



INSTRUCTION MANUAL



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Ultra Low Temperature Freezer

Operation Manual

Models DW-FL90,DW-FL135 and DW-FL270

Thank you for buying a Labec ULT freezer.

For your personal safety and better performance of this unit, please read this Operation Manual thoroughly and store it properly for future reference.

Failure to read, understand and follow the instructions in this manual may result in damage to the unit, injury to operating personnel and poor equipment performance.

The material in this manual is for information purposes only. The contents and the product it describes are subject to change without notice. Labec makes no representations or warranties with respect to this manual.

Always use the proper protective equipment (clothing, gloves, goggles etc.).

Always dissipate extreme cold or heat and wear protective clothing.

Always follow good hygiene practices.

Each individual is responsible for his or her own safety.



Safety Notice:

Please read this manual carefully when using this unit for the first time.

The person who operates Ultra Low Temperature Freezer should be trained and authorized.

Any repairs of this unit should be carried out by Labec or their agent.

If you have questions which are not answered by the manual, please contact Labec or their agent.

It is recommended that only Labec spare parts be used for repairs. Labec will not be held responsible for any problems caused by using other manufacturers' parts.

All routine check-ups and maintenance to Ultra low temperature freezer should be carried out at the stated times.

Ultra Low temperature Freezers are NOT be used for storing live products which are not suited to the low temperature.


Ultra Low temperature Freezers use a condenser to refrigerate. To ensure the freezer runs efficiently, ventilation vents on the back and both sides of the unit must be kept away from the wall at least 30cm and not be blocked by any barrier.

When Ultra Low temperature Freezer is working the chamber temperature is very low. This may cause damage to bare skin, all protective equipment must be worn.

If the power shuts off, please wait 5 minutes before restarting to prevent compressor damage.

Schematic Picture and Description



 Due to freezer amelioration and model differences, your unit may not be the same as this photo.

Our series of Ultra-low temperature freezers are designed to store materials under very low temperature condition for hospitals, epidemic stations, blood banks, research institutes, universities, the biological pharmaceutical industry and gene engineering, etc. The internal temperature of the cabinet can be easily adjusted through the keys on control panel. All operations are easy and reliable.

1 Installation

How to transport: Pick up from bottom of unit only. Unit must NOT be on a slant plane of over 45°. All transportation should be done carefully, dropping or sharp jolts may cause damage.

Remove all wrapping and packaging.

Check accessories and documents according to package list.

Clean the unit thoroughly before any operation.

Location: When these units are installed some consideration should be given to the location of unit. A location where it is too cold, or with high humidity or can be easily splashed by water is not suitable. All the following conditions should be met.

The environment temperature: 10°C ~ 30°C.

The relative humidity: ≤80%.

Level clear floor surface.

The ambient temperature of the room where the unit is placed should not exceed 32°C.

Not subject to mechanical vibration or shock.

Do not place in high traffic areas.

Do not leave in direct sunlight.

Do not place in a dust prone area.

Do not place unit in a draft prone location.

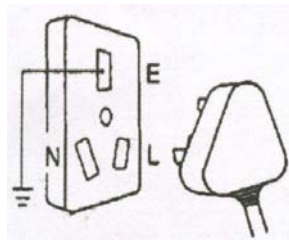
Keep away from heat sources such as autoclaves, heating diffusers, radiators, or other sources.

A minimum 30cm space on the sides, rear and top should be provided for better air circulation, heat discharge and easy of general cleaning duties.

Make sure that air intakes for compressor cooling are kept free from obstruction.



Notice: After connecting the power supply, unit should be run for at least 12 hours before any products are placed in freezer.



N and E port can't connect

2 Safety Introduction

Power supply: This ULT freezer is designed for operating under 220V/50HZ AC power supply. The unit can normally start at a voltage varying from 198V to 242V.

Must provide one single exclusive plug receptacle with credible grounding to unit.

Inflammable and explosive materials as well as high corrosive acid and alkali are strictly prohibited in cabinet.

Keep the key properly avoiding the children take it to open the back door which may result in unexpected injury.

To avoid cold injury, please place and remove products in unit with protective gloves.

3 Operation Directions

3.1 First Time Use

Use warm water and mild general purpose cleaner to clean the freezer, rinse with clean water and then dry.

To set the freezer at -40°C:

Set temperature at -35°C and connect to power. The compressor will start up after 3 minutes, check in 30 minutes, if freezer temperature has obviously dropped, it means the refrigeration system is operating normally. Once the unit reaches -35°C the compressor will stop, at this time you can change the set temperature to -40°C.

Unit should be run for at least 12 hours before any products are placed in freezer.

To save power and keep temperature fluctuations to a minimum, open door sparingly and close door quickly.

3.2 Adjusting the Temperature

Display the temperature



Examine parameter, Not in the setting status:

Press“▲” to show the setting temperature, after few seconds display will show current temperature. Press“▼” to show the return difference temperature, after a few seconds display will show current temperature.

How to Set the temperature

◇Turn into the setting status:

At the un-setting status,Press“set” one time,Will turn into the setting status.Now the set indicator light,Show the current temperature.

◇Set the temperature :

At the setting status,Press “▲”“▼” to adjust the temperature. Press 1times to 1°C.

Press 'SET" more than 2seconds will come to quick set, Confirm by press "SET". Then show "L", Press "SET" again will show low alarm set, same method as High alarm set. Then confirmed by press "SET". And back to current temperature

◇Quit the setting status :

At the setting status,Press “set” more than 5seconds or no operation within 30 seconds,The system will save the setting temperature ,and back to normal work status.

When compressor delayed time beyond the setting delayed time,Or sensor temperature higher than setting temperature + return difference temperature,The replay will start refrigeration

Sensor failure alarm :

When sensor plough, LED glittering and show "E1" , Alarm with buzzer. ;
When sensor short circuit, LED glittering and show "E2" , Alarm with buzzer.
Exceed temperature range alarm :
When sensor temperature more than +99°C or less than -50°C , Will show "HH" or "LL".
Press "Mute" more than 2 seconds, Temperature control system close.

4 Defrosting and Maintenance

4.1 Defrosting

There will be some frost build up on the surfaces of chamber after a long time running which may decrease the performance of freezer. If the thickness of frost is more than 10mm thick, defrosting operations are recommended.

4.2 Maintenance

External Casing: The cabinet is finished with painted epoxy. To maintain appearance the unit should be wiped over with a non abrasive household cleanser and cloth.

Internal Chamber: The chamber and door liner are manufactured from formed plastic. These surfaces may be cleaned with a gentle household cleanser and cloth or sponge.

The shelves are manufactures from plastic coated steel and a non abrasive cleanser should be used.

The magnetic door gasket should be cleaned with a mild detergent ensuring it is dried completely after washing. If there are stains on the gasket, these can be spot cleaned with a household cream cleanser. Wipe away any residue/cleanser.

Unit should be cleaned and ventilation outlets and compressor intakes checked for any obstructions on a regular basis.

4.3 Six Monthly Checks

Refrigeration System Checks:

Defrost unit and clean internal surfaces.

Remove roughing filter from in front of condenser unit. Clean in warm soapy water. Allow filter to dry naturally. When dry re-install.

Carefully vacuum dust from condenser.

Check operation of condenser fan.

Check compressor unit/s for excessive noise and or vibration.

Electrical Maintenance (by qualified Electrician):

All electrical terminations/connections should be checked for tightness.

Motor currents should measured and documented.

If a fan motor is fitted the fan motor is pre-lubricated with sealed bearings which should not require maintenance for some time depending upon extent of usage.

An independent temperature checks of temperature in the chamber and the displayed temperature on the Temperature Controller should be carried out.

All alarms should be tested.

5 Trouble Shooting and After Sales Service

Some unexpected failures may arise during running. Please pay attention to the running status of your ULT freezer. If any problems arise, please check and solve it according to the following trouble shooting list. If the problem is not solved by any of these, please contact our Service Department with the serial number of the unit.

Before a Service Visit, please clean and disinfect the freezer.

Problem	Possible Cause
ULT freezer does not operate	Power outage has occurred. The plug is faulty or not securely plugged-in. Fuse is blown. Voltage is too low or too high.
Compressor does not work	Power in control panel is off. Temperature setting is wrong.
Temperature is higher than setting	Frost in inner wall is too thick The door is not closed properly or is opened too frequently. Chamber is overloaded with product. Ambient temperature is too high.
Loud Noises	Freezer is not level. Freezer coming into contact with wall or object.

Below are within normal operation parameters:

There are some light clashing noises when the compressor starts up and stops.

During rain and high humidity some frost may accumulate on the surfaces of cabinets. Please wipe away with dry rag.

DO NOT open the door twice within 5 minutes. This may cause the door to be difficult to open due to negative pressure, caused by hot air let in by opening door contracting.

6 Specifications

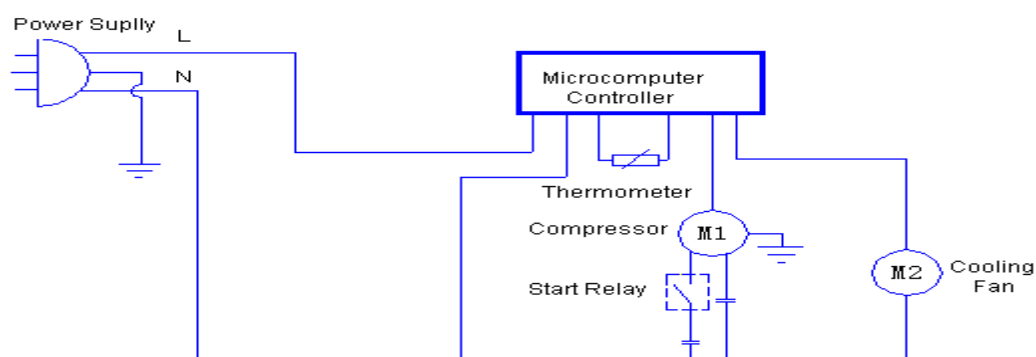
6.1 Technical Parameters

Model	DW-FL90/135/270	The facility safe types	I Kind B Type
Climatic Type	N	Input Power (W)	280/280/320
Storing Temperature	-10 ~ -40°C	Refrigeration	R507/100g
Valid Capacity (L)	90/135/270	Size (depth x width x height) (mm)	623x544x842 623x544x1123 620x600x1750
Rating Voltage (V~)	220	Rating frequency (Hz)	50

6.2 Packing List

Item	Operation Manual	Key	Defrost shovel
Qty	1	2	1

6.3 Circuit Diagram



All technical parameters and circuit diagram on nameplate are final ones for your units.