

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

Quality, Design and Innovation



LIEBHERR

Other advantages at a glance

Active Green
ActiveGreen
State-of-the-art refrigeration technology with climate-neutral refrigerants and lowest energy consumption thanks to, among other things, the extensive use of high-quality vacuum insulation panels.



Interior/storage shelves/inner doors
The interior, shelves and inner doors are made of rust-proof stainless steel and are therefore easy to clean. This enables optimum hygiene.



Flexibly positionable stainless steel storage shelves
Three storage shelves in the interior, which are freely adjustable at increments of 24 mm, offer flexibility for space-saving storage, tailored to your requirements. Further storage shelves can be added as an option.

Volt-free contact
Volt-free contact for relaying alarms to an external remote monitoring system – for more safety.



2 x access ports, 28 mm
Two access ports on the upper left and lower left let you install external monitoring or data recording systems with separate sensors in the interior.

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



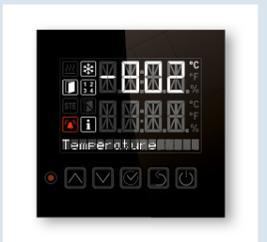
Door seal concept
The innovative door seal concept, comprising two separate multi-chamber profiled gaskets, enables fully sealed closure of the door. This also helps to reduce energy consumption. The seals can be replaced separately and without tools.



Detachable stainless steel inner doors
The detachable, rust-proof, stainless steel inner doors reduce the loss of cold air when the outer door is opened and are also easy to clean.



Alarm messages in critical situations
The three-stage monitoring system consisting of integrated alarm notifications for temperature, door or mains electrical faults, upgradable features such as CO₂ emergency cooling and online monitoring, ensure the very best protection for your stored items. In the event of a power failure, integrated 12-volt batteries immediately supply the controller with power. Notification is provided in critical situations.



Integrated controller
The intuitive controller with an integrated real-time clock has a temperature setting option accurate to 0.1 °C. The control and display panel is resistant to dirt and easy to clean. Flexible parameter adaptations, such as offset and alarm value settings, allow the appliances to be quickly and easily adapted to and qualified for your applications and requirements.

Highly efficient insulation
The combination of CFC-free PU foam with high-quality vacuum-insulated panels ensures the best possible insulation for preventing rapid temperature increases and ensuring low energy consumption.

Pressure relief valve
When the door is opened, the air exchange creates a vacuum which makes it difficult to open the door repeatedly. With the aid of the heated pressure relief valve, the vacuum is quickly equalised and the door can easily be opened again after just a few seconds.



Safe storage at the lowest temperatures

Liebherr's ultra-low temperature freezers (ULT) set the benchmark in the temperature range -40 °C to -86 °C: In terms of safety, performance and ease of use, they offer all you need for meeting the demanding requirements of laboratories and scientific institutions, for example. Take advantage of the low operating costs, sustainable cooling, the large interior with practical features and the numerous safety functions of the ultra-low temperature freezers. Place your trust in our extensive experience as a specialist in cooling and freezing.



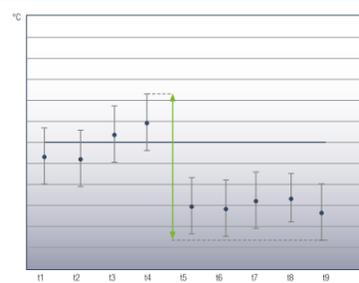
Alarm messages in critical situations

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 CO₂ 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.



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 front-access rack 5x4 + drawers	7790031
Aluminium side-access rack 6x4 + cryoboxes	7790025	Stainless steel front-access rack 6x4 + drawers	7790032
Stainless steel side-access rack 5x4 + cryoboxes	7790029	Stainless steel front-access rack 5x4 + cryoboxes + drawers	7790033
Stainless steel side-access rack 6x4 + cryoboxes	7790030	Stainless steel front-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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CO₂ backup system

The CO₂ backup system ensures that the cooling of the stored samples continues at reduced temperatures for up to 72 hours in the event of a power failure. The CO₂ bottle is not part of the accessory.

CO ₂ 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.

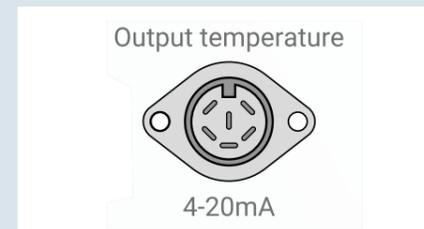
Stainless steel storage shelf SUFsg 50	7790049	Foamed inner doors SUFsg 50	7790070
Stainless steel storage shelf SUFsg 70	7790050	Foamed inner doors SUFsg 70	7790127



Cover for mains switch incl. key lock

Protection against unintended disconnection or manipulation of the mains switch.

Cover for mains switch incl. key lock	7790051
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4-20mA analogue output

The 4-20mA interface displays the interior temperature as a current value, which for example can be imported into an independent system for recording or checking the internal temperature.

4-20 mA analogue output	7790042
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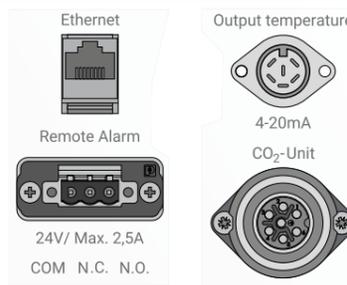
Low heat emission

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. If heat dissipation via the room air conditioning is not possible, the option with water cooling is also available.



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.

Ultra-low temperature freezers – MediLine Series



Ultra-low temperature freezers	SUFsg 5001 MediLine Smart Monitoring	SUFsg 7001 MediLine Smart Monitoring
Total gross / net capacity	491 / 477 litre	728 / 700 litre
Exterior dimensions in mm (w/d/h)	921 / 1085 / 1966	1205 / 1085 / 1966
Interior dimensions in mm (w/d/h)	606 / 605 / 1300	890 / 605 / 1300
Energy consumption in 365 days	2884 kWh	2957 kWh
Ambient temperature range	+16 °C to +32 °C	+16 °C to +32 °C
Heat output	1188 kJ/h	1224 kJ/h
Heat output system	air-cooled (water-cooled option available)	air-cooled (water-cooled option available)
Refrigerant	R290/R170	R290/R170
Sound power level *	47 dB(A)	47 dB(A)
Connection rating	7.0 A / 1600 W	7.0 A / 1600 W
Frequency/voltage	50 Hz / 230V~	50 Hz / 230V~
Temperature range	-40 °C to -86 °C	-40 °C to -86 °C
External cabinet finish	steel / white	steel / white
Door material	steel	steel
Internal liner material	stainless steel	stainless steel
Type of control	electronic controller	electronic controller
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	immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs
Cooling system	static	static
Pull-down time +22 °C to -80 °C	360 min	450 min
Warm-up time -80 °C to -60 °C / to 0 °C	230 min / 2160 min	250 min / 2220 min
Number / maximum number of storage shelves	4 / 13	4 / 13
Shelf material	stainless steel	stainless steel
Shelf loading	50 kg	50 kg
Number of racks per shelf	4	6
Max. number of cryoboxes, 50 mm / 75 mm	352 / 224	528 / 336
Castors	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
Access ports	2 × Ø 28 mm	2 × Ø 28 mm
Lock	fitted	fitted
Door hinges	right hand hinged, not reversible	right hand hinged, not reversible
Gross / net weight	280 / 247 kg	330 / 288 kg
Water cooling also available as	SUFsg 5001 version H72	SUFsg 7001 version H72

* Average sound pressure level at 1 m distance

Subject to technical changes, errors and deviations in image and text. For latest available data, see home.liebherr.com.