

## Ultra Low Temperature Freezers -50°C/-80°C

**MODELS:**  
**LULT3585**  
**LULT80100**



**ⓘ IMPORTANT:** These operating instructions contain information essential to the safe and reliable operation of your freezer. Failure to use your freezer in accordance with these instructions may invalidate your warranty.

**PLEASE RETAIN AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE**

**[www.labcold.com](http://www.labcold.com)**

**Cherrywood, Chineham Park, Basingstoke, RG24 8WF**

## WARNINGS

### **Servicing and repairs must be carried out by a suitably qualified engineer.**

Only engineers who have been trained in the safe handling and use of fluorinated greenhouse gases (F gases) hydrofluorocarbons (HFCs) refrigerant can work on the refrigeration system. If you suspect a leak do not touch the refrigerant as it can cause frostbite, eye irritation, suffocation and cardiac irregularities. Contact the manufacturer or its service agents immediately

If the power supply cord is damaged, it **MUST** be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard

Do **not** use mechanical or other means to accelerate the defrosting process

Keep clear of obstruction all ventilation openings in the appliance enclosure

This freezer is climate class N and is designed to operate at +16°C to +32°C ambient room temperature

Do **not** damage the refrigerant circuit

Do **not** use electrical appliances inside the freezer and do **not** store explosive substances such as aerosol cans with flammable propellant in this appliance

The maximum shelf loading is 20kg. The noise level in normal operation is lower than 70dB

**Labcold LULT3585 and LULT80100 are for professional use by suitably trained, competent persons over 18 only**



### **WARNING!**

**LULT3585 and LULT80100 freezers contain flammable gas**

**This freezer contains gas that can cause toxicity if located in a room or area with a volume less than 25m<sup>3</sup>**

**This freezer contains gas under pressure which may explode if heated. DO NOT expose to temperatures over 52°C**

**WEEE: Disposal at end of life.**

This equipment, when being disposed of in an EU Member State, is subject to the Waste Electrical and Electronic Equipment Regulations (WEEE) and must be recycled and disposed of in accordance with EU directive 2002/96/EC as applied in local laws of that State at the time of disposal. This freezer contains flammable insulation gases and must be disposed of in the appropriate way by competent persons. Ensure that none of the refrigerant circuit pipes are damaged prior to disposal.

The symbol below on the appliance or accompanying documents indicates that this freezer should not be treated as ordinary waste but must be taken to a special collection centre for the recycling of electrical equipment. For more information regarding the treatment, recovery or recycling of this product, contact your competent local office, electrical waste disposal or vendor from whom you purchased the freezer.



As this item is designed for medical or scientific use, before presenting for collection and disposal it will be necessary for the user to provide documentary evidence of decontamination and/or that it is entirely safe to handle and dismantle outside of a controlled environment. Goods that cannot be so certified fall outside the scope of the Directive and remain the user's responsibility to dispose of.

# Contents

|                                 |   |
|---------------------------------|---|
| Setting up.....                 | 1 |
| Product overview.....           | 1 |
| Control panel overview.....     | 2 |
| Plug in and switch on.....      | 2 |
| Locking the set point.....      | 3 |
| Alarm.....                      | 3 |
| Door.....                       | 4 |
| Interfaces.....                 | 4 |
| Looking after your freezer..... | 4 |
| Trouble shooting.....           | 5 |
| Specifications.....             | 5 |
| Circuit diagram.....            | 6 |
| Useful information.....         | 6 |

## WARNING!

**Risk of frostbite always use protective gloves when using the freezer**



**Safety gloves  
must be worn**

**Original Instructions**

## Before Use

Thank you for purchasing a **Labcold** Ultra Low Temperature freezer. Your freezer has been purpose built to store items between -50°C and -80°C.

Although great care has been taken in the manufacture of your freezer, damage can occur in transit. **Before** using for the first time please remove all packaging. If any damage is suspected, please contact your retailer immediately upon receipt of the product. **Failure to do so may invalidate your warranty.**

## Setting Up

### LEAVE THE FREEZER FOR 24 HOURS BEFORE CONNECTING TO THE POWER SUPPLY AFTER MOVING OR TIPPING

To prevent injury and damage we recommend at least 2 people are involved in moving the freezer and specialised equipment is used where necessary. When moving your freezer into position, **do not** tip more than 45°.

Make sure you position the freezer on a firm level surface, away from direct sunlight or other sources of heat, in an environment where the ambient temperature is between 16°C and 32°C.

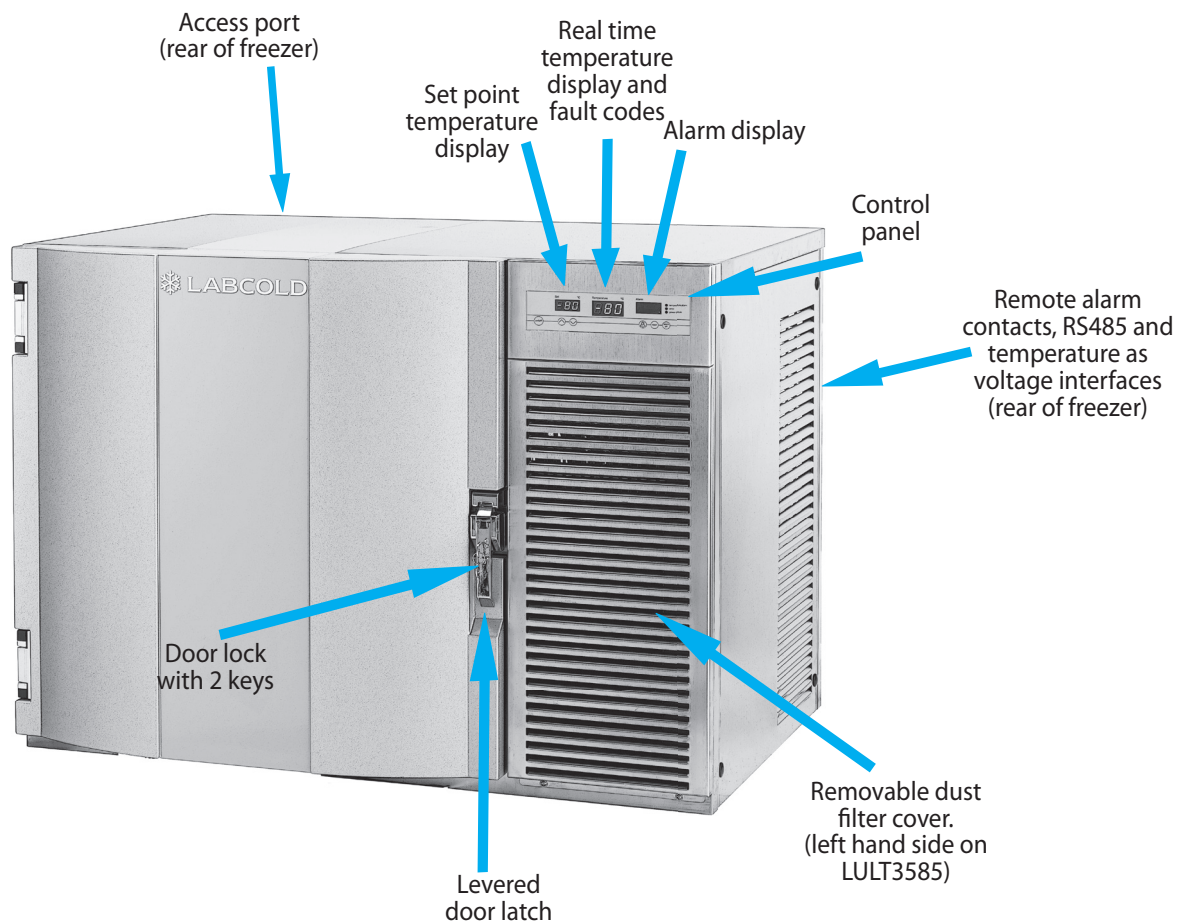
Check that the power cable is not damaged in any way before connecting to the mains. The use of an extension lead is not recommended.

Please ensure that there is at least a 30cm gap around all sides and the back of the freezer to allow for proper ventilation.

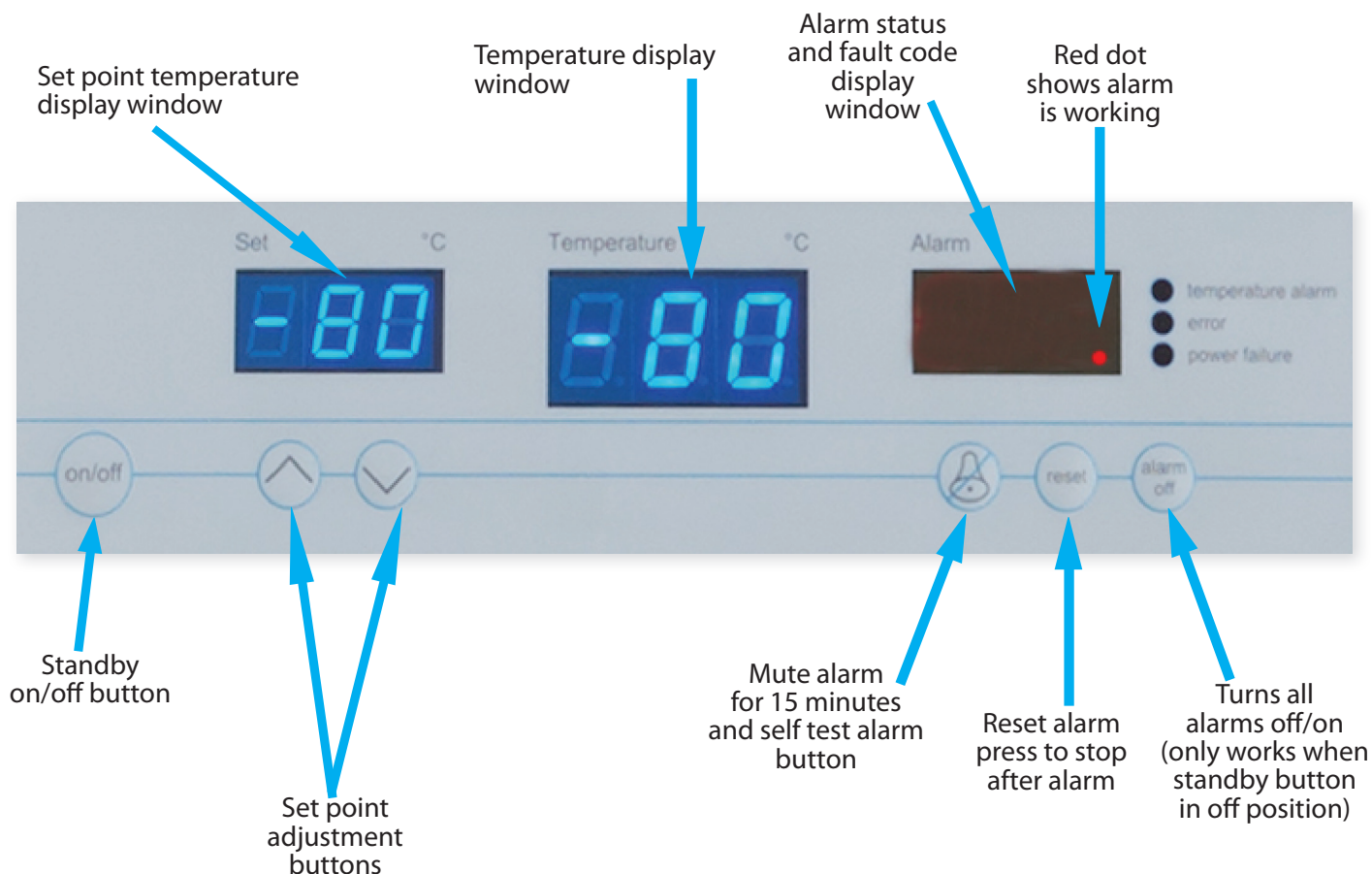
It is recommended to clean the freezer thoroughly before using for the first time.

### WHEN OPERATING AN ULTRA LOW TEMPERATURE FREEZER ALWAYS USE PROPER PROTECTIVE EQUIPMENT

## Product Overview



## Control Panel Overview



**ⓘ As a safety feature, buttons need to be depressed for 2 seconds before any change can occur**

## Plug In and Switch On

Before plugging in your **Labcold** freezer for the first time make sure the power cable is free from damage and check that your voltage corresponds to that on the serial plate. Your freezer also needs to stand for 24 hours after delivery or tipping before turning on.

Connect to the power supply, press the standby button to 'on' and the freezer will start working. The freezer will be preset with a set point of  $-80^{\circ}\text{C}$  and will begin to pull down to that temperature unless you change the set point.

The alarm is a separate unit to the main controller and has its own battery and processor. As a result the high alarm will **not** sound and the alarm will **not** activate for a temperature incursion for 3 hours after starting up.

**ⓘ Leave the freezer to run for at least 24 hours at the desired temperature before filling with product**

If the Alarm Status display shows **OFF** it means the alarms are turned off. In normal operation the display will show a red dot in the right hand corner of the display. To turn the alarms on, press the standby button which turns off the cooling system of the freezer, then while still off, press the alarm off button and then the standby button again to restart the cooling system. The alarms should then be back on and the display will change from **OFF** to the red dot.



Display showing alarms turned off



Display showing alarms turned on

## Locking The Set Point

- To lock the set point, simultaneously press the two arrow buttons and hold for about 5 seconds.
- The set point display window will show P - P, you can release the arrow buttons
- Now Press and Hold the On/Off button and then press the UP arrow button and release both. The Set Point Display window will then show P1
- Press the 'up' arrow button repeatedly until the Set Point Display window shows P19
- Press the on/off button and then either the 'down' or 'up' arrow button and release to lock or unlock the controller
- 0 will display in the Temperature Display Window when the set point is unlocked, and 1 when it is locked

The controller returns to operating mode automatically after about a minute and the cooling is not turned off during the process.

## Alarm

Unless the alarm is turned off, the freezer will alarm when the temperature is 5°C higher than the set point. It will also alarm if the door is left open or if there is a mains power failure. The mains power failure alarm works even if the freezer is in standby mode and unlike the door open alarm, there is no delay.

The alarm is separate from the controller and has its own rechargeable battery so the alarm works in the event of a power failure for up to 72 hours.

You can test that the alarm is working correctly by pressing the mute alarm button. The alarm will go through a series of checks and if the diagnostics reveal no faults, will return to displaying the red dot. If it detects a problem it will display F8.

In addition to the F8 fault code the display and alarm will show different codes depending on the status, please see below:

| Set Point Display | Temp Display | Alarm Display | Acoustic Alarm | Temp Alarm LED | Error LED | Power Failure LED | Description                                                                             |
|-------------------|--------------|---------------|----------------|----------------|-----------|-------------------|-----------------------------------------------------------------------------------------|
| Set temp          | Actual temp  | Red dot       | ×              | Off            | Off       | Off               | Normal function                                                                         |
| Blank             | OFF          | Red dot/OFF   | ×              | Off            | Off       | Off               | Standby on 'off'                                                                        |
| Set temp          | Actual temp  | OFF           | ×              | Off            | Off       | Off               | Alarm is turned off                                                                     |
| ---               | Actual temp  | Red dot       | ×              | Off            | Off       | Off               | Set point adjust is locked                                                              |
| Set temp          | Flashing     | Max Temp      | ✓              | On             | Off       | Off               | <b>Temperature alarm:</b><br>temperature in the interior 5°C above the set temperature. |
| Set temp          | F1           | Red dot       | ✓              | Off            | On        | Off               | <b>Sensor error F1</b><br>refrigeration unit runs continuously                          |
| Set temp          | Actual temp  | F3            | ✓              | Off            | On        | Off               | <b>Sensor error F3</b><br>Alarm circuit not operational                                 |
| Set temp          | Actual temp  | F4            | ✓              | On             | Off       | Off               | <b>Sensor limit value alarm F4</b><br>Freezer too warm                                  |
| Set temp          | Actual temp  | F4            | ✓              | Off            | On        | Off               | <b>Sensor error F4</b>                                                                  |
| Set temp          | Actual temp  | F5            | ✓              | Off            | On        | Off               | <b>Sensor error F5</b>                                                                  |
| Set temp          | Actual temp  | F6            | ✓              | Off            | Off       | On                | Alarm battery problem                                                                   |
| No digits         | No digits    | Max Temp      | ✓              | Off            | Off       | Flashes           | Freezer without mains power                                                             |
| Set temp          | F7           | Red dot       | ✓              | Off            | On        | Off               | Door open                                                                               |
| Set temp          | Actual temp  | F8            | ×              | Off            | Off       | Off               | Alarm self-test failed                                                                  |
| Set temp          | Actual temp  | F9            | ✓              | Off            | On        | Off               | No feedback from the control                                                            |
| Set temp          | EP1          | Red dot       | ✓              | Off            | On        | Off               | Control problem                                                                         |
| Set temp          | Actual temp  | EP1           | ✓              | Off            | On        | Off               | Alarm circuit problem                                                                   |
| Set temp          | Actual temp  | F10           | ✓              | Off            | On        | Off               | First level of the refrigeration unit has too little power                              |

## Door

Your freezer is supplied with two keys to lock the freezer.

To open the door, pull the lever up and the door will open. Please be aware that after closing the door it will not open straight away. You will need to wait 1-2 minutes approx before you can open the door again.

**Do NOT force the lever of the door handle up as this will break the latch and the freezer won't lock**

## Interfaces

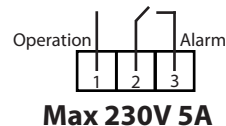
These are located at the rear of the freezer above the socket for the mains power cable.



RS485 interface designed as 3-pin jack.

The freezer can be connected to a PC via a USB gateway to read temperatures and adjust

An external alarm system can be connected to a volt-free alarm contact via the three individual jacks



The interior temperature is output as voltage signal (100 mV/K)  
An external temperature recording system can be connected.  
Output signal: 0V = 0°C / -10V = -100°C

## Looking After Your Freezer

### Defrosting

In the course of normal operation a build up of ice can be expected and is quite normal. This may impair the performance of the freezer so it is recommended that you defrost it regularly.

**Always disconnect the power and remove the contents of the freezer before defrosting.**

**❗ DO NOT use an electrical heater or sharp objects to remove ice as this may damage the inside of the freezer.**

Once all the ice has melted thoroughly dry the inside of the freezer, paying particular attention to the door seal and remove any excess water before switching back on. Do not use any corrosive cleaner or solvent on the freezer.

### Cleaning the Fin Coil Heat exchanger

We recommend that this is cleaned at least every six months, more frequently if the environment is very dusty because if it gets clogged with dust the freezer will overheat and the thermal protection on the compressors will turn them off so the freezer will stop working.

To do this, switch off the freezer and disconnect from mains power and:

- Release the fastening screws below the front grille
- Slide the grille downwards and remove it. Clean the black fin coil heat exchanger with compressed air or a brush/vacuum cleaner
- Replace the grille and refit the two fastening screws
- Failure to keep the fin coil heat exchanger free from blockage may void the equipment warranty.

**WARNING: Avoid direct contact with the fin coil heater as the fin coils are sharp - risk of cuts**

## Trouble Shooting

### My freezer isn't working?

- Check that the freezer is plugged in and that the plug socket is turned on and there is power to it
- Try the freezer in another plug socket
- Check that the standby button is switched 'on'
- 

### My freezer is running at too high a temperature

- Check that there is not a build up of ice on the inside of the freezer
- Check that the freezer has enough ventilation and that the heat exchanger is free from obstruction
- Check that the freezer is not too full, overfilling the freezer will result in the performance being impaired
- Check that the ambient temperature is not too high - a high ambient temperature over 30°C is not recommend as this freezer is climate class 4 and designed to operate at +16°C to +32°C ambient room temperature
- Check that it has not been stocked recently with warm material as this will raise the internal temperature
- Turn the freezer off for 1-2 hours to allow the compressors to cool down. If the problem persists, turn off the freezer and contact the Labcold service team
- If none of the above solves the problem call our service department on **01256 705 580** for advice

**THE COMPRESSORS OF THE REFRIGERATION UNIT ARE EQUIPPED WITH INTERNAL THERMAL PROTECTION. THIS SWITCHES OFF THE COMPRESSORS AND CONSEQUENTLY THE COOLING IF THEY OVERHEAT**

### The freezer is noisy?

- A gurgling noise is usual because it is the sound of the refrigerant gases as they condense
- If the freezer is not on a level surface or is touching a wall it may rock or vibrate during operation

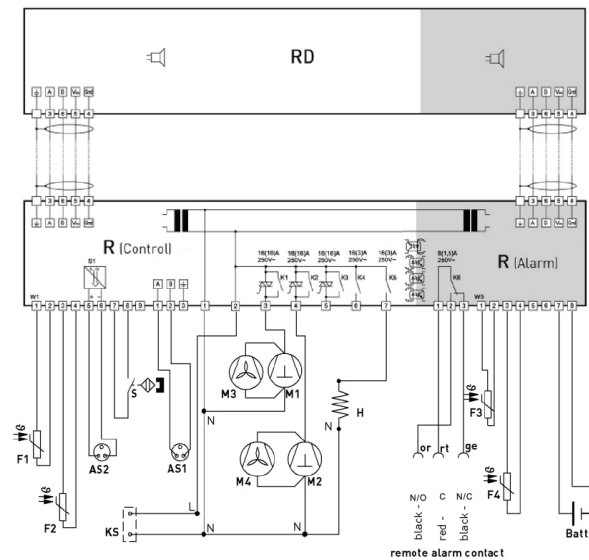
### There is ice in my freezer?

- A small amount of ice is perfectly normal, especially around the door. This can be removed with a soft cloth
- Check you have observed the requirement for 30cm space to either side of the freezer (and rear)
- If there is lots of ice, defrost the freezer at the earliest opportunity

## Specifications

| Model                             | LULT3585                  | LULT80100                 |
|-----------------------------------|---------------------------|---------------------------|
| Climate Class                     | 4 - ambient +16°C to 32°C | 4 - ambient +16°C to 32°C |
| Storing Temperature               | -50°C to -80°C            | -50°C to -80°C            |
| Refrigerant                       | R290 R170 (GWP3)          | R290 R170 (GWP3)          |
| Voltage                           | 220/240                   | 220/240                   |
| Max. current consumption (A)      | 5                         | 8                         |
| Energy consumption (kWh/24h)      | 4                         | 8.7                       |
| Rating Frequency                  | 50HZ                      | 50HZ                      |
| Capacity                          | 35 litres                 | 100 litres                |
| Exterior Dimensions (H x W x D)mm | 540 x 580 x 765           | 750 x 950 x 730           |
| Interior Dimensions (H x W x D)mm | 280 x 425 x 300           | 500 x 450 x 450           |
| Weight (kg)                       | 81                        | 120                       |

## Circuit Diagram



## Useful Information

Your **Labcold** LULT freezer comes complete with a five year parts warranty and a three year labour warranty. Comprehensive preventative maintenance contracts are also available at additional cost.

To register your warranty, please complete the enclosed form or visit our website at [www.labcold.com](http://www.labcold.com), click on the 'Register your warranty' tab and follow the instructions. Full warranty terms and conditions can also be viewed and downloaded from the [Labcold](http://www.labcold.com) website.

In the unlikely event that there is a problem with your freezer, you should contact your retailer in the first instance. If you bought your freezer directly from **Labcold** you should contact our service team on: **01256 705 580** or e-mail them at **[service@labcold.com](mailto:service@labcold.com)**.

When you register your warranty or want to report a performance issue you will need to have the following information to hand. Please fill this in as soon as you get your freezer so we can assist you as quickly as possible should you have a problem or need to book a maintenance visit.

**Model Number:** \_\_\_\_\_

**Serial Number:** \_\_\_\_\_

Retailer: \_\_\_\_\_

**Date Purchased:** \_\_\_\_\_



***the professional choice for medical  
and scientific refrigeration...***

**Labcold Ltd, Cherrywood, Chineham Park, Basingstoke. RG24 8WF ☎ 01256 705 580**