A large, white, industrial-grade ultra-low temperature freezer stands in a laboratory. The freezer is open, revealing its interior compartments, including several small drawers and a larger door at the bottom. The floor is a light blue, and a sink is visible in the background.

The perfect solution for  
reliable sample storage  
**Ultra-low temperature  
freezers**

Quality, Design and Innovation

**LIEBHERR**

# The Liebherr Advantage

- Active Green**

State-of-the-art refrigeration technology with natural refrigerants and low energy consumption, thanks to extensive vacuum heat insulation.
- Interior/shelf areas/inner doors**

Keep hygiene a priority with interiors, shelves and inner doors that are made of easy-to-clean, rust-proof stainless steel.
- Adjustable stainless-steel storage shelves**

Three adjustable interior storage shelves offer space-saving storage that's easily tailored to your needs. Additional storage shelves are available as an option.
- Potential-free contact**

For added safety, appliances are equipped with potential-free contacts to relay emergency notifications to external remote monitoring systems.
- 2x sensor feedthrough 28mm**

Two sensor feedthroughs let you install external monitoring or data recording systems with separate sensors in the interior.
- Low energy consumption**

Ultra-low temperature freezers are among the devices with the highest energy consumption in research facilities. That's why Liebherr ultra-low temperature freezers are among the world's most energy efficient and economical models on the market. In combination with highly insulated vacuum panels, our cooling system allows for efficient operation, optimum energy savings and, as a result, low operating costs.
- Pressure-compensated valve**

When the door is opened, the air exchange creates a vacuum, making it difficult to open the door repeatedly, but with the help of a heated pressure-compensated valve, the vacuum is quickly equalized allowing the door to be easily opened.
- Integrated unloading ramp**

No forklift necessary: the unloading ramp in the packaging helps you easily position the appliance.



SUFsg 5001

**Door Seal**

The innovative door seal fully enables sealed closure of the door, helping to reduce energy consumption. The seals can be replaced separately and without tools.

**Highly efficient insulation**

Prevent rapid temperature increases with a combination of CFC-free PU foam and vacuum-insulated panels, ensuring the best possible insulation.

**Emergency notifications in critical situations**

A 3-stage monitoring system, consisting of integrated alarm notifications for temperature, door or mains electrical faults, upgradable features such as CO<sub>2</sub> emergency cooling, and online monitoring and training materials, ensure the very best protection for your stored items. In the case of an emergency, you will be notified immediately in order to be able to rectify the fault quickly.

**Detachable stainless-steel inner doors**

The detachable, rust-proof, stainless-steel inner doors prevent cold loss when opened.

**Minimal temperature fluctuations**

Minimal temperature fluctuations are crucial to maintaining the quality and integrity of your stored items. Our ultra-low temperature freezers have the lowest possible fluctuations both internally, within the appliance, and over time.

**Secure Access**

Our ultra-low temperature freezer's robust mechanical key lock protects stored samples from unwanted access.

**Lever handle**

Easy opening of the door using the ergonomic lever handle. The opening support enables the door to be opened with minimal effort and reduces the vibrations on stored goods when the door is opened.

**Integrated electronics**

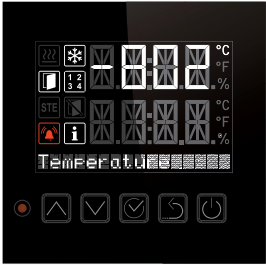
Built with intuitive electronics that feature an integrated real-time clock with a temperature setting option that is accurate up to 1/10°C. The control and display panel is dirt-resistant and easy to clean. Flexible parameter adaptations, such as for offset and alarm value settings, allow the appliances to be quickly and easily adapted to your respective applications and requirements.

**Low heat generation**

Compared to older technologies, our efficient cascade cooling system, with HC refrigerants, generates significantly less heat. This saves costs in the thermal design of the room's air conditioning system. If heat dissipation via the room's air conditioning isn't possible, a water-cooling option is available.

# Safe storage at very low temperatures

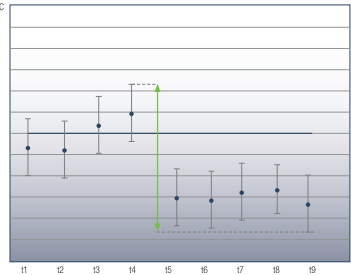
Liebherr’s ultra-low temperature freezers (ULT) are the gold standard in the -40 °C to -86 °C temperature range, offering the safety, performance and ease of use needed to meet your business’s demands. Place your trust in our extensive experience as experts in cooling and freezing and take advantage of its low operating costs, sustainable cooling, large interior with practical features and many safety functions.



**Alarm messages in critical situations**  
Don't worry about security: Thanks to a three-stage monitoring system, consisting of integrated alarm messages for temperature, door or mains faults, upgradable features such as CO<sub>2</sub> emergency cooling, and online monitoring ensure the very best protection for your stored samples at all times. In the event of a power failure, integrated 12-volt batteries immediately supply the electronics with power. You will also be notified in critical situations so that you can quickly rectify the fault.



**Mechanical key lock**  
The mechanical key lock protects the stored products from unauthorised access. The door is opened with an ergonomic and unbreakable aluminium lever handle.



**Minimal temperature fluctuations**  
In order to maintain the quality of the stored samples, minimal temperature fluctuations are very important. The Liebherr ultra-low temperature freezers have the lowest possible fluctuations both internally, within the appliance, and over time.

## Accessories



**Racks for cryoboxes**  
Convenient and temperature resistant storage systems for well organised sample storage. Available as aluminium or stainless steel side-access racks for 5x4 or 6x4 50 mm boxes and as stainless steel front-access-drawer racks for 5x4 or 6x4 50 mm boxes

Aluminium side-access rack 5x4	7790003	Stainless steel side-access rack 5x4	7790027
Aluminium side-access rack 6x4	7790014	Stainless steel side-access rack 6x4	7790028
Aluminium side-access rack 5x4 + cryoboxes	7790015	Stainless steel side-access rack 5x4 + drawers	7790031
Aluminium side-access rack 6x4+ cryoboxes	7790025	Stainless steel side-access rack 6x4 + drawers	7790032
Stainless steel side-access rack 5x4 + cryoboxes	7790029	Stainless steel side-access rack 5x4+ cryoboxes + drawers	7790033
Stainless steel side-access rack 6x4+ cryoboxes	7790030	Stainless steel side-access rack 6x4+ cryoboxes + drawers	7790036



**Cryoboxes**  
For safe storage and transport of valuable samples with a fixed 9x9 grid for up to 81x2ml samples. The robust and temperature-resistant cardboard boxes are available in sets of 36.

Cryoboxes (50 mm box height), set of 36	7790038
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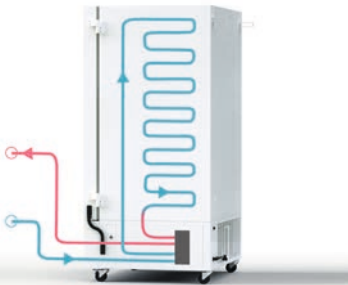
**CO<sub>2</sub> backup system**  
The CO<sub>2</sub> backup system ensures that the cooling of the stored samples continues at reduced temperature for up to 72 hours in the event of a power failure. The CO<sub>2</sub> bottle is not part of the accessory.

CO <sub>2</sub> backup system	7790048
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**Stainless-steel storage shelves/foamed inner doors**  
Additional robust stainless-steel shelves for flexible and individual partitioning of the interior at 24 mm increments. The foamed inner doors provide the best possible insulation and temperature stability, ensuring efficient cooling and low power consumption.

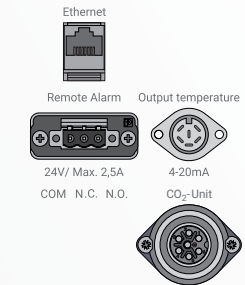
Stainless steel storage shelf SUFsg 50	7790049	Foamed inner doors SUFsg 50	7790070
Stainless steel storage shelf SUFsg 70	7790050	Foamed inner doors SUFsg 70	7790127



**Low heat emission**  
Compared to older technologies, the efficient cascade cooling system, with HC refrigerants generates significantly less heat. This saves costs in the thermal design of the room’s air conditioning system.



**Low energy consumption**  
Ultra-low temperature freezers are among the appliances with the highest energy consumption in research facilities. Liebherr ultra-low temperature freezers are among the most economical models on the market worldwide. In combination with highly insulating vacuum panels, the efficient cooling system allows for efficient operation, optimum energy savings and, as a result, low operating costs.

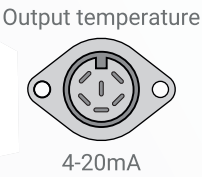


**Interfaces**  
For remote monitoring, all appliances are equipped with volt-free contacts and ethernet interfaces. The temperature and alarm records can also be read via the integrated USB interface. Optionally, a 4-20 mA output enables the integration of the temperature value into existing systems for data recording.



**Cover for main switch, incl. key lock**  
Get protection against unintended disconnection or manipulation of the main switch.

Cover for mains switch incl. key lock	7790051
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**4-20mA analogue output**  
The 4-20mA interface displays the current internal temperature.

4-20 mA analogue output	7790042
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## Ultra-low temperature freezers - MediLine Series



Ultra-low temperature freezers	SUFsg 5001 115V/60Hz MediLine	SUFsg 7001 115V/60Hz MediLine
<b>Total gross/net capacity</b> l (cu.ft.)	491/477 (17.3/16.8)	728/700 (25.7/24.7)
<b>Exterior dimensions</b> in mm (w/d/h)	921/985/1966	1110/985/1966
in inches (w/d/h)	36 1/4" / 38 3/4" / 77 3/8"	43 11/16" / 38 3/4" / 77 3/8"
<b>Interior dimensions</b> in mm (w/d/h)	586/605/1300	890/590/1300
in inches (w/d/h)	23 1/16" / 23 13/16" / 51 3/16"	35 1/16" / 23 1/4" / 51 3/16"
Energy Consumption (kWh/day-cu-ft)	0.46	0.36
Ambient temperature in °C (°F)	+16°C to +32°C (61°F to 90°F)	+16°C to +32°C (61°F to 90°F)
Heat output/system	1188 kJ/h/air cooling	1188 kJ/h/air cooling
Refrigerant	R290/R170	R290/R170
Sound rating *	47 dB(A)	47 dB(A)
Connection rating	11.7 A/1.4 kW	11.7 A/1.4 kW
Frequency/voltage	60 Hz/120V~	60 Hz/120V~
Temperature range in °C (°F)	-40°C to -86°C (-40°F to -123°F)	-40°C to -86°C (-40°F to -123°F)
External cabinet finish	steel/white	steel/white
Door/lid material	steel	steel
Internal liner material	stainless steel	stainless steel
Type of control	electronic control	electronic control
Temperature display	external digital	external digital
Interface	LAN (Ethernet)	LAN (Ethernet)
Volt-free alarm contact	yes	yes
Data logger	integrated, USB interface	integrated, USB interface
Power failure alarm	immediate with power cut for 72 h	immediate with power cut for 72 h
Cooling system	static	static
Refrigeration +22°C to -80°C	360 min	450 min
Warming -80°C to -60°C / to 0°C	230 min/2160 min	250 min / 2220 min
Number / Max. number of shelves	4/13	4/13
Shelf material	stainless steel	stainless steel
Shelf load weight in kg (lbs)	50 (110.2)	50 (110.2)
Number of racks per drawer	4	6
Max. number of cryo boxes 50 mm / 75 mm	352/224	528/336
Casters	castors with brake at the front, fixed castors at the rear	castors with brake at the front, fixed castors at the rear
Replaceable door seal	yes	yes
Sensor performance	2 x Ø 28 mm	2 x Ø 28 mm
Lock	yes	yes
Door hinge	right, not reversible	right, not reversible
Gross/net weight in kg (lbs)	280/247 kg (617.2/544.5)	330/288 kg (727.5/ 634.9)