

RHINO

DH50L 50LTR INDUSTRIAL DEHUMIDIFIER 800W

110V

OPERATING INSTRUCTIONS

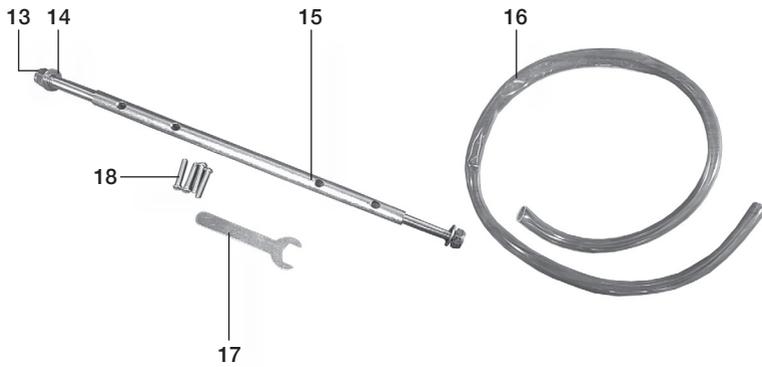
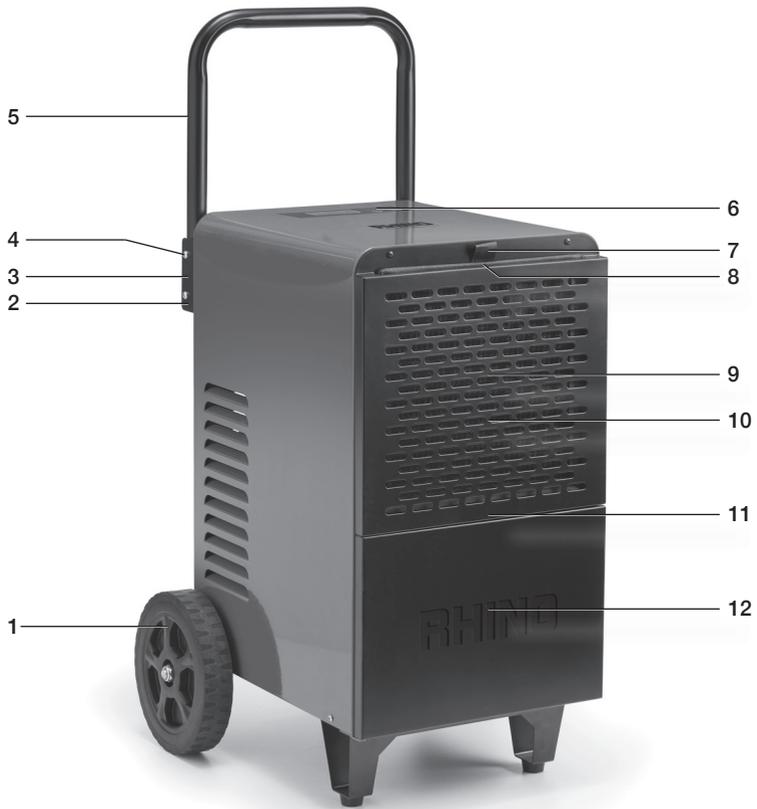


RHINO DH50L: H03606



RHINO - Designed and distributed by Toolstream Ltd.

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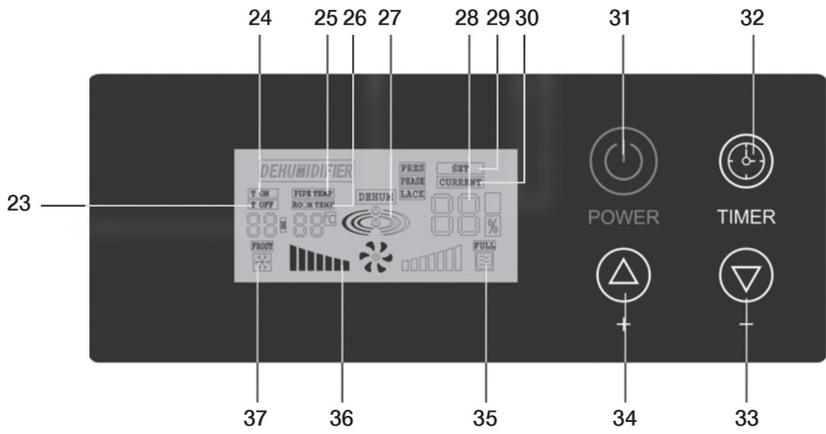


Fig. I

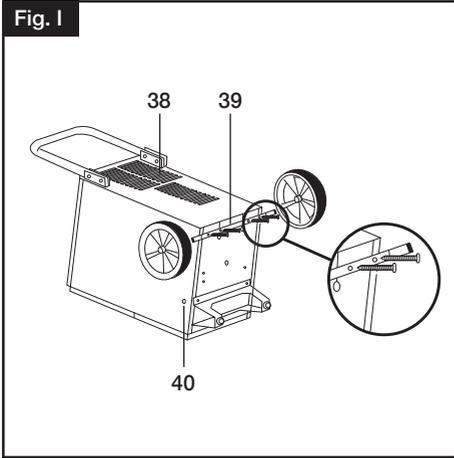


Fig. II

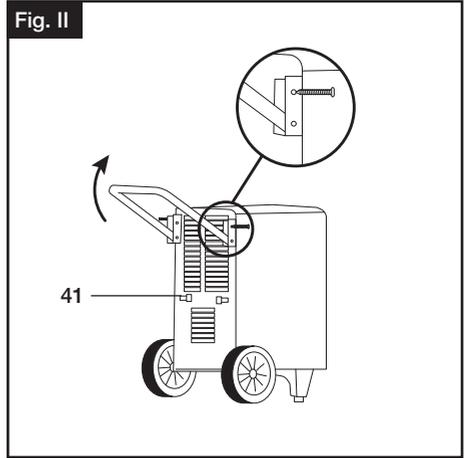
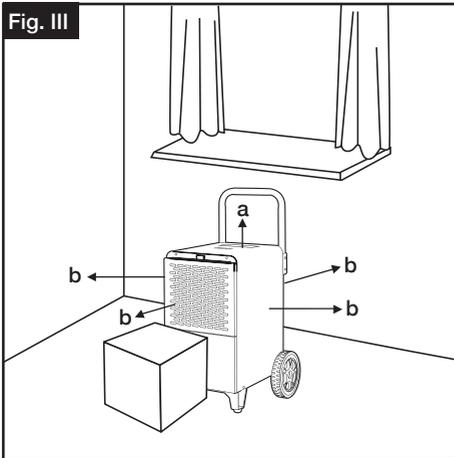


Fig. III



- a. Minimum 100cm
- b. Minimum 50cm

Introduction

Thank you for purchasing this Rhino product. This manual contains information necessary for safe and effective operation of this product. This product has unique features and, even if you are familiar with similar products, it is necessary to read this manual carefully to ensure you fully understand the instructions. Ensure all users of the product read and fully understand this manual. Keep these instructions with the product for future reference.

Description of Symbols

The rating plate on your appliance may show symbols. These represent important information about the product or instructions on its use.



- Wear hearing protection
- Wear eye protection
- Wear breathing protection
- Wear head protection



- Wear hand protection



- WARNING** – To reduce the risk of injury, user must read instruction manual



- Class I construction (protective earth)



- Conforms to relevant legislation and safety standards



- Caution, risk of fire



- Caution!



- Environmental Protection**
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

Technical Abbreviations key

V	Volts
~	Alternating current
A, mA	Ampere, milli-Amp
Hz	Hertz
W, kW	Watt, kilowatt
m³/hr	Cubic metres per hour
rpm	Revolutions per minute
min⁻¹	Operations per minute
MPa	Megapascal

Specification

Voltage:	110V 50Hz
Power:	.600W (27°C, RH 60%) .800W (30°C, RH 80%)
Water tank capacity:	.7Ltr
Dehumidification rate:	.50L/day (30°C, RH 80%)
Operational ambient temperature range:	.5 - 35°C
Preferred operational ambient temperature range:	.15 - 32°C
Refrigerant/charge:	R290/200g
Refrigerant permissible excessive operating pressure:
.....	Suction: 1.0MPa
.....	Discharge: 2.5MPa
Minimum room size:	.15m ²
Protection class:	⊕
Ingress protection:	IP22
Dimensions (L x W x H):	.480 x 450 x 655mm
Noise level:	56dB
Cord length:	1.6m
Drainage hose length:	1m
Drainage hose internal diameter:	.12mm
Weight:	.30kg

Appliance Safety Warnings

Note: This appliance can be used by children aged 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.**

⚠ WARNING: Read all safety warnings, instructions, illustrations and specifications provided with this appliance. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "appliance" in the warnings refers to your mains-operated (corded) appliance or battery-operated (cordless) appliance.

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- a) Keep appliance away from heat, sharp objects, oil and other hazards.
 - b) Do not place the cord under carpets or other textile coverings such as clothes or dust sheets.
 - c) Do not place the cord in areas where it may pose a trip hazard.
 - d) Do not use the appliance if the cable or plug is damaged.
 - e) Do not use the appliance if the switch does not turn it ON and OFF. Any appliance that cannot be controlled with the switch is dangerous and must be repaired.
 - f) Ensure appliance is switched OFF before connecting to mains power supply.
 - g) Disconnect the plug from the source and/or remove the battery pack, if detachable, from the appliance before making any adjustments, changing accessories, or storing appliances. Such preventive safety measures reduce the risk of starting the appliance accidentally.
 - h) Store idle appliances out of the reach of children and do not allow persons unfamiliar with the appliance or these instructions to operate the appliance. Appliances are dangerous in the hands of untrained users.
 - i) Maintain appliances and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the appliance's operation. If damaged, have the appliance repaired before use. Many accidents are caused by poorly maintained appliances.
 - j) Children must not play with the appliance. Cleaning and user maintenance must not be made by children without supervision.
 - k) DO NOT use appliance in wet or damp conditions, such as in bathrooms.
 - l) DO NOT touch appliance switch, controls, cabling, plug or connection with wet hands.
 - m) When moving from one place to another, consider the weight of the machine.
- 1) Electrical safety
- a) Appliance plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) appliances. Unmodified plugs and matching outlets will reduce risk of electric shock.
 - b) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the appliance. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
 - c) When used in Australia or New Zealand, it is recommended that this appliance is ALWAYS supplied via Residual Current Device (RCD) with a rated residual current of 30mA or less.
 - d) Use proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.
 - e) Always check that the power supply corresponds to the voltage on the rating plate. The electric motor is designed for a single voltage only.
 - f) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- 2) Service
- a) Have your appliance serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the appliance is maintained.

Dehumidifier Safety Warnings

- a) Do not place heavy objects on dehumidifier.
- b) Ensure appliance is on a level surface. Failure to do so may cause leakage.
- c) Never insert any object or body part into dehumidifier body.
- d) Switch off appliance before disconnecting power. Do not turn off by pulling out the plug.
- e) Do not use flammable substances such as deodorant or insecticide spray near the dehumidifier.
- f) Do not immerse the dehumidifier in water or other liquid.
- g) Do not incline dehumidifier over 45° or turn upside down.
- h) Do not hang curtains or wet fabric in front of the air outlet. This may cause the appliance to overheat.
- i) Do not perforate any of the components in the refrigerant circuit. Refrigerant gas may be odourless.
- j) Do not use in spaces where there is a high concentration of gases, solvents or volatile organic compounds.
- k) Do not use in any environment where the air composition is flammable.

Even when used as prescribed it is not possible to eliminate all residual risk factors. Use with caution. If you are at all unsure of the correct and safe manner in which to use this appliance, do not attempt to use it.

Product Familiarisation

1. Wheels
2. 2 x Lower Handle Bolts
3. Main Handle Bracket
4. 2 x Upper Handle Bolts
5. Main Handle
6. Display
7. Filter Tab
8. Filter Slot
9. Filter
10. Air Intake
11. Filter Screen
12. Water Tank Panel
13. Wheel Nut
14. Washer
15. Wheel Axle
16. Drainage Hose
17. Spanner
18. Wheel Axle Bolts
19. Water Tank
20. Water Plug
21. Hose Nozzle
22. Water Outlet
23. 'T OFF' Symbol
24. 'T ON' Symbol
25. Pipe Temperature Symbol
26. Room Temperature Symbol
27. Dehumidification Indicator
28. Humidity Indicator
29. Set Symbol
30. Current Humidity Symbol
31. Power Button
32. Timer Button
33. Minus Button
34. Plus Button
35. Full Tank Icon
36. Fan Indicator
37. Defrost Icon

Fig. I

38. Air Outlet
39. Pedal
40. Drainage Hose Port

Fig. II

41. Cord Storage Hooks

Intended Use

Dehumidifier for extraction of water from surrounding air. Prevents build-up of mould and mildew. Timed start and shutdown and auto defrost functions. Removable, washable filter.

The tool must ONLY be used for its intended purpose. Any use other than those mentioned in this manual will be considered a case of misuse. The operator, and not the manufacturer, shall be liable for any damage or injury resulting from such cases of misuse. The manufacturer shall not be liable for any modifications made to the tool, nor for any damage resulting from such modifications.

Unpacking Your Appliance

- Carefully unpack and inspect your product. Fully familiarise yourself with all its features and functions.
- Ensure all parts of the product are present and in good condition.
- If any parts are missing or damaged, have such parts replaced before attempting to use this product.

Before Use

IMPORTANT: When choosing the location for the dehumidifier, a space of 100cm above and 50cm around each edge (see Fig. III) must be left clear.

- The dehumidifier should be operated on a level, smooth surface to reduce vibration and noise
- To further reduce vibration and noise, the dehumidifier may be placed on rubber anti-vibration pads or mat
- Ensure the Water Tank (19) is empty before turning on the appliance
- Close all doors and windows in the area of intended use for maximum effect and to conserve energy

Note: At colder temperatures and lower humidities, a decreased dehumidifying effect may be observed. This is normal and does not constitute a fault.

Before first use

Wheel installation

1. Tilt dehumidifier body to allow access to base.
2. Remove Wheel Nuts (13) and Washers (14) from Wheel Axle (15) using the Spanner (17).
3. Fix Wheel Axle to body as shown (Fig. I) with Wheel Axle Bolts (18).
4. Position Wheels (1) on both sides of Wheel Axle.
5. Place Washers and secure with Wheel Nuts. Ensure fasteners are tightened.
6. Return the dehumidifier to an upright position.

Main Handle installation

1. Unscrew the Upper Handle Bolts (4) from the Main Handle Bracket (3) (Fig. II)
2. Swing the Main Handle (5) into operational position as shown in main product image
3. Use Lower Handle Bolts (2) to fix handle in Main Handle Bracket

IMPORTANT: After installing handle and wheels, ensure dehumidifier is upright and leave for 2 hours before switching the power on. This will allow the gas to settle before use.

Operation

Switching ON & OFF

To turn the dehumidifier ON or OFF, press the Power Button (31).

When the appliance is switched on, the compressor will not run until 3 seconds have passed. When the appliance is switched off, the fan will run for 3 seconds afterwards.

Note: If the power to the dehumidifier is cut without the appliance being turned off first, the appliance will revert to the mode selected before the outage when switched back on.

Timed automatic start

To set the dehumidifier automatic start time follow the steps below.

1. Ensure dehumidifier is OFF.
2. Press Timer Button (32). The 'T ON' Symbol (24) and currently set time will flash on the Display (6).
3. Press the Plus Button (34) or Minus Button (33) to select time required in hourly increments between 00 - 24 hours. Hold to move through times quickly.
4. When the Timer Button is left for at least 10 seconds, the automatic start time will set. The set time will stop flashing. The 'T ON' symbol will remain until the setting is cancelled or when the program is complete.
5. When the dehumidifier reaches the time set, it will turn ON automatically.

Timed automatic shutdown

To set the dehumidifier automatic shutdown time follow the steps below.

1. Ensure dehumidifier is ON.
2. Press Timer Button (32). The 'T OFF' Symbol (23) will illuminate and the currently set time will flash on the Display (6).
3. Press the Plus Button (34) or Minus Button (33) to select time required in hourly increments between 00 - 24 hours. Hold to move through times quickly.
4. When the Timer Button is left for at least 10 seconds, the automatic shutdown time will set. The set time will stop flashing. The 'T OFF' symbol will remain until the setting is cancelled or when the program is complete.
5. When the dehumidifier reaches the time set, it will turn OFF automatically.

To cancel either setting, use the Minus Button (33) to reduce the time to '00H'.

Drainage

When the Water Tank (19) is full, the appliance will automatically shut down. The Full Tank Icon (35) will be displayed and an alarm will sound.

Direct drainage

To drain the dehumidifier tank directly, carry out the steps below.

1. Disconnect the dehumidifier from the power supply.
2. Open Water Tank Panel (12) and remove Water Tank (19).
3. Locate Water Outlet (22) and unscrew Hose Nozzle (21) so that the water can flow from the outlet.
4. Screw Hose Nozzle back on. Ensure nozzle and Water Plug (20) are secure to prevent leaks.
5. Empty tank and replace correctly.

Close Water Tank Panel. The dehumidifier is now ready to be reconnected to the power and used again.

Alternatively, follow the continuous drainage instructions to allow water to drain into another container or waste waterway.

Continuous drainage

To set up the Water Tank (19) for continuous drainage follow the steps below.

1. Disconnect the dehumidifier from the power supply
2. Open Water Tank Panel (12) and remove the tank
3. Ensure the tank is empty

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4. Push the Drainage Hose (16) through the Drainage Hose Port (40)
5. Locate the Water Outlet (22), Water Plug (20) and Hose Nozzle (21)
6. Remove the Water Plug
7. Push the Drainage Hose onto the Hose Nozzle until secure
8. Replace Water Tank and close Water Tank Panel

To reduce the risk of leakage:

- Do not raise the Drainage Hose above the Water Tank
- Ensure that the Drainage Hose has no blocks or kinks

Modes and functions

Humidity control function

This appliance can regulate the humidity of the area at a selected level. During this mode the humidifier will operate until the specified level is achieved. When the humidity level falls beneath the set relative humidity % value, the compressor and fan will shut down. To set the desired humidity, carry out the steps below.

1. Turn the dehumidifier ON.
2. Use the Plus Button (34) and Minus Button (33) to increase or decrease the relative humidity between 10 – 90%. The Set Symbol (29) will illuminate on the Display (6) and the humidity values will flash.
3. When the Plus Button and Minus Button are left for at least 3 seconds, the humidity will set. The set humidity will stop flashing and the Set Symbol will disappear.

Continuous mode

In continuous mode, the dehumidifier will work to remove moisture from the air as much as possible until it is switched off. To use the appliance in continuous mode, turn the dehumidifier ON and use the Minus Button (33) to set the humidity to the minimum value. The appliance will also operate in continuous mode if there is a fault with the humidity sensor.

Room humidity calibration mode

The room humidity shown on the Display (6) may be different to what is observed at the location where the dehumidifier is being operated. This is due to differences between the environment where the appliance was set up and where the appliance is used. This does not constitute a fault. If the room humidity shown on the Display appears incorrect, recalibrate the appliance following the steps below.

1. Ensure dehumidifier is in standby mode
2. Press and hold the Timer Button (32) for at least 10 seconds
3. When both the Set Humidity Symbol (29) and Current Humidity Symbol (30) illuminate use the Plus Button (34) and Minus Button (33) to set the correct room humidity

Automatic defrost function

When frost builds up on the evaporator coils the compressor will automatically shut down and the dehumidifier will enter defrosting mode for 8 minutes. After the defrost mode ends, the dehumidifier will return to the previously selected settings.

Fault protection mode

The dehumidifier features a fault protection mode that will activate if the appliance detects that the temperature of the refrigeration coil has not reduced according to normal operation, which may indicate a refrigerant leak or blockage. In this case, the unit will enter standby mode and 'Pressure Holding' will be shown on the Display (6). The unit will not operate and will remain in this mode until the fault has been rectified.

Accessories

- A full range of accessories including filters is available from your Rhino stockist
- Spare parts including filters can be obtained from www.toolstream.com

Maintenance

IMPORTANT: Refrigerants can be dangerous when handled by unskilled operators. Do not disassemble. Return to Rhino service agent for repairs and servicing.

⚠ WARNING: Always disconnect from the power supply before carrying out any maintenance/cleaning.

Cleaning

Keep the appliance clean at all times. Dirt and dust will cause internal parts to wear quickly and shorten the device's service life.

Cleaning the Air Intake and Outlet

Take special care to keep the Air Intake (10) clean to prevent excess dust from entering the dehumidifier. Clean the Air Intake and Air Outlet (38) with a soft cloth. A vacuum cleaner may also be used, provided care is taken not to scratch the appliance.

Cleaning the filters

It is important to clean the Filter (9) regularly as if clogged, the dehumidifier will operate less efficiently and damage may be caused. To clean the Filter follow the steps below.

1. Use Filter Tab (7) to slide Filter out of Filter Slot (8)
2. Tap gently to remove loose dust and debris
3. Carefully use a vacuum cleaner or soft brush to deep clean Filter
4. If necessary, wash Filter in warm, soapy water, and leave to dry naturally
5. Once clean and dry, return Filter to its original position

Important: Never use the appliance without the filter installed.

Cleaning the water tank

The Water Tank (19) should be cleaned every 2-3 weeks to prevent the growth of mould and bacteria. Do not use a dishwasher to clean the tank. To clean the Water Tank follow the steps below.

1. Remove the Water Tank and fully drain water. If necessary remove Drainage Hose (16) and replace Water Plug (20) in Hose Nozzle (21).
2. Partially fill Water Tank with clean water and a small amount of mild detergent.
3. Carefully swirl the soapy water around inside the tank.
4. Empty tank and rinse with clean water.
5. Allow to dry naturally and reinstall.

Note: Water Tank must be correctly positioned before use or the dehumidifier will not switch on.

Storage

- Store this appliance carefully in a secure, dry place out of the reach of children
- Store in a well-ventilated area of at least 15m²
- When this appliance is stored for a long period of time ensure it is not exposed to excessive dust, extreme temperatures, UV radiation or direct sunlight

 **WARNING:** Do not store in a room with continuously operating open flames (e.g. an operating gas appliance, such as a hob) or ignition sources (e.g. an operating electric heater).

Long-term storage

If the dehumidifier will not be used for an extended period of time, carry out the following steps.

1. Clean and drain Water Tank (19) completely according to instructions. Allow to dry.
2. Clean and dry Filter (9) according to instructions.
3. Reinstall Water Tank and Filter.
4. Unplug unit and wrap the power supply cord around the Cord Storage Hooks (41). The dehumidifier is now ready for storage.

Contact

For technical or repair service advice, please contact the helpline on (+44) 1935 382 222

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Disposal

Always adhere to national regulations when disposing of appliances that are no longer functional and are not viable for repair.

- Do not dispose of power tools, batteries or other waste electrical and electronic equipment (WEEE), with household waste
- Contact your local waste disposal authority for information on the correct way to dispose of power tools, electrical appliances and batteries

Troubleshooting

Problem	Possible cause	Solution
Dehumidifier does not operate	No power	Check power supply is fully functional and socket is switched on
	Defective control	Have control panel replaced by an authorised Rhino service centre
	Blown fuse	Replace fuse
	Defective power supply	Have power supply replaced by an authorised Rhino service centre
	Water Tank (19) full or not in correct position	Empty Water Tank and position correctly
	The ambient temperature is below 5°C or above 35°C	This dehumidifier functions in temperatures between 5 - 35°C
	Machine is defrosting	Wait for defrosting cycle to complete
Dehumidifier does not remove humidity effectively	Room temperature or humidity too low	At low humidity or temperature dehumidification is reduced
	Air outlet/intake blocked	Clean filters according to instructions
	Area is not enclosed	Close any doors and windows
Air not blown out	Air outlet/intake blocked	Clean filters according to instructions
	Dehumidifier unstable/not level	Place dehumidifier on a smooth, level surface
Warm air blown from outlet	This is normal during dehumidifying cycles	No action required
Cold air blown from outlet	This is normal during defrost cycles	No action required
Noise is abnormal during operation	Air outlet/intake blocked	Clean filters according to instructions
Noise is abnormal during operation ('tittering' sound)	Sound of normal flow of refrigerant	No action required
Water leakage	Loose Drainage Hose (16) connection	Tighten Drainage Hose
	Water Outlet (22) or Drainage Hose blocked	Remove blockage / straighten pipe where necessary
E1	Coil fault	Manually activate defrost function. Allow defrost cycle to complete. If normal operation is still not possible, contact your Rhino service agent
E2/3	Humidity/temperature sensor faulty	Have sensor replaced by an authorised Rhino service centre
EE	Refrigerant leakage	Turn the dehumidifier off and restart after 2 hours. If the fault code is still present, do not use appliance. Consult authorised Rhino service centre

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