



PORTABLE FREEZER

NPFR-100



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1. Safety Measures

Symbol	Warning
	• If the power cord is damaged, kindly replace it immediately, and do not touch the damaged power cord directly with your hands. It is very dangerous! • Don't touch the fridge plug when your hand is wet or your feet are in the water, it is very dangerous
	• Don't use any electronic products in the fridge. • Kindly refer to the rated voltage of the fridge specification sticker and make sure the fridge connects to a corrected voltage power. • Don't put the water into the fridge directly. • Don't disassemble the refrigerator or modify the refrigerator without permission.

1.1 Precautions for use

- The refrigerator needs to be well-ventilated to facilitate heat dissipation, so there needs to be a certain space around the refrigerator and a minimum of 10 cm is reserved around the refrigerator.
- Avoid using the refrigerator in a place with high humidity, reduce the chance of rusting metal parts, and do not directly wash it with water, which may cause leakage.
- Avoid the refrigerator near heat and direct sunlight.
- Don't use corrosive liquids in refrigerators.
- Kindly disconnect the power supply if don't use the fridge for a long time.

1.2 Batter Protection

When using a DC power supply (12/24V), the refrigerator's electronic system includes a power protection function that automatically controls the compressor. If the input voltage drops to the minimum limit, the system will automatically shut off the compressor to prevent excessive battery drain. Once the voltage returns to normal, the compressor will automatically resume normal operation. The fridge has three levels of battery protection

12V DC

Battery protection level:	Cut off	Cut on
LO:	10.1V	11.1V
NE:	11.4V	12.2V
HI:	11.8V	12.6V

24V DC

Battery protection level:	Cut off	Cut on
LO:	21.5V	23.0V
NE:	22.5V	24.0V
HI:	23.0V	24.5V

1.3 Test Running

- The refrigerator can be directly connected to the 12/24V DC power supply. Plug the 12/24V cable into the DC socket of the refrigerator, plug the other end of the power cord into the car power socket or other DC 12/24V socket, and ensure the power supply is stable. If the voltage is unstable, the refrigerator will not run.
- Connect the power supply, set the temperature to -20°C, and check the display. After 30 minutes, open the door and check the internal surface. If the inner surface is cold, it means the refrigerator working normally.

2. Introduction

Portable Freezer NPFR-100 operates within a wide temperature range of -20°C to +10°C and holds capacity up to 41.5 liters. It features a foldable handle with a built-in magnet for secure positioning. Our refrigerator is designed with polypropylene outer casing and high-impact polystyrene inner lining for superior thermal protection. It offers fast cooling capabilities and includes a detachable battery, bottle opener, overhead cup holder, drain hole, and inner LED light for user convenience.

3. Features

- Three-stage battery protection system
- Dual-zone option
- High-performance thermoelectric and compressor
- LED control panel
- Pull rod and wheels for mobility
- Shockproof construction
- Low power consumption

4. Specifications

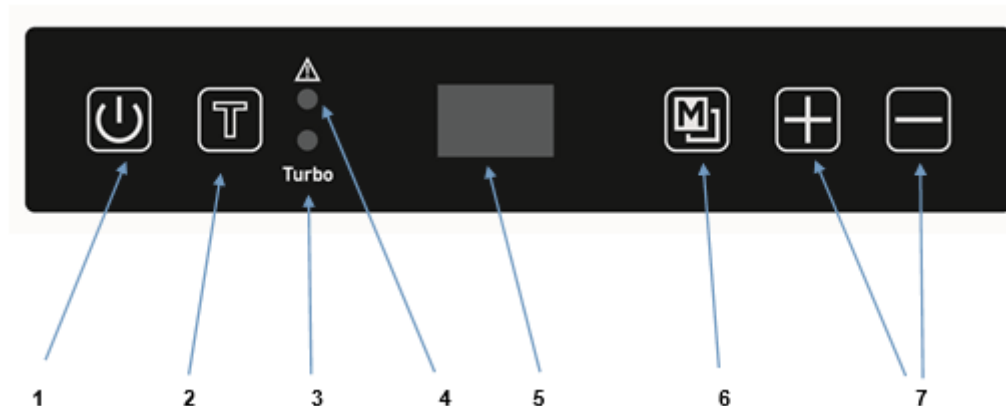
Model	NPRF-100
Type	Chest type
Capacity	41.5L
Temperature Range	-20°C to +10°C
Maximum Using Time	30h
Insulation Type	C-pentane
Refrigerant	R134a
Material	PP (outer), HIPS(inner)
Mode	Turbo mode for rapid cooling or ECO mode for energy efficiency
Available Colors	Army Green / Dark Grey / Desert Sand
Power Consumption	55W
Power Supply	DC 12/24V; AC 100-240V
Dimensions (L× W ×H)	702 × 458 ×445 mm
Net Weight	17.46kg
Gross Weight	21.96kg

5. Applications

Portable Freezer is essential for outdoor activities like camping, fishing, and road trips, as it keeps food and drinks cold. It also plays a crucial role in emergency preparedness by preserving food during power outages.

6. Operations

6.1 Control Panel and Display



- | | |
|-------------------------------|-------------------------------|
| 1) Power switch | 6) Function select button |
| 2) TURBO mode choice button | 7) Temperature setting button |
| 3) TURBO mode indicator light | |
| 4) Fault indicator light | |
| 5) LED display | |

- 1) The  button is the power switch. When the power cord is connected, press this button to turn on or turn off the fridge. When the fridge is turned off, the LED display will be off, but the fridge is in standby mode. The system will automatically record the status of the last use. If the fridge is unplugged when it is turned on, it will automatically power on when it is connected again, no need to press the power switch button  again, and the fridge will go on working according to the last time temperature setting. If the fridge power cord is connected but the fridge is off, you will need to press the power switch button  to turn on the fridge.

Note:

If turned on and turned off frequently, the fridge will not run until around 1 minute later due to the compressor's auto-protection function.

- 2) Fridge temperature ranges from -20°C to 10°C. Press  button to decrease the temperature, and press  button to increase the temperature. When the expected temperature reaches, the digital will flash 5 times, which means the temperature is set, and then the display board will show the internal temperature.
- 3) Press  button to turn on TURBO mode, which is fast cooling mode and power consumption will be higher in this mode. Choose TURBO mode, TURBO indicator light  will be on.
- 4) When there is a fault, the indicator light  will on or flash, and the LED display will show a different faulty code.

5) **button functions:**

1. Press  button once to exchange Celsius degree or Fahrenheit degree temperature display, press  or  button to select.
2. Press  button twice to enter Battery protect level selection mode, press  or  button to select the LO, NE, or HI level.
3. Press  button 3 times to turn on or off the blue tooth function, press  or  button to select ON or OFF. (This function will be available only when App developed)
4. After selection, the system will automatically be saved.

7. Maintenance

- 7.1 Cleaning method:** Unplug the power cord before cleaning and maintenance. Use a wet soft rag to wipe the inside and outside of the refrigerator. If necessary, wipe it with a neutral detergent and then wipe it with a clean cloth.
- 7.2 Maintenance method:** Properly protect the door seals and keep them clean. Try to avoid oil stains and deformation when using. If oily substances (plant or animal oil) are attached to the plastic in the refrigerator for a long time, the plastic will easily age or crack and send a peculiar smell.
- 7.3 Precautions:** Don't directly clean the refrigerator with water to prevent electrical insulation and material rust. The following things will damage the coating and plastic parts that cannot be used for cleaning: Alkaline detergent, soap, abrasive powder, hot water, brush, banana oil, gasoline, and alcohol.

8. Troubleshooting

Trouble	Reason	Solution
The fridge doesn't run	• Check if the power supply is connected properly. • Check if the power supply is faulty. • Check if the power switch turns on. • If the power cord fuse is blown.	• Ensure that the power supply is in good contact and turn on the power switch. • Change the power cord fuse.
Fridge poor cooling	• The area is poorly ventilated, the door seal is damaged or deformed, the seal is not good; the refrigerator door is not closed tight; the hot food is too much; direct sunlight or the ambient temperature is too high or there is a heat source nearby. • Improper temperature setting. • Refrigerant leak, system faulty.	• Ensure the fridge seal is good, away from the heat source, and avoid direct sunlight. • Proper setting temperature. • Find a professional person to fix it.
The compressor doesn't run	Controller error	Find a professional person to fix it.
	The thermostat protection temperature is set too high, the environment temperature is too low, or the fridge has reached the expected temperature.	Set a suitable temperature
	The fridge doesn't put on the surface properly.	Put the fridge on the surface properly.
The fridge has abnormal noise.	Fridge on an unstable surface.	• Put the fridge on the Surface Properly.
	Hit the wall or other things.	
	The fridge's internal parts are loose.	

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Faulty LED will be on, and the LED Display will show E0	NTC (the temperature sensor) broken circuit or short circuit.	• Check circuit connection. • Replace NTC. • Replace compressor connect PCB.
Faulty LED flash 1 flashes every 4 seconds and LED Display shows E1	Low voltage	• Try on different power sources (vehicle or 240V AC power). If the changing power source is fixed, then possible issue with the original power source. • Ensure the cabling between the fridge and battery is at least 0.16 inches, if the distance is more than 2 78.7 inches then use at least 0.24-inch cable.
Faulty LED flash 2 flashes every 4 seconds and LED Display shows E2	Fan issue	The fan is drawing too many Amps (over Amps), replace the fan.
Faulty LED flash 3 flashes every 4 seconds and LED Display shows E3	Compressors start issue	• Unplug the cable and allow the unit to rest for 10 minutes. • Try on a different power source (vehicle or 240V AC power). • Electronic box fault. • Compressor fault.
Faulty LED flash 4 flashes every 4 seconds and LED Display shows E4	Low Motor speed	• Reduce products/items inside the unit. • Move so the unit is in a lower ambient temperature; clean vents/ensure clear airflow over the compressor. • Fan fault.
Faulty LED flash 5 flashes every 4 seconds and LED Display shows E5	Over Temperature	• The ambient temperature is too high. • Clean vents/ensure clear airflow over the compressor. • Fan fault.

The following is a normal phenomenon:

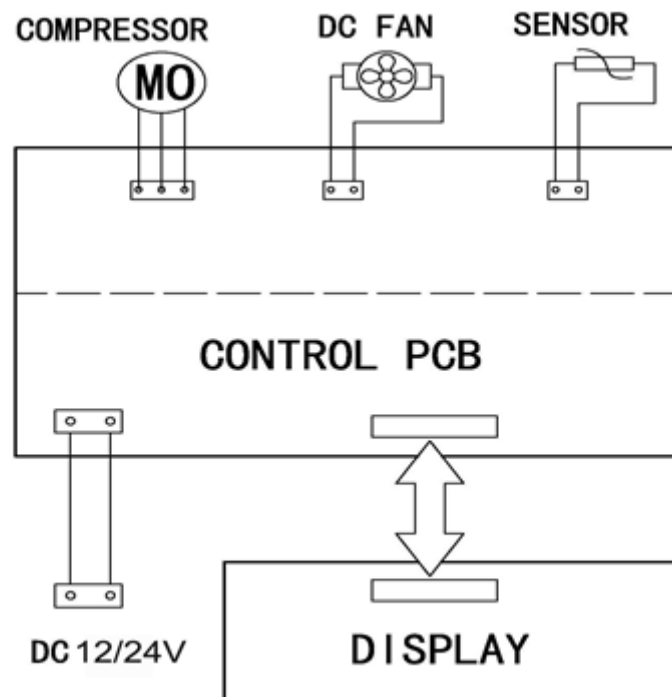
1. There's a "Giggle" sound by refrigerant flow when cooling ends.
2. There's a fan noisy when the fridge running.
3. The surface of the refrigerator is condensed. When the ambient humidity is high, and the internal temperature of the refrigerator reaches -15°C, slight condensation will occur on the surface of the refrigerator.

9. Accessories

Standard Accessories

Accessories	Quantity
Compressor	1
Cooling fan	1
Controller	1
Display board	1

10. Circuit Diagram



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