



ULT freezers – maximum safety and efficiency at ultra-low temperatures

Liebherr ultra-low temperature freezers set new standards in the temperature range from $-40\text{ }^{\circ}\text{C}$ to $-86\text{ }^{\circ}\text{C}$. Not only do they offer unprecedented quality and reliability for storing highly sensitive substances, but also outstanding energy efficiency and ease of use that you will notice every day. Robust, economical and extremely safe, the series of appliances from the experts in freezing for laboratories and research facilities have an impressive number of functions and features.

For optimal protection of your valuable samples, chemicals and research materials. And for the satisfaction of being able to concentrate fully on your work.

The advantages at a glance

SmartMonitoring

The cloud-based digital solution continuously monitors and documents temperatures and alerts you immediately via email, text message or phone if any deviations occur.

Stainless steel workmanship

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

Shelves

Three stainless steel shelves in the interior, that can be freely adjusted in 24 mm increments, offer flexibility for space-saving storage, tailored to your requirements. You can add more shelves if required.

Serial interfaces

Interfaces for connecting to documentation and monitoring systems such as SmartMonitoring, as well as a volt-free contact for sending alarms to external remote warning systems.



Data recording

There are two feedthroughs (28 mm) on the top and bottom left for installing separate sensors for external monitoring or data recording systems in the interior.

Unloading ramp

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



SUFsg 5001 MediLine

The equipment details shown depend on the model; the description for the respective model applies.

Detachable inner door

The detachable inner doors made of rust-proof stainless steel prevent loss of cold air when opening and are also easy to clean.



Door seals

The innovative door seal design, consisting of two all-round seals, makes the door completely airtight when closed. This also helps reduce energy consumption. The seals can be replaced separately and without tools.

Intuitive electronics

The intuitive electronics with integrated real-time clock allow the temperature to be set with an accuracy of one tenth of a degree. 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 and qualified for your applications and requirements.



Monitoring system

The 3-stage monitoring system, consisting of integrated alarm notifications for temperature, door or mains electrical faults, upgradable features such as CO₂ emergency refrigeration and online

monitoring, ensures optimum protection during storage. In the event of a power failure, integrated 12-volt batteries immediately supply the electronics with power. Notifications are provided in critical situations.

Insulation

The combination of CFC-free polyurethane foam and vacuum-insulated panels ensures the best possible insulation to prevent rapid temperature increases.

Pressure compensation valve

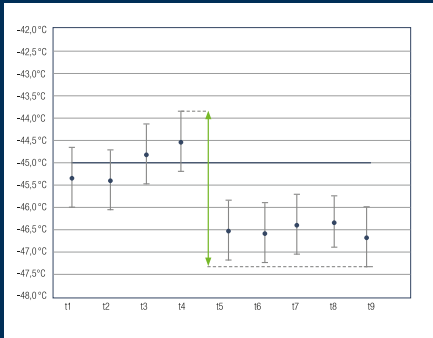
When the door is opened and closed, the air exchange creates a vacuum which makes it difficult to open the door again immediately afterwards. The heated pressure compensation valve quickly equalises the vacuum and the door can be easily opened again after just a few seconds.



Mechanical lock

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

Quality right down to the smallest detail



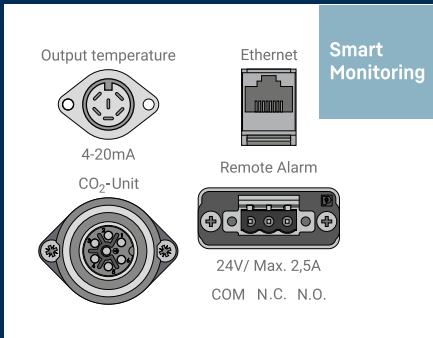
Minimal temperature fluctuations
In order to maintain the quality of the stored samples, it is important to minimise temperature fluctuations. Liebherr ultra-low temperature freezers are characterised by extremely low fluctuations, both within the appliance and over time.



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 some of the most economical models on the market worldwide. In combination with highly insulating vacuum panels, the efficient cooling system allows economical operation, optimum energy savings and therefore low operating costs.



Low heat generation
The efficient cascade cooling system with HC refrigerants generates significantly less heat than previous technologies. 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, water cooling is available as an option.



Connection to documentation and monitoring systems
All the appliances have a volt-free alarm output and an Ethernet interface for remote monitoring. This means the appliances can be connected to SmartMonitoring. In addition, the temperature and alarm records can be read via the integrated USB interface. Optionally, a 4-20 mA output allows the temperature value to be integrated into existing data recording systems.



IQ, OQ, training
From installation qualification (IQ) to operational qualification (OQ) to training, we offer you comprehensive expert help with installation and commissioning. We carry out the various checks for you or set specific parameters for you on request. In addition, we train your staff on site in using the equipment and answer your questions. In our document folder you will also find all the important information about the devices.



Installation service for accessories
Our qualified installation service assists you with professional installation and connection of accessories such as the analogue temperature sensor or CO₂ emergency refrigeration.



Gross / net capacity	728 / 700 litre
Exterior dimensions in mm (w / d / h)	1204 / 1082 / 1966
Interior dimensions in mm (w / d / h)	890 / 605 / 1300
Energy consumption in 365 days	2957 kWh
Ambient temperature range	+16 °C to +32 °C
Heat output	1224 kJ/h
Heat output system / Refrigeration system	air cooling / 2-stage cascade system
Refrigerant	R 290 / R 170
Sound power level ¹	47 dB(A)
Voltage / Connection rating	230V~ / 7.0 A
Temperature range	-40 °C to -86 °C
External cabinet finish	steel / white
Door material	steel
Internal liner material	Stainless steel
Type of control	LED 7-segment display with buttons
Volt-free alarm contact	yes
Connectivity type	SmartCoolingHub
Connectivity solution	Retrofittable
Interface	LAN (Ethernet)
Data logger	integrated, USB interface
Power failure alarm	immediately upon power failure for 72 hrs
Cooling system	static
Pull-down time +22 °C to -80 °C	450 min
Warm-up time -80 °C to -60 °C / to 0 °C	250 min / 2220 min
Number / maximum number of storage shelves	4 / 13
Adjustable shelves	3
Shelf material	stainless steel
Shelf loading / device	50 kg / 200 kg
Number of racks per shelf	6
Max. number of cryoboxes, 50 mm / 75 mm	528 / 336
Castors	castors with brake at the front, fixed castors at the rear
Access ports	2 x Ø 28 mm
Type of lock	mechanical
Door hinges	right hand hinged, not reversible
Gross / net weight	361 / 313 kg
Accessories	
Racks for cryoboxes	see page 34
Cryoboxes, set of 36	7790038
CO ₂ backup system	7790048
Stainless steel storage shelves	7790050
foamed inner doors	7790127
Cover for mains switch incl. key lock	7790051
4 – 20mA analogue output	7790042
SmartCoolingHub	6125784



SUFsg 7001 ver. H72

MediLine

Gross / net capacity	728 / 700 litre
Exterior dimensions in mm (w / d / h)	1204 / 1082 / 1966
Interior dimensions in mm (w / d / h)	890 / 605 / 1300
Energy consumption in 365 days	2957 kWh
Ambient temperature range	+16 °C to +32 °C
Heat output	1224 kJ/h
Heat output system / Refrigeration system	water-cooled / 2-stage cascade system
Refrigerant	R 290 / R 170
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Gross / net capacity	491 / 477 litre
Exterior dimensions in mm (w / d / h)	920 / 1082 / 1966
Interior dimensions in mm (w / d / h)	606 / 605 / 1300
Energy consumption in 365 days	2884 kWh
Ambient temperature range	+16 °C to +32 °C
Heat output	1188 kJ/h
Heat output system / Refrigeration system	air cooling / 2-stage cascade system
Refrigerant	R 290 / R 170
Sound power level ¹	47 dB(A)
Voltage / Connection rating	230V~ / 7.0 A
Temperature range	-40 °C to -86 °C
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Door material	steel
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Interface	LAN (Ethernet)
Data logger	integrated, USB interface
Power failure alarm	immediately upon power failure for 72 hrs
Cooling system	static
Pull-down time +22 °C to -80 °C	360 min
Warm-up time -80 °C to -60 °C / to 0 °C	230 min / 2160 min
Number / maximum number of storage shelves	4 / 13
Adjustable shelves	3
Shelf material	stainless steel
Shelf loading / device	50 kg / 200 kg
Number of racks per shelf	4
Max. number of cryoboxes, 50 mm / 75 mm	352 / 224
Castors	castors with brake at the front, fixed castors at the rear
Access ports	2 x Ø 28 mm
Type of lock	mechanical
Door hinges	right hand hinged, not reversible
Gross / net weight	308 / 254 kg
Accessories	
Racks for cryoboxes	see page 34
Cryoboxes, set of 36	7790038
CO ₂ backup system	7790048
Stainless steel storage shelves	7790049
foamed inner doors	7790070
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SUFsg 5001

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Ultra-low temperature freezers

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.

Maximum Loading SUFsg 5001: 8x Rack 5x4 + 8x Rack 6x4 = 352 boxes x 81 pcs. 2mL samples.

Maximum Loading SUFsg 7001: 12x Rack 5x4 + 12x Rack 6x4.



Aluminium side-access rack 5x4	7790003
Aluminium side-access rack 6x4	7790014
Aluminium side-access rack 5x4 + cryoboxes	7790015
Aluminium side-access rack 6x4 + cryoboxes	7790025
Stainless steel side-access rack 5x4 + cryoboxes	7790029
Stainless steel side-access rack 6x4 + cryoboxes	7790030

Stainless steel side-access rack 5x4	7790027
Stainless steel side-access rack 6x4	7790028
Stainless steel front-access rack 5x4 + drawers	7790031
Stainless steel front-access rack 6x4 + drawers	7790032
Stainless steel front-access rack 5x4 + cryoboxes + drawers	7790033
Stainless steel front-access rack 6x4 + cryoboxes + drawers	7790036



Cryoboxes

The set contains 36 durable and temperature-resistant cryoboxes made from water-repellent cardboard, with fixed 9x9 grid, for safe storage and transport of valuable samples.



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.



Stainless steel storage shelves

Additional robust stainless steel shelves for flexible and individual partitioning of the interior at 24 mm increments.



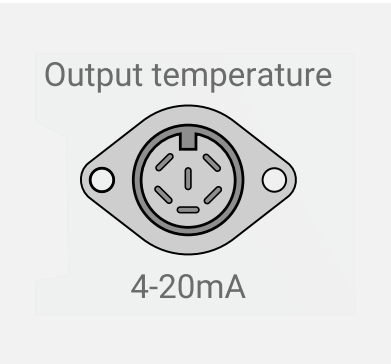
Foamed inner doors

The foamed inner doors provide the best possible insulation and temperature stability, ensuring efficient cooling and low power consumption.



Cover for mains switch incl. key lock

Protection against unintended disconnection or manipulation of the mains switch.



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.



SmartCoolingHub

The SmartCoolingHub provides the basis for connecting your professional Liebherr appliances. Up to 20 network-capable Liebherr appliances can be connected via cable.



RS485 connection cable

The ModBUS-compatible 5-metre cable connects your appliance to the SmartCoolingHub. If you want to connect several appliances, you need an additional cable for each appliance.