it.