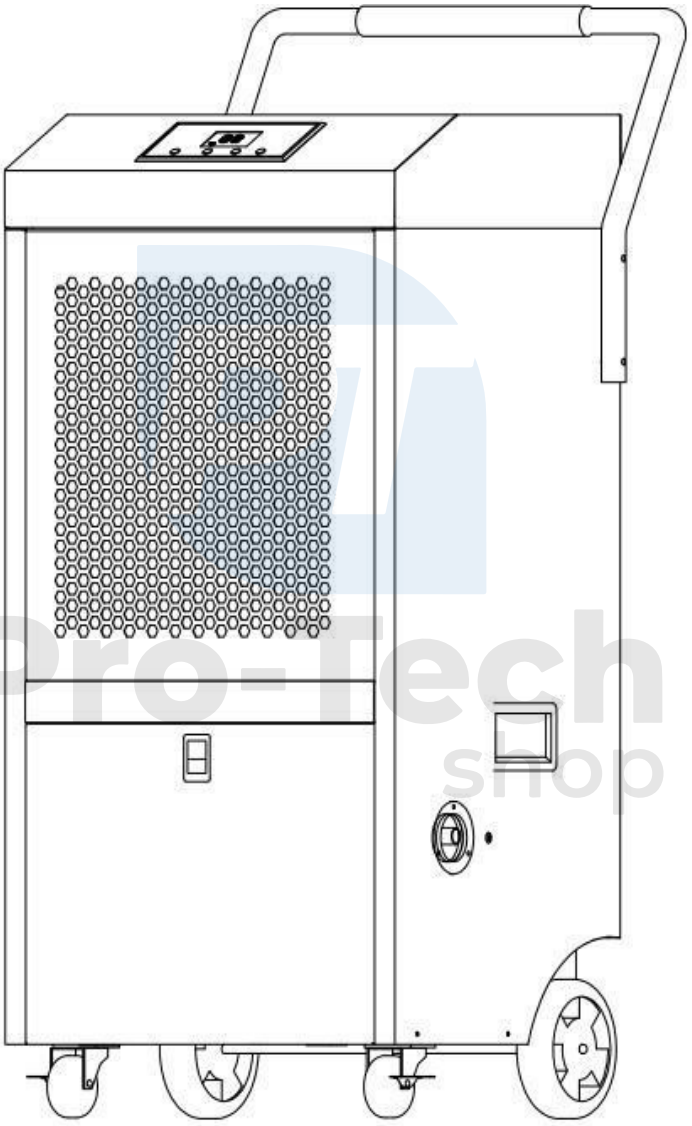
Pro-Tech TOOLS

Pro-Tech TOOLS Industrial Dehumidifier



User manual

Translation of the original manual

1.1 SYMBOLS IN THE INSTRUCTION MANUAL AND USER GUIDE



This appliance uses a flammable refrigerant. If the refrigerant leaks and comes into contact with fire or a hot surface, a harmful gas will be produced and there is a risk of fire.



Please read the INSTRUCTIONS FOR USE carefully before operation.



Service personnel must read the INSTRUCTIONS FOR USE carefully before starting operation.

FOR SAFETY REASONS, THE FOLLOWING MUST ALWAYS BE OBSERVED

- This appliance is intended for use by professional or trained users in light industrial workshops and on farms, or for commercial use by laypeople.
- This appliance is suitable for use by children aged 8 years and above and by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, provided they are supervised or have been given instructions on how to use the appliance safely and understand the risks involved. Children must not play with this appliance. Cleaning and maintenance must not be carried out by children without supervision.
- The appliance is intended exclusively for use with R-290 (propane) as the specified refrigerant.
- The refrigeration circuit is hermetically sealed. Maintenance must only be carried out by a qualified technician!
- Do not release the refrigerant into the atmosphere
- R-290 (propane) is flammable and heavier than air.
- It accumulates in low-lying areas but can be dispersed by fans.
- If propane is present, or if its presence is suspected, do not allow untrained personnel to attempt to identify the cause.
- The propane gas used in the unit is odourless.
- The absence of odour does not mean that there is no gas leak.
- If you detect a leak, immediately evacuate everyone from the room, ventilate the area and contact the local fire brigade to inform them of the propane leak.
- Do not allow anyone to re-enter the room until a qualified service technician arrives and confirms that it is safe to do so.
- Open flames, cigarettes or other potential sources of ignition must not be used inside or near the units.
- The components are designed for propane and are non-flammable and non-sparking. The components must only be replaced with identical spare parts.

FAILURE TO OBSERVE THIS WARNING MAY RESULT IN AN EXPLOSION, DEATH, INJURY AND PROPERTY DAMAGE.



Please read this manual carefully and familiarise yourself thoroughly with it before using the equipment.

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2.1 SAFETY PRECAUTIONS

WARNING – to reduce the risk of fire, electric shock, personal injury or damage to property:

- If the power cable is damaged, it must be replaced by the manufacturer, their authorised service representative, or a similarly qualified person to avoid any risk.
- The A-weighted sound pressure level is less than 58 dB.
- The appliance must be disconnected from the mains during servicing.
- Always operate the appliance from a power supply with the same voltage, frequency and rated power as stated on the product's rating plate.
- Always use an earthed electrical socket.
- When cleaning, or when the appliance is not in use, disconnect the power cord from the socket.
- Do not operate the device with wet hands. Prevent water from entering the device.
- Do not immerse the device in water or expose it to rain, moisture or other liquids.
- Do not leave the appliance running unattended. Do not tilt or overturn the appliance.
- Do not pull the plug out of the socket whilst the appliance is in use.
- Do not pull the plug out of the socket by pulling on the power cable.
- Do not use an extension lead or adapter.
- Do not place any objects on the appliance.
- Do not climb on or sit on the appliance.
- Do not insert your fingers or other objects into the air outlet.
- Do not touch the air intake or the aluminium fins of the appliance.
- Do not use the appliance if it has been dropped, is damaged or shows signs of malfunction.
- Do not clean the appliance with any chemicals.

- Ensure that the appliance is kept away from fire, flammable or explosive materials.
- The appliance must be installed in accordance with national regulations on electrical installations.
- To speed up defrosting or cleaning, do not use any products other than those recommended by the manufacturer.
- The appliance must be stored in a room free from sources of continuous heat (e.g. open flames, switched-on gas appliances or switched-on electric heaters).
- The equipment must be stored in such a way as to prevent mechanical damage.
- Do not store or burn, even after use.
- Please note that refrigerants may be odourless.
- Pipes must be protected from physical damage and must not be installed in an unventilated room if its area is less than 14 m².
- National gas regulations must be observed.
- Keep all necessary ventilation openings clear of obstructions.
- The unit must be stored in a well-ventilated area where the room size corresponds to the room area specified for operation.



Any person involved in work on a refrigeration circuit, or in its dismantling, must hold a valid certificate from an accredited assessment body, confirming their competence to handle refrigerants safely in accordance with recognised industry specifications.



Maintenance may only be carried out by the equipment manufacturer. Maintenance and repairs requiring the assistance of additional qualified personnel must be carried out under the supervision of a person authorised to use flammable refrigerants.

2.2 SAFETY PRECAUTIONS DURING MAINTENANCE

Observe the following warnings when maintaining equipment containing R290 refrigerant.

2.2.1 Check the surroundings

Before commencing work on systems containing flammable refrigerants, safety checks must be carried out to minimise the risk of ignition. When repairing a refrigeration system, the following safety precautions must be observed before carrying out any work on the system.

2.2.2 Work procedure

Work must be carried out in accordance with a controlled procedure to minimise the risk of flammable gas or vapour being present whilst work is in progress.

2.2.3 General work area

All maintenance staff and other persons working in the area must be briefed on the nature of the work being carried out. Work in confined spaces must be avoided. The area around the work site must be cordoned off. Ensure that conditions in the area are safe by checking for flammable materials.

2.2.4 Check for the presence of refrigerant

Before work begins and whilst it is in progress, the area must be checked using a suitable refrigerant detector to ensure that the technician is aware of the possible presence of flammable atmospheres. Ensure that the leak detection equipment used is suitable for use with flammable refrigerants, i.e. it does not produce sparks, is sufficiently sealed, or is spark-proof.

2.2.5 Availability of fire extinguishers

If hot work is to be carried out on the refrigeration equipment or any associated parts, suitable fire-extinguishing equipment must be readily available. Keep a dry powder or CO2 fire extinguisher near the work area.

2.2.6 No sources of ignition

No person carrying out work on the refrigeration system which involves exposing piping containing, or having previously contained, flammable refrigerant must use any sources of ignition in a manner that could lead to a risk of fire or explosion. All potential ignition sources, including smoking, should be kept at a sufficient distance from the site of installation, repair, dismantling and disposal, during which flammable refrigerant may leak into the surrounding area. Before commencing work

Whilst work is being carried out, the area around the equipment must be checked to ensure that there are no flammable materials present and that there is no risk of ignition. Signs bearing the words ‘No smoking’ must be displayed.

2.2.7 Ventilated area

Before entering the system or carrying out any hot work, ensure that the area is open or adequately ventilated. During the work is being carried out, adequate ventilation must be ensured. Ventilation should safely disperse any released refrigerant and, ideally, discharge it into the open air.

2.2.8 Inspections of the refrigeration system

If electrical components are replaced, they must be suitable for the intended purpose and meet the correct specifications. The manufacturer’s instructions regarding maintenance and servicing must always be followed. If in doubt, contact the technical department for assistance.

For installations using flammable refrigerants, the following checks must be carried out:

– The charge size corresponds to the size of the room in which the refrigerant-containing parts are installed;
– Ventilation equipment and outlets are functioning correctly and are not blocked;
– If an indirect cooling circuit is used, check that there is refrigerant in the secondary circuit;
– The equipment markings must remain visible and legible. Any markings or inscriptions that are illegible must be corrected;
– Refrigerant piping or components are installed in a position where they are unlikely to be exposed to any substance that could cause corrosion of components containing refrigerant, unless the components are made of materials that are naturally resistant to corrosion or are suitably protected against corrosion.

2.2.9 Inspections of electrical equipment

Repairs and maintenance of electrical components must include initial safety checks and component inspection procedures. If a fault occurs that could compromise safety, no power supply must be connected to the circuit until the fault has been satisfactorily rectified. If the fault cannot be rectified immediately but operations must continue, an appropriate temporary solution must be implemented. This must be reported to the owner of the facility so that all parties concerned are informed.

Initial safety checks must include:

- these capacitors are discharged: this must be carried out in a safe manner to prevent any potential sparking;
-that no live electrical components or wiring are exposed during charging, recharging or flushing of the system;
-that earth continuity is ensured.

Install the equipment in rooms with an area greater than 14 m².
Do not install the appliance in a location where flammable gas may leak.

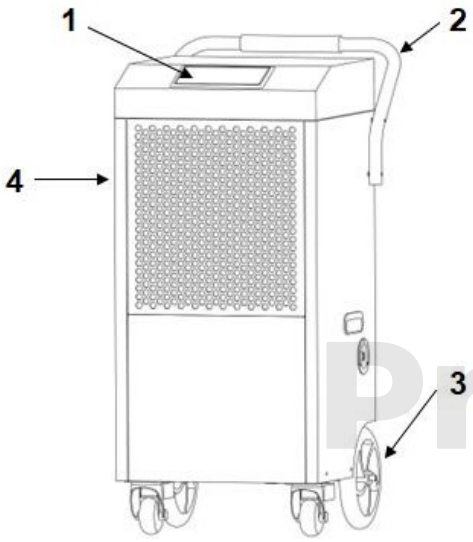
3. FEATURES

- Large capacity
- Portable and easy to store
- Built-in automatic defrost system to protect key operating components
- Adjustable humidity
- Timed start
- Quiet operation
- Energy-efficient design

4. SPECIFICATIONS

Model	BD-138T	BD-168T
Dehumidification capacity (per day)	160 l	190 l
Motor power	1800W	2000W
Airflow	995 m³/h	1100 m³/h
Operating temperature	5 to 38°C	5 to 38°C
Working area	195 m²–550 m²	220 m²–750 m²

5. PRODUCT DESCRIPTION



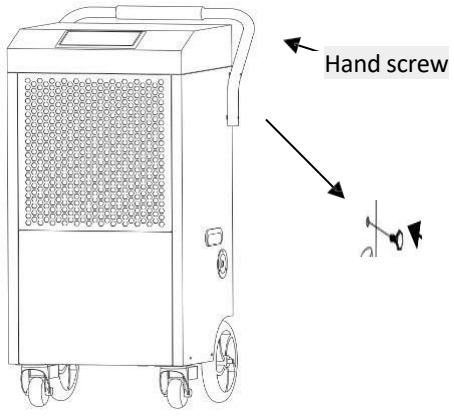
1. Control panel
2. Push handle
3. Wheels
4. Air intake

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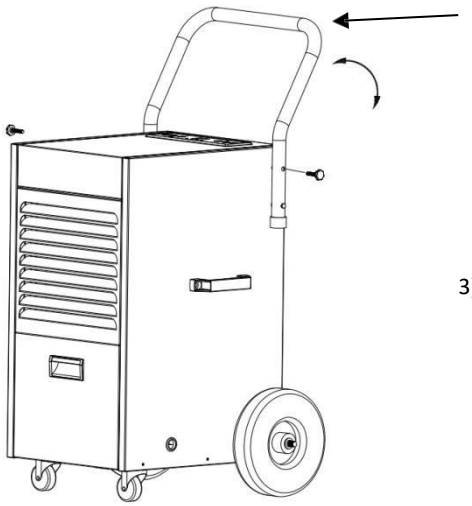
6. INSTALLATION

6.1 Installation before use

1) Remove the machine from its packaging and remove the set screw.



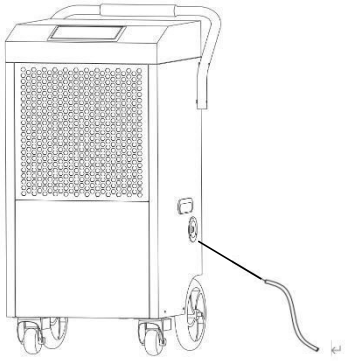
2) Turn the push handle, align it with the opening, and then tighten the hand screws



3) Installation complete

6.2 Installation of the drain pipe

1) Before starting the machine, fit the supplied drain hose to the drain nozzle on the machine and direct the hose to the desired area.
2) The unit will also emit a buzzing sound. To stop this sound, press the power button to switch the machine off.

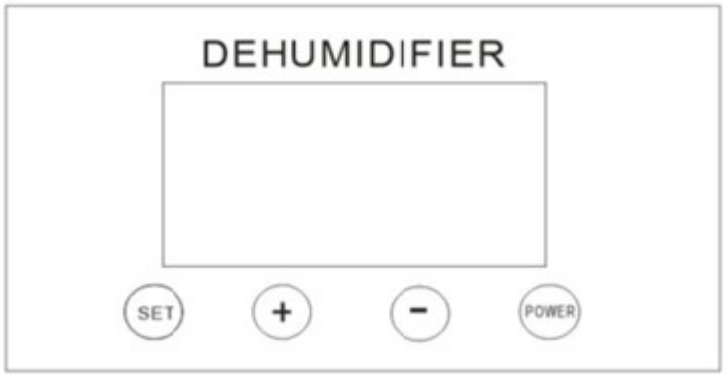


Continuous dehumidification

1. Connect the supplied water hose to the pipe on the side of the dehumidifier. Direct the other end into the drain. The dehumidifier will automatically drain water when necessary.

• WARNING: Do not block the drain hose. The end of the drain hose should not be higher than the outlet. If the end of the drain hose is higher than the outlet, the water will not drain properly and may damage the appliance's components.

7. SETTING UP AND OPERATING THE MACHINE



7.1 Button function



(1) Press this button when the appliance is connected to the mains and the display is lit. The appliance will automatically switch to continuous operation mode, the ambient humidity will be shown on the display, and the compressor will switch on after the fan has been running for 3 seconds. Pressing

Pressing this button will stop the compressor; the display will show "- -", the unit will enter standby mode, the fan will continue to run for one minute and then stop.

(2) Press this button whilst the unit is running until the button indicator lights up. After pressing the setting button, you can select between the unit's two modes: 'humidity' and 'time'. Use the plus and minus buttons to set the desired time and humidity

(3) Increase the humidity by pressing this button in normal mode; the humidity will increase by 5% RH with each press, and a beep will sound each time; press and hold the button for 1 second to increase the humidity continuously; press this button to set the time after pressing "SET".

(4) Press this button in normal mode to reduce the humidity; the humidity will decrease by 5% RH with each press, and a buzzer will sound each time; press and hold the button for 1 second to reduce the humidity continuously; press this button to set the time after pressing "SET".

Note:

1) The default humidity is 50% RH; the settings increase and decrease as follows: 20% – 25% – 30% – 35% – 40% – 45% – 50% – 55% – 60% – 65% – 70% – 75% – 80% – 85%–90%

2) The ambient humidity and the set humidity of the unit determine the status of the compressor and fan as follows:

Ambient humidity ≥ set humidity + 3%, the compressor and fan start up.

Ambient humidity < set humidity + 3%, the compressor and fan stop running.

Press the Continue button in continuous mode, switch to normal dehumidification mode and set the humidity manually.

7.2 Defrost function

1) Temperature: Temperature **<** 5 ℃, or ambient temperature > 38 ℃, the compressor and fan will stop.

2) Defrosting requirement: The compressor runs for 30 minutes; the temperature sensor detects a temperature of ≤-1 ℃ (for 10 seconds), the compressor stops, defrosting begins, the fan continues to run, the defrost indicator light comes on; when the pipe temperature reaches 5 ℃, or defrosting has lasted for 15 minutes, defrosting stops.

Note: During defrosting, the indicator light will not go out until defrosting is complete.

8. ERROR

(1) "E1": If the temperature sensor fails, "E1" will be displayed. The system operates in a cycle of dehumidification for 30 minutes and defrosting for 15 minutes. The faulty temperature sensor must be replaced with a new one.

(2) "E2": If the humidity sensor has failed, "E2" will be displayed. The humidity adjustment button will not work. The system operates in a cycle of 30 minutes of dehumidification followed by 15 minutes of defrosting. You should replace the faulty humidity sensor with a new one.

(3) "CL": If the room temperature is below 5 °C, "CL" will be displayed and the unit will stop.

(4) "CH": If the room temperature is > 38 °C, "CH" will be displayed and the unit will stop.

(5) "LO": If the humidity in the room is < 20% RH, "LO" will be displayed and the unit will stop.

(6) "HI": If the humidity in the room is ≥ 95% RH, "HI" will be displayed and the unit will operate normally.

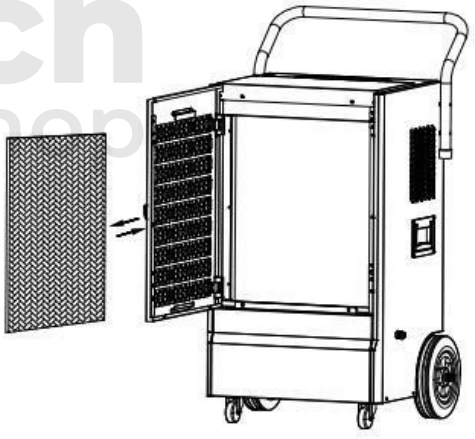
9. MAINTENANCE

9.1 Clean the unit with a soft, damp cloth.

9.2 Pull out the grille on the front panel to access the filter.

9.3 Remove the filter mesh from the unit.

9.4 Use a clean cloth to remove dust from the surface of the filter mesh.



If the filter is very dirty, rinse it under running water. Allow the filter to dry completely before returning it to the air intake grille. A clean filter will improve the appliance's performance.

10. STORING THE MACHINE

If you are not going to use the appliance for a long time, store it as follows:

(1) Clean the filter mesh.

(2) CAUTION: Before packing the appliance away, you must dry the evaporator inside the appliance to prevent damage to components and the growth of mould.

Unplug the device and place it in a dry, open space for a few days to allow it to dry out. Another way to dry the device is to set the humidity level to more than 2% higher than the ambient humidity, which will force the fan to dry the evaporator for several hours.

(3) Roll up the power cable, tie it together and tuck it into the pocket on the back of the device.

(4) Store in a clean, dry place.

11. TROUBLESHOOTING

Problem	Cause	Solution
The machine is not working	The appliance is not plugged into the socket	Plug the appliance into the socket
	The room temperature is below 5 degrees or above 35 degrees.	To protect the appliance, only use it when the ambient temperature is between 5 and 35 degrees.
The appliance is running but is not dehumidifying	When the set humidity level is 2% higher than the ambient humidity.	Set the humidity to a lower value, or switch off the unit if you are satisfied with the humidity.
Reduced dehumidifier capacity	Clogged filter mesh	Clean the filter mesh according to the instructions
	Blocked air inlet and/or outlet grilles.	Remove any blockages from the air inlet and/or outlet grilles.
No air intake	Clogged filter mesh or air inlet grille.	Clean the filter according to the instructions, or clear the blockage from the grille

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Noisy operation	The machine is placed on an uneven surface	Move it to a level surface
	Clogged filter mesh.	Clean the mesh as per the instructions

Warnings: If any unusual situation occurs, switch off the appliance and unplug it immediately. Then contact a qualified electrician.

Do not dispose of electrical appliances as unsorted household waste; please use the facilities for separate collection. You can obtain information about available waste collection schemes from your local council.

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