



Minus40

Instruction Manual

MED750GHD Medical Fridge

v2026-06

The MED750GHD is a 750-litre double-door upright medical refrigerator for the storage of vaccines, pharmaceuticals, blood products, and biological samples. It maintains a 2°C to 8°C temperature range using fan-assisted cooling with automatic defrost, controlled by a Bluetooth-enabled digital controller with live app-based monitoring and exportable temperature records.

Fully stainless steel inside and out, with eight configurable shelves, four sliding drawers, and self-closing lockable glass doors, it is suited to high-volume medical storage in hospitals, clinics, pharmacies, and laboratories.



Important Safety Information READ FIRST

Intended use:

The MED750GHD is designed for the storage of vaccines, pharmaceuticals, blood products, and biological samples at 2°C to 8°C in clinical, pharmaceutical, and laboratory environments. It is not intended for the storage of food or domestic use.

General safety:

- Always disconnect the unit from the mains supply before carrying out any maintenance or before removing the bottom grille.
- In case of unit failure, disconnect from the power supply and contact M40 Refrigeration, Minus40's dedicated service partner.
- If the supplied power cord is damaged, it must be replaced by M40 Refrigeration.
- Do not block the ventilation grille. The unit ventilates through the grille; if blocked, it will not operate correctly, and the compressor may be damaged.
- Keep liquids and flammable materials away from the unit at all times.

Electrical safety:

- The power supply must match the specifications on the rating plate, located inside the unit on the top right-hand side.
- Always ensure the electrical connection is suitably earthed.
- An inadequate electrical installation may cause voltage reduction at the compressor or motor damage.
- If in doubt, consult a qualified electrician before connecting the unit.
- Always use a direct connection to the plug outlet. Using a multiplug or extension cord voids the warranty.

Operating environment:

- Maximum ambient temperature: 35°C
- Indoor use only; keep out of direct sunlight and away from heat sources.
- Minimum clearance required: sides 50mm | rear/top 100mm



CAUTION FLAMMABLE REFRIGERANT



The MED750GHD contains R290 (propane), a flammable hydrocarbon refrigerant. The following mandatory precautions apply:

- Do not damage the refrigeration circuit. If the circuit is damaged, open windows immediately to ventilate the area and contact a qualified technician for repair.
- This unit must only be serviced and, at end of life, recycled by a technician with the necessary qualifications and certification to work with flammable refrigerants. If in doubt, contact Minus40.
- Only charge the unit with the refrigerant specified on the rating label. Using any other refrigerant is dangerous and not permitted.
- The room in which the unit is installed must be well ventilated and free from sources of ignition. The unit must not be positioned where refrigerant could accumulate in the event of a leak. If the installation is below ground level, additional precautions may be necessary.
- Do not use naked flames or ignition sources near the unit. Do not puncture refrigerant lines.



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Product Overview

Key features

- 750L upright capacity for high-volume medical storage
- Dual self-closing glass doors with lockable access for security and visual stock checks
- 8 adjustable perforated shelves and 4 pull-out shelves for flexible configuration
- Fully stainless steel construction inside and out
- Fan-assisted cooling with automatic defrost
- Bluetooth-enabled digital controller with live app-based monitoring and exportable temperature records (up to 120 days)
- Built-in voltage protection
- Castor wheels for repositioning within clinical environments

Front panel / controls

The MED750GHD uses a single digital controller with LED temperature display and Bluetooth® connectivity. The unit is factory pre-programmed with a setpoint of 3°C.

Ports / connectors / probe hole

A pre-fitted independent temperature monitoring probe hole is located on the right side of the unit. This allows a third-party monitoring device to be installed without compromising door seal integrity.

Included with unit

- Accessories: 8 x stainless steel, perforated shelves (32 J-clips); 4 x stainless steel, perforated pull-out shelves; 2 x keys
- Documentation: instruction manual, warranty information

Key Components

Controller	Bluetooth-enabled digital controller with LED display; located at the top of the unit
Condenser	Located at the top of the unit
Evaporator fan	Internal fan for air circulation
LED lighting	Internal, controlled by an external manual switch
Door seals	One gasket per door; inspect regularly
Voltage protector	Located at the top right of the motor compartment; LED indicators visible through the grille
Temperature monitoring probe hole	Pre-fitted, for independent monitoring devices
Castor wheels	Four swivel wheels on the rectangular base; two braked

Technical Specifications

Temperature range	2°C to 8°C
Capacity	750L
Power	220V AC / 50Hz
Rated current	1.3 Amps
Electrical protection	Built-in voltage protector
Energy rating	B
Refrigerant	R290
Defrost mode	Automatic
Holdover time	N/A
Controller	Digital controller with LED display and Bluetooth®
Controller backup battery	Optional backup battery available on request
Alarms	High/low temperature; door open; dirty condenser; high/low voltage; sensor fault
External dimensions (H×W×D)	1992 × 967 × 670 mm
Internal dimensions (H×W×D)	1540 × 871 × 530 mm
Net weight	132 kg
Max ambient temperature	35°C



Installation & Setup

1. Unpacking on receipt of unit

Remove all wrapping and packing material. Inspect for transport damage before signing waybill and proceeding.

2. Positioning

- Place out of direct sunlight and away from any heat sources.
- Do not install in enclosed cabinetry or furniture. Do not position flush against the wall. The unit requires free airflow around the ventilation grilles for heat exchange.
- Ensure the unit is placed on level ground. Once in final position, lock the braked castor wheels.

3. Power supply

- Confirm voltage and current requirements from the rating plate before connecting.
- Ensure the electrical connection is suitably earthed.
- Always use a direct connection to the plug outlet. Extension cords must never be used.
- If in doubt about the electrical installation, consult a qualified electrician before proceeding.

4. Power-on

Once correctly positioned and connected, switch on at the mains. This unit incorporates a built-in voltage protector. On power-up, allow 3–5 minutes for the voltage protector to complete its startup sequence before the unit begins cooling. During this delay, the yellow LED on the voltage protector will be lit; this is normal. The unit will turn on once the voltage protector signals stable power with a green LED.

5. Stabilisation

Allow the unit to run for a minimum of 4 hours before loading contents. Do not load before the display confirms the temperature is within 2°C to 8°C.

6. Initial checks

- Confirm the temperature display is active and reading within 2°C to 8°C.
- Confirm both door seals are intact and both doors close and latch fully.
- Confirm both door locks are functioning.
- Confirm the voltage protector green LED is lit, indicating a good power supply.

Operation

Temperature

The MED750GHD is factory pre-programmed to maintain a temperature range of 2°C to 8°C, with a setpoint of 3°C. This can be changed via the controller as needed. If you have a concern about the controller settings, contact Minus40 service.

Note: The displayed temperature reflects the current internal air temperature and may differ slightly during initial cool-down, after loading, or during an automatic defrost cycle. This is normal. Monitor over 30–60 minutes to confirm stability.

Voltage protector

The MED750GHD includes a built-in voltage protector that stabilises the power supply to the unit, protecting against damage from power surges and voltage fluctuations. The voltage protector is located at the top right of the motor compartment; its LED indicators are visible through the grille.

If the red LED is lit during normal operation (not during startup), check the power supply and consult a qualified electrician if the condition persists.



**THIS UNIT COMES WITH A
BUILT-IN VOLTAGE PROTECTOR**

	● ○ ○	RED LED - VOLTAGE PROBLEM
	○ ● ○	YELLOW LED - WAIT
	○ ○ ●	GREEN LED - POWER ON

Loading the unit

- Do not block internal air vents. Allow space for cold air to circulate around contents and the inside of the unit.
- Where possible, allow warm loads to approach room temperature before placing inside. (Note: vaccines and other temperature sensitive materials that exceed 8°C prior to loading should be considered no longer viable and disposed of.)
- The glass doors allow visual stock checks without opening — use this to reduce unnecessary door openings.

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Door use

- Both doors are self-closing – ensure each is fully closed after every use.
- When doors are locked, store keys securely but ensure they remain accessible to authorised staff at all times.
- Minimise door opening duration to reduce temperature fluctuation.

Condensate

The unit is designed to automatically evaporate condensate water in the compressor compartment. No user action is required under normal operation.

Defrost cycle

The MED750GHD operates an automatic defrost cycle of approximately 15 minutes every 3 to 4 hours to remove ice build-up (if any) from the evaporator coil. During this cycle, the compressor temporarily pauses and the displayed air temperature may briefly rise. This is normal; product temperature remains within the safe 2°C to 8°C range throughout. Do not remove contents or contact service during a routine defrost cycle.

Power interruption

In the event of a power failure:

1. Note the time the power was lost.
2. Keep both doors closed to preserve internal temperature for as long as possible.
3. This unit does not have an extended holdover capability. If power is not restored promptly, internal temperature will begin to rise.
4. Follow your facility's internal cold chain emergency policy to determine when contents must be relocated.
5. When power is restored, allow the 3–5 minute voltage protector startup delay to complete, then allow the unit to stabilise within 2°C to 8°C before reloading.

Controller

Bluetooth monitoring

The controller records internal temperature every 20 minutes. It stores up to 120 days of periodic temperatures, which can be viewed or exported using the Carel Applica app.

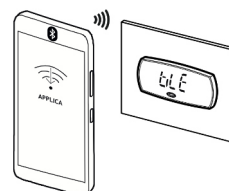
Note: During a power failure, periodic temperature logging stops unless an optional backup battery is fitted. Previously recorded data is retained in the controller's memory.

To access temperature data:

1. Download the **Carel Applica** app (App Store or Google Play).
2. Open the app and connect to the controller via Bluetooth. The controller should display "BLE".
3. Select "User" and enter the password: 23.
4. Access the data record. Data can be exported via email or other apps.



Bluetooth (BLE) symbol



The app provides access to:

- Setpoint adjustments
- Temperature records
- Alarm history
- Power failure log
- Virtual temperature graph (hourly, daily, weekly, and monthly views)
- Compressor running monitoring
- Live temperature data when connected



Alarms

Code	Meaning	Recommended Actions
HI	High temperature alarm	Check that the door is closed properly, verify power is available, minimise door openings, and contact M40 Refrigeration if the alarm persists.
LO	Low temperature alarm	Check for unusually low temperatures that could damage temperature-sensitive products. Contact M40 Refrigeration if the alarm does not clear.
dor	Door open alarm	Close the door fully and ensure nothing is preventing it from sealing.
HF	High temperature after power failure	Indicates the cabinet became too warm following a power outage. Verify product integrity according to your facility's policies before continuing to use contents.
HA	High temperature during normal operation	Indicates the cabinet remained above the acceptable temperature for longer than the permitted period. This is more serious than a normal HI alarm and should be investigated promptly.
rE	Temperature probe fault	The controller cannot accurately measure temperature. Contact M40 Refrigeration.

For any other alarm codes, contact M40 Refrigeration for further guidance.

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Maintenance & Cleaning

Annual service

It is recommended that the unit be serviced by an authorised Minus40 service agent at least once per year. An annual service agreement is available – contact service@m40refrigeration.com or speak to your Minus40 sales representative.

Storage — extended periods out of use

- 1. Disconnect from the power supply.
- 2. Remove all contents to suitable alternative storage.
- 3. Clean the unit inside and out thoroughly.
- 4. Leave both doors slightly open so that air can circulate freely.
- 5. When returning to service: power on, allow the voltage protector startup delay to complete, then allow the unit to stabilise within 2°C to 8°C before reloading — refer to Installation & Setup.

Interior and exterior cleaning

- Disconnect the unit from the power supply before cleaning.
- Clean periodically using a non-abrasive cleaner and a soft cloth.
- Do not use detergents or abrasives.
- A damp cloth may be used; ensure all surfaces are polished dry afterwards.
- Both interior and exterior surfaces are stainless steel; use appropriate stainless steel cleaners if required.

Door seal inspection

Both glass doors have individual gaskets. Inspect each seal regularly for cracks, gaps, or deformation. To test: close the door on a sheet of paper — it should grip firmly and resist being pulled out. Test both doors. If either seal fails, contact M40 Refrigeration.

Condenser cleaning procedure

The condenser can be found at the top of the unit under the top cover and is visible through the left grille.

To clean the condenser:

- 1. Power off and unplug the unit from the mains supply.
- 2. Unscrew the top cover at the back and lift the cover off the unit.
- 3. Locate the condenser, the fin-and-tube assembly similar in appearance to a car radiator.
- 4. Using a soft brush, carefully clean the fins.
Caution: The condenser fins are delicate. Do not bend the fins. Never poke anything through the fins. Never use water. Never use a hard brush.
- 5. If possible, vacuum away loose debris.
- 6. Check the remainder of the compartment for foreign objects and remove.
- 7. Secure the cover back in place.
- 8. Record the date cleaned for internal auditing purposes.

Need a new cleaning schedule template? Find that and more on the M40 Refrigeration website in the Resources section!

Why clean the condenser?

The condenser dissipates heat from inside the unit. Keeping the fins clear of dust allows the unit to run more efficiently, reduces energy consumption, and extends product life. Check monthly; clean every 2–3 months or whenever dust or debris is present.

Condenser Cleaning Schedule

Check the condenser monthly. If you see dust or fluff buildup, clean immediately.

YEAR	LOCATION									
Month	1	2	3	4	5	6	7	8	9	10
January										
February										
March										
April										
May										
June										
July										





Troubleshooting

Symptom	Checks	Action
Unit does not run; controller, fans, and lights are all off	Plug is fully inserted Wall socket has power Circuit breaker has not tripped Voltage protector LED colour	Restore power if possible. The voltage protector LEDs indicate: Amber – startup delay (normal); Green – power stable; Red – supply voltage fault. If the unit still does not start once green is displayed, contact M40 Refrigeration.
Unit does not run, but controller is on	Check whether the compressor starts after a few minutes Check whether the evaporator fan is operating Check the app for active alarms	Unplug the unit, wait two hours, then reconnect. If the compressor still does not start, contact M40 Refrigeration.
Unit not cold enough	Temperature setpoint Doors fully closed Internal airflow not blocked Condenser clean Room temperature below 35°C	Remove any airflow obstructions, clean the condenser, and minimise door openings. If the temperature does not recover, relocate contents if required and contact M40 Refrigeration.
Unit too cold	Check displayed temperature Check whether a low-temperature alarm is active	Contact M40 Refrigeration.
Unit is noisy (Hissing or popping are normal refrigerant sounds)	Unit standing level Nothing touching the cabinet Fan free from obstruction	Remove any obstruction. If abnormal noise continues, contact M40 Refrigeration.
Unit runs continuously	Doors fully closed Condenser clean Room temperature below 35°C Temperature alarm or probe fault present	Clean the condenser, improve ventilation around the unit, and check for alarms. If continuous running persists, contact M40 Refrigeration.
Temperature alarm active (HI or LO)	Doors fully closed Unit recently loaded Temperature trending back towards normal	Reduce door openings and allow the unit to recover. If the alarm persists or product safety is in doubt, relocate contents according to your facility procedures and contact M40 Refrigeration.
Door alarm active (dor)	Doors fully closed Nothing preventing closure Door seal undamaged	Close the door fully. If the alarm remains after the door has been closed, contact M40 Refrigeration.
Dirty condenser warning/alarm (cht/Cht)	Dust or debris visible on condenser	Clean the condenser following the maintenance procedure. If the alarm returns shortly afterwards, contact M40 Refrigeration.
Sensor fault (rE)	Alarm code displayed	Contact M40 Refrigeration. Temperature control can no longer be guaranteed.
Power restored after outage	Green LED shown on voltage protector Display operating normally	Allow the startup delay to complete, then allow the cabinet to return to 2–8°C before reloading. Follow facility's cold chain policy if temperatures exceeded acceptable limits.
Bluetooth / app connectivity issue	Bluetooth enabled on mobile device Within range of the controller Correct password entered	Restart the Applica app and reconnect. If necessary, restart Bluetooth on your mobile device and try again. Look for "BLE" on the controller to indicate it's connected.



NEED HELP?

Contact our dedicated service team!

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