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ROAM SERIES


PLEASE READ & RETAIN USER MANUAL FOR FUTURE REFERENCE

USER MANUAL

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Important Safety Warnings

- Please allow the appliance to stand for at least 6 hours after it has been received and unpacked.
- Do not expose the appliance to rain or direct sunlight for extended periods during use.
- Avoid placing the appliance in damp areas.
- Do not submerge the appliance in water.
- Ensure the appliance's power cable is not trapped or damaged during positioning.
- Refrain from positioning portable power sockets or cables at the rear of the appliance.
- Exercise caution to prevent the risk of child entrapment.
- Maintain adequate ventilation openings around the appliance, ensuring it remains unobstructed without any door coverings.
- Avoid damaging the refrigerant circuit.
- Use only recommended methods to defrost; sharp objects or other tools may cause permanent damage.
- Refrain from using electrical appliances inside the fridge unless manufacturer recommended.
- Before disposing of the appliance, remove the lid.
- Never allow children to interact with the appliance, avoid cleaning with flammable liquids, and keep flammable materials away from the appliance.
- Use non-abrasive cleaners or soapy water for cleaning; avoid solvents.
- Symbol ISO 7010 W021 indicates a fire hazard. 
- Maintain a minimum of 3-5cm clearance at the top of the appliance, and a 3-5cm clearance on each side of the appliance for proper ventilation and heat dissipation.
- Keep ventilation openings clear of obstruction.
- Minimise the time the door is open to maintain a stable temperature.
- The voltage and frequency should be 100-240V; 50Hz. Contact a qualified local electrician or retailer for electrical cord damage.
- Persons with low physical, sensory, and mental capabilities, including children under 8, should use the appliance under supervision. Children must not play with it or perform maintenance unsupervised.

Important Safety Warnings

- Always disconnect the power by pulling the plug directly, not by the cord.
- Avoid storing explosive substances in the appliance. It's intended for household, and similar environments.
- Faulty parts should be replaced by a certified technician.
- The supply cord should be replaced by the manufacturer or a certified person if damaged.
- This refrigerating appliance is not suitable for built-in installation.

Intended Usage & Environment

The Subcold car fridge freezer is designed for versatility, functioning flawlessly in vehicles at 12V/24V and indoors with a 100-240V adapter. It's perfect for keeping drinks and food chilled on road trips, camping, or at home.

- **Powerful Cooling:** Cools down to -20°C , even in ambient temperatures up to 32°C , ensuring your provisions stay cold.
- **Smart Controls:** Features an intelligent control system with a power-off memory, maintaining your settings between uses. You can adjust temperatures from $+20^{\circ}\text{C}$ to -20°C based on your needs.
- **Battery Protection:** Includes an auto battery protection system to prevent excessive drain, keeping both your vehicle and fridge running efficiently.
- **Compact Design:** Easily fits in cars, SUVs, campers, and boats, making it an essential for any journey.

Power Connection

Power Connection and Usage

For Car Use:

DC Power Cord: The unit comes with a 12V/24V DC power cord specifically for use in vehicles. Refer to Image 1 to see how to connect it in your car.

For Home Use:

Power Adapter: For indoor use, there is an optional power adapter that works with the DC power cord (Image 2). This adapter supports a household alternating current of 100-240V.



Image 1



Image 2

ROAM 20/30 Operating Instructions

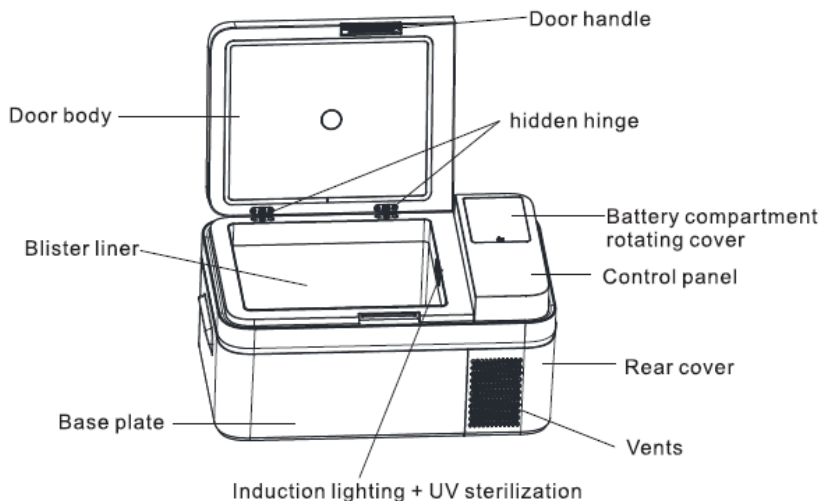
- Equipped with a high-quality DC variable frequency compressor and drive module for high efficiency, energy saving, stability and reliability.
- Features a user-friendly microcomputer intelligent control system for accurate temperature control.
- Compatible with multiple power inputs; intelligently recognises DC 12V/24V to suit a variety of settings including car, marine, home and outdoor use.
- Includes voltage detection and low voltage protection to effectively prevent vehicle battery over-discharge.
- Inner container made from food-grade plastic material, offering safety, leak resistance and odour prevention.
- Intelligent touch control buttons with a child lock function to prevent accidental operation.
- Optional UV lamp provides large-area sterilisation using a UV light source.

Battery Power Option (ROAM 20/30 Only)

Subcold ROAM-20 and ROAM-30 models can be powered using a compatible rechargeable battery (sold separately). Please note that the battery is not included with the product. It can be purchased directly from the Subcold website:

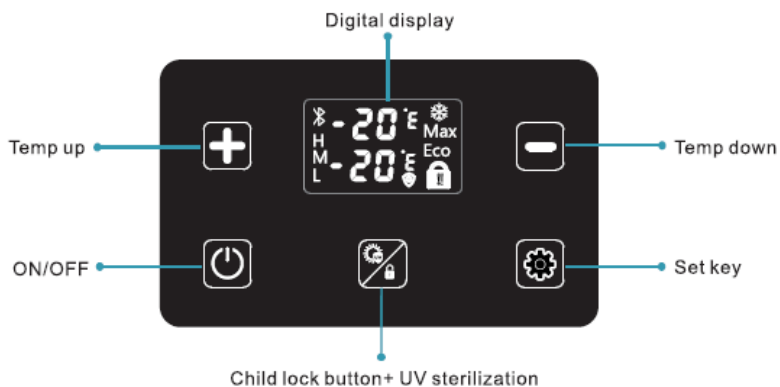
<https://subcold.com/products/roam-battery-15600mah>

Important: Subcold ROAM-45DZ model is not compatible with battery power.




ROAM 20/30 Operating Instructions


ROAM 20/30 Control Panel




The control panel includes a display that provides essential information and allows for settings adjustments.

Refrigerator Start-up/Stop

Connect the DC 12/24V power supply correctly. When the appliance is in standby mode, the “OFF” indicator will be displayed when the button is touched. Press and hold the “” button for 3 seconds to start the refrigerator. After a start-up delay (default factory setting: 1 minute), the refrigerator enters working mode and the compressor begins operation.

To stop the appliance, press and hold the “” button for 3 seconds while the keyboard is unlocked.


Refrigerator Keyboard Locking and Unlocking Operations

When the keyboard is locked (indicated by the child lock icon in the lower-right corner of the display), press and hold the “” button for 3 seconds to unlock. The unlock icon will illuminate.

If no operation is performed within 20 seconds, the keyboard will automatically re-enter the locked state.

ROAM 20/30 Operating Instructions

Refrigerator Temperature Setting

When the keyboard is unlocked, press the “” button to adjust the refrigerator temperature up or down. The temperature value on the display will flash to indicate the current setting. Each press changes the temperature by 1°C. Press and hold the button to adjust the temperature more quickly.

Set the desired temperature value. If no changes are made within 5 seconds, the selected value will be saved automatically.

UV Sterilisation Settings

When the keyboard is unlocked, press the “” button once to activate the UV lamp.

To protect the eyes, the UV light will automatically switch off when the door is opened and the magnetic sensor is disengaged.


Warning: Ultraviolet rays can be harmful to human eyes. Do not look directly at the UV light.


Compressor Working Mode Setting

When the keyboard is unlocked, press the “” button to switch between the compressor working modes: ECO and MAX.

Select MAX mode for rapid cooling to a lower temperature. For standard refrigeration or maintaining temperature, choose ECO mode, which is designed to save energy and reduce electricity consumption.

Temperature Unit Switching

While the appliance is operating normally and the keyboard is unlocked, press and hold the “” button for 2 seconds. The temperature unit symbol will begin to flash on the display.

Press the “” button again to switch between Fahrenheit (°F) and Celsius (°C).





ROAM 20/30 Operating Instructions

Low Voltage Protection Setting

When the detected battery voltage falls below the set threshold, the compressor will automatically shut down to prevent over-discharge, which could damage the battery or prevent the vehicle from starting properly.

During this time, an “E1” error code will appear on the display. If the voltage returns to a normal level within 1 minute, the refrigerator will automatically resume operation.

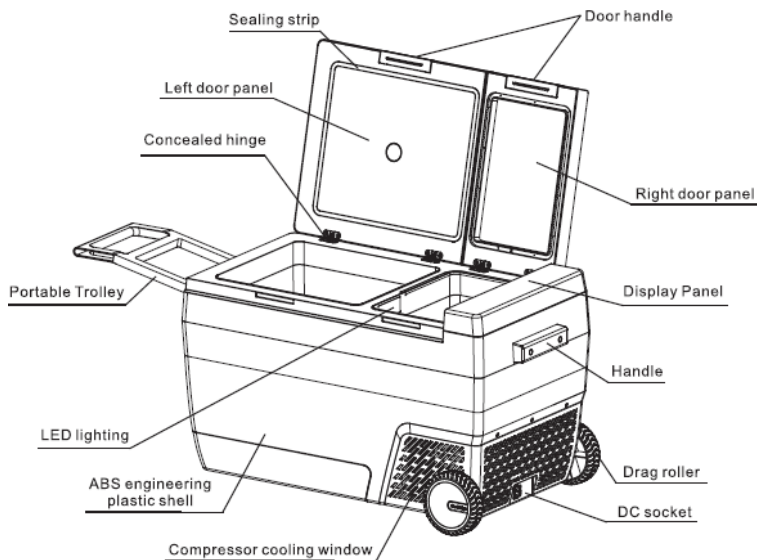
The factory default setting is “Mid-Range” protection. To change this setting, follow the steps below.

1. Ensure the keyboard is unlocked.
2. Press and hold the “” button for 2 seconds to enter the temperature unit switching mode (“6” will appear on the display).
3. Briefly press the “” button again. The battery protection level indicators — L, M, H or V-, V=, V≡ — will appear on the display. One of them will flash.
4. Press the “ ” button to cycle through and select the desired battery protection level.

For specific values refer to the table on page 14.

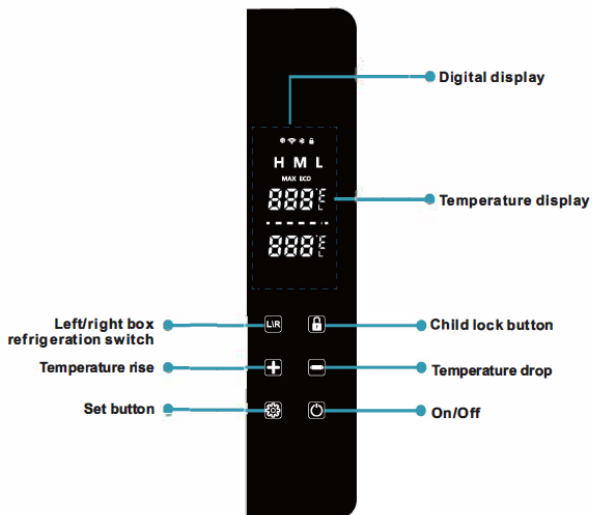
ROAM-45DZ Operating Instructions

- Equipped with a high-quality DC variable frequency compressor and drive module for high efficiency, energy saving, stability and reliability.
- Features a user-friendly microcomputer intelligent control system for accurate temperature control.
- Innovative intelligent dual temperature zone function allows flexible switching between freezing and refrigeration to meet varied storage requirements.
- Compatible with multiple power inputs; intelligently recognises DC 12V/24V to suit a variety of settings including car, marine, home and outdoor use.
- Includes voltage detection and low voltage protection to effectively prevent vehicle battery over-discharge.
- Inner container made from food-grade plastic material, offering safety, leak resistance and odour prevention.
- Built-in LED lighting for added convenience during night-time use.
- High-definition LED digital display for clear, real-time information.
- Intelligent touch control buttons with a child lock function to prevent accidental operation.
- Integrated drainage plug for easy water removal and odour prevention.




ROAM-45DZ Operating Instructions

ROAM 45-DZ Control Panel




The control panel includes a display that provides essential information and allows for settings adjustments.

Refrigerator Start-up/Stop

Connect the DC 12/24V power supply correctly. When the appliance is in standby mode, the “OFF” indicator will be displayed when the button is touched. Press and hold the “” button for 3 seconds to start the refrigerator. After a start-up delay (default factory setting: 1 minute), the refrigerator enters working mode and the compressor begins operation.


To stop the appliance, press and hold the “” button for 3 seconds while the keyboard is unlocked.

Refrigerator Keyboard Locking and Unlocking Operations

Press and hold the “” button for 3 seconds to toggle the locking mode; the child lock icon in the lower right corner of the display will illuminate. The keyboard locks automatically after 20 seconds of inactivity.




ROAM-45DZ Operating Instructions

Refrigerator Temperature Setting

Press the “” button to switch the compressor working mode “ECO/MAX”. Switch to “MAX” mode if you need to quickly cool down to a lower temperature. Switch to “ECO” mode to save energy if you only keep the refrigerator at a constant temperature.


Low Voltage Protection Setting

This product has a low voltage protection function. When the battery voltage is lower than the sset value, it automatically stops the compressor to prevent the damage to the battery or inability to start normally. This is indicated by the “E1” code on the display. If the voltage returns to normal level for 1 minute, the refrigerator automatically enters the working state. The factory default range is “Mid-Range”. If you need to change it, follow the steps below:

1. Unlock the keyboard.
2. Hold down the “” button for 3s till a tick tone. Press the “” button lightly again, and one of the battery protection level icons “L”, “M”, “H” on the display will flash. Press the “/” button to change the setting.

For specific values refer to the table on page 14.



Refrigerator Temperature Setting




Press the “/” button to adjust the refrigerator temperature. The temperature value displayed on the screen is the current set value: the temperature changes by 1 degree with each press. If you hold down the button, you can quickly adjust to the required temperature. If the set temperature doesn't change within 5 seconds, the set value will be automatically saved.

ROAM-45DZ Operating Instructions

Refrigerator L and R Temperature Zones Closing Setting: L and R temperature zones cannot be closed simultaneously

L and R temperature zones are closed respectively: L and R temperature zones cannot be closed at the same time.

When setting the temperature, the L temperature zone flashes. Press the “” key, and the L temperature zone closes and displays “OFF”. Press “” again to display the normal temperature value.

After pressing the “” key again, the R temperature zone flashes. Press the “” key to close the R temperature zone and display “OFF”. Press “” again to display the normal temperature value.

Bluetooth App Function

1. The car refrigerator is connected to the power supply, and the Bluetooth icon flashes on the display.



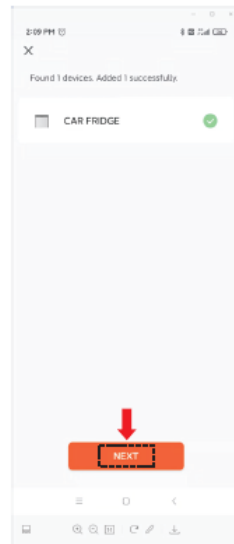
2. Turn on the Bluetooth function of the mobile phone, download and install the Tuya Smart app, then open the app on the mobile phone.



3. Under normal circumstances, the device discovered automatically. Click the 'Go to add' button.

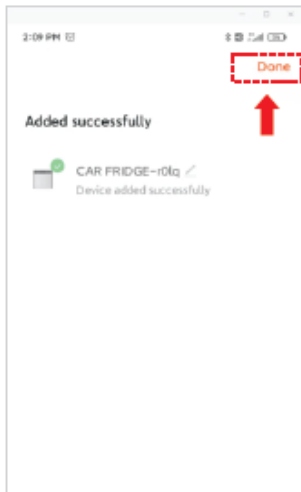


4. After the device is added, click the 'NEXT' button.

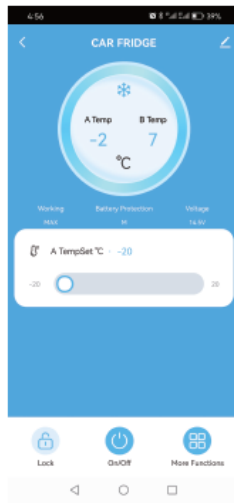


Bluetooth App Function

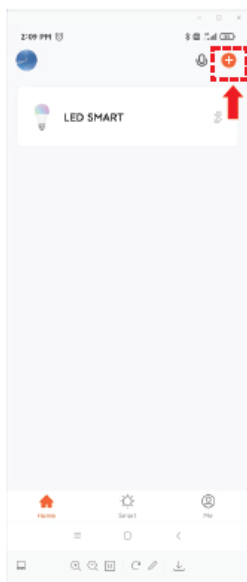
5. Click the 'Done' button.



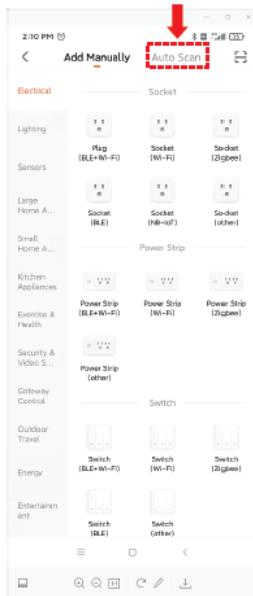
6. Enter the Bluetooth app control interface.



7. If the mobile phone cannot automatically discover the device, follow the steps below to add it. First, click the add button.

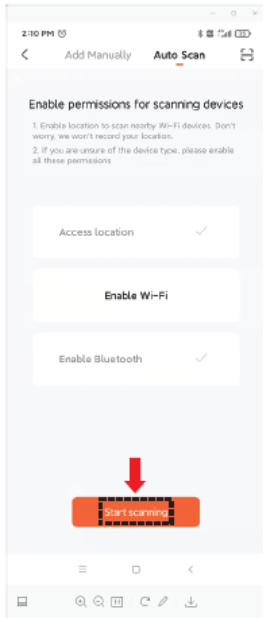


8. Enter the device management interface, and then click the 'Auto Scan' button.

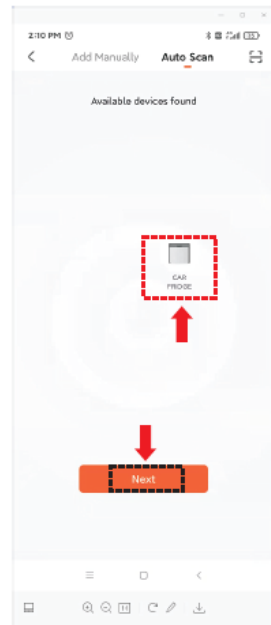


Bluetooth App Function

9. Open the device scanning interface and click the 'Start scanning' button.



10. The device should be discovered at this time, then click 'Next'.



11. At this point, the device has been added. The subsequent operations are the same as steps 5 and 6 above.

Battery Protection

For specific value refer to the table below

Battery Protection	12V Turn Off	12V Turn On	24V Turn Off	24V Tun On
Low Grade - L (V-)	8.5V	10.9V	21.3V	22.7V
Medium - M (V=)	10.1V	11.4V	22.3V	23.7V
High Grade - H (V≡)	11.1V	12.4V	24.3V	25.7V

Note: If your refrigerator enters battery protection mode prematurely, it may be due to insufficient power supply voltage or a high battery protection setting. Alternatively, the DC power supply wiring may be unsuitable and unable to provide adequate current.

Check that the power supply wiring is appropriate, and consider lowering the battery protection level if necessary.

To ensure the vehicle can start normally, it is recommended to set the protection level to “**H**” when using the refrigerator in a car.

Disconnecting & Handling Instructions

How to Safely Disconnect Your Compressor Car Fridge

- **Switch Off the Fridge:** Before unplugging the appliance, ensure to turn off the power using the on/off switch on the control panel.
- **Unplug the Appliance:**
 - **Direct Connection:** If your fridge is directly connected to a 12V or 24V DC socket in your vehicle, carefully pull the plug out by holding the connector rather than the cable to avoid damaging the wires.
 - **AC Adapter Use:** If connected to an AC power source via an adapter, first switch off the AC power outlet before unplugging to eliminate any residual current.
- **Inspect the Cord:** After unplugging, check the power cord and plug for signs of wear or damage. Should you find any fraying or cracks, do not use the fridge until it has been inspected and repaired by a professional.
- **Secure the Fridge:** When disconnecting the fridge for transport or storage, make sure it is securely fastened to prevent any movement that might cause damage. Allow the fridge to reach room temperature before moving to minimise the risk of internal damage.
- **Clean and Ventilate:** After disconnecting, use the opportunity to clean both the interior and exterior of the fridge as per the manufacturer's guidelines. Leave the door open for a few hours to ventilate and prevent mildew or unpleasant smells if the fridge is to be stored for a lengthy period.

By adhering to these steps, you can ensure that your compressor car fridge is disconnected safely and effectively, thus preserving its functionality and prolonging its life.

Maintenance

Note: If the appliance will not be used for an extended period, clean both the interior and exterior thoroughly and ensure it is completely dry. Take appropriate moisture-proof and dust-proof measures to prevent mould and unpleasant odours from developing inside the appliance.

Power Supply Precautions

- Before cleaning, switch off the appliance and unplug it from the power source.

Avoid Water Exposure

- Do not wash the appliance directly with water.
- Take care to avoid water splashing onto working components such as the heat dissipation outlet, switch, or socket, as this may result in electrical damage or shock.

Interior Maintenance

- Clean the interior using clean water or a neutral detergent.
- Wipe thoroughly and dry with a clean, soft cloth.

Door Gasket Maintenance

- Carefully clean the door gaskets to avoid damage.

Exterior Maintenance

- Remove dust with a dry cloth.
- For deeper cleaning, use a neutral detergent if necessary.

Cleaning Instructions

- Clean the surfaces of the fridge with a soft, warm cloth and a mild, non-hazardous detergent.
- Ensure the power is switched off and the fridge is unplugged before cleaning.

Fan/Vent Maintenance

- Use a vacuum cleaner to remove dust or debris from the fan or vent where accessible.
- Regular cleaning helps maintain optimal performance.

Defrost

Excessive frost accumulation can impact the appliance's refrigeration efficiency and escalate energy consumption. Therefore, defrosting becomes necessary when the frost reaches a thickness of 5 mm. The manual defrosting process involves the following steps:

- Remove all contents from the appliance.
- Unplug the power cable.
- Open the door and wait for the natural thawing process.
- Wipe away the defrost water with a dry cloth.

Caution: Do not employ alternative equipment or methods to aid the defrosting process, as it may cause damage to the cooling system.

Additional Information:

- Ensure to regularly check and defrost the appliance to maintain optimal performance.
- Avoid using sharp objects to scrape off frost, as it may damage the interior surfaces.

Troubleshooting Guide

Error Code Description

If an abnormality is detected in the compressor, control module, fan, temperature sensor, or input voltage, an error code will appear on the display screen and the compressor will stop operating.

Once the issue has been resolved, unplug the power supply and reconnect it. The refrigerator temperature display will then reappear. After approximately 1 minute, the compressor will automatically resume refrigeration mode.

Error	Problem	Solution
E0	Temperature sensor is damaged	The temperature sensor is not replaceable. The entire unit will need to be replaced.
E1	Input voltage is too low	Please check the input voltage and adjust the battery protection level
E2	DC fan over current protection	Please check the cooling fan
E3	Abnormal start of compressor	Please turn off the power and let it stand for 30 minutes
E4	Abnormal compressor speed	Please adjust compressor operation mode (MAX/ECO)
E5	Module temperature too high	Please move the refrigerator to a ventilated place to lower the module temperature
E6	Module hardware failure	Power on after 30 minutes of power failure, if the fault is not eliminated, the module needs to be replaced

Troubleshooting Guide

PROBLEM	POSSIBLE CAUSES & SOLUTIONS
The appliance does not work	<ul style="list-style-type: none"> • Confirm if the power supply is functioning correctly. • Ensure the connectors are securely connected. • Check if the fuse has blown. • Verify if the power is switched on, indicated by the panel's illumination. • Check whether the voltage is too low. • Check whether the temperature set too high.
Poor Operation	<ul style="list-style-type: none"> • The gasket on the cover is not closed or is damaged or deformed, resulting in an inadequate seal. • Poor external ventilation of the refrigerator, with obstructions covering the inlet or outlet, or insufficient space for heat dissipation. • The appliance is overloaded, remove some items from the appliance. • The lid is not closed properly. • The environment temperature is too high
Sound of “water flowing” in the appliance	This is normal. It is caused by the flow of refrigerant.

Troubleshooting Guide

PROBLEM	POSSIBLE CAUSES & SOLUTIONS
High Operating Sound	<p>Check that the appliance is placed on a flat, level surface.</p> <p>Check for surrounding objects that may be causing vibrations.</p> <p>When the compressor starts, the motor transitions from a standstill to high speed, which may cause a slightly louder sound. This will reduce once the speed stabilises. This is a normal operating condition.</p>
Water drops around the shell or door seal	<p>It is normal for moisture in humid air to condense into water droplets when it comes into contact with a colder outer shell.</p>
Recommended Temperature Settings	<ul style="list-style-type: none"> • Drinks (5°C) • Fresh Juice (8-10°C) • Red Wine (13°C) • Fruits (5-8°C) • Vegetables (3-10°C) • Cooked food (4°C) • Seafood (-3°C) • Meat (-10°C) • Ice cream (-15°C)

Product Specification

Model	ROAM-20	ROAM-30	ROAM-45DZ
Colours	Black + Grey	Black + Grey	Black + Grey
Cooling System	Compressor	Compressor	Compressor
Temperature Range	-20°C to +20°C	-20°C to +20°C	-20°C to +20°C
Climate Class	T, ST, N, SN	T, ST, N, SN	T, ST, N, SN
Net Volume	20L	30L	45L
Energy Class	D	D	E
Noise (dB)	44dB	42dB	40dB
External Dimensions (WxDxH)	623x378x285 (mm)	623x378x375 (mm)	753x441x447 (mm)
Internal Dimensions (WxDxH)	353x288x207 (mm)	351x286x297 (mm)	Zone1: 330x284x352 (mm) Zone2: 186x292x169 (mm)
Packing Dimensions (WxDxH)	653x431x330 (mm)	653x431x420 (mm)	785x497x517 (mm)
Gross Weight	13kg	14.4kg	19.5kg
Net Weight	10.4kg	11.6kg	16.3kg
Door Material	ABS	ABS	ABS
Lighting (W)	0.5W	0.5W	1.1W
Input Power (W)	45W	45W	45W
Voltage range	AC 100-240V DC 12/24V	AC 100-240V DC 12/24V	AC 100-240V DC 12/24V
Refrigerant gas	R600a	R600a	R600a
Refrigerant grams	13g	13g	20g
Lock and Key	Press & Hold Lock Button for 3s	Press & Hold Lock Button for 3s	Press & Hold Lock Button for 3s
Certification	CE, ERP, DOE, ROHS	CE, ERP, DOE, ROHS	CE, ERP, DOE, ROHS
Plugs included	2.5M DC Cord & 1.8m AC Adapter	2.5M DC Cord & 1.8m AC Adapter	2.5M DC Cord & 1.8m AC Adapter

EPREL

The appliance's actual consumption is influenced by its usage and location. Please note that this appliance is specifically designed for non-perishable storage. For detailed model information, refer to the product database outlined in Regulation (EU) 2019/2016, accessible via the following link or by scanning the QR Codes below:

<https://eprel.ec.europa.eu/screen/product/refrigeratingappliances2019>



ROAM-20



ROAM-30



ROAM-45DZ

Warranty Registration

To register your product warranty, kindly visit www.subcold.com/pages/product-registration and fill out the online form.

Environmental Friendly Disposal



To avoid any harm to the environment or human health caused by improper disposal of electrical waste, recycle the appliance responsibly to promote the reuse of material resources. Disposal must be done safely at public collection points provided for this purpose.

Older refrigerators may contain CFCs that destroy the ozone layer; contact your nearest waste treatment centre for more details on proper disposal procedures.

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