

Research and Laboratory Refrigerators and Freezers

Quality, Design and Innovation



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LIEBHERR

Research and Laboratory Refrigerators and Freezers

Liebherr refrigerators and freezers adhere to the most stringent of research and laboratory requirements, including consistent safety and temperature settings. Liebherr appliances are equipped with various features and technologies that ensure the optimal storage of sensitive samples, critical chemicals, and research materials. Features like a precision electronic control enable accurate temperature settings, creating optimal storage conditions, alongside highly effective insulation and dynamic cooling systems. Integrated visual and audible alarm systems warn the user of undesired temperature deviations, ensuring essential safety measures 24 hours a day, 365 days a year.





It's not just a fridge – it's a Liebherr!

Liebherr is one of the world's leading manufacturers of premium commercial refrigeration, specializing in performance and efficiency, as well as keeping stored samples and materials under the most stringent temperature and safety requirements.

Our superior products offer premium quality, cutting edge design, and innovate features that best fit your research and scientific needs.

Ingenuity at its finest

For more than 60 years, Liebherr has specialized in developing and manufacturing first class refrigerators and freezers. An array of compelling innovative ideas are continuously implemented into our efficient products to enhance preservation, improve ease of use, and save energy.

Performance and Efficiency for Years to Come

High quality materials, perfectly detailed finishes, and elite cooling components are combined with the latest production processes, resulting in an outstanding cooling product.

Liebherr appliances are engineered to accommodate a variety of design and installation options, allowing for flexibility within a laboratory's floor plan.

HFC free

Liebherr commercial appliances use R290 and R600a natural refrigerants which are eco-friendly and environmentally responsible, while providing greater energy efficiency.



Introduction of Commercial Food Service and Scientific Appliances in North America	2016		2017	All Research & Laboratory appliances are HFC-free using R290 and R600a refrigerants
Pharmacy	2012		2014	Supermarket
Laboratory	2008		2011	Introduction of Hot Gas Defrost
Winner of ProCool Award	2006		2007	Medium Commercial Freezing
Bakery	2002		2004	Explosion protection
Display	1997		2000	Medium Commercial Cooling
Wine	1984		1987	Ice Cream
Beverage	1980		1981	Commercial Cooling

Global Success: The Liebherr Group

Liebherr is a third-generation, family-owned company founded by Hans Liebherr in 1949 with the creation of the first ever tower crane.

With 70 years of success, Liebherr has become synonymous with the equipment needed to build homes and businesses, as well as the appliances within them. One of the world's largest manufacturers of construction machinery, Liebherr has expanded to eleven divisions with a wide array of product ranges, including earthmoving, mining, mobile cranes, tower cranes, concrete technology, maritime cranes, aerospace and transportation systems, gear technology and automation systems, components, hotels and domestic appliances.

The company currently employs over 46,000 persons in more than 130 companies in over 50 countries worldwide. Liebherr Appliances is Europe's largest privately owned manufacturer of fridges and freezers for residential and commercial use, with an annual production of more than 2.1 million units.

Liebherr's first steps into the Americas was in the early 1970's, later expanding Liebherr Appliances into North America in 2004. Liebherr Appliances in North America is located in Miami, Florida in the United States, and Burlington, Ontario in Canada.



Earthmoving



Mining



Mobile Cranes



Tower Cranes



Concrete Technology



Maritime Cranes



Aerospace and Transportation Systems



Gear Technology and Automation Systems



Domestic Appliances



Components



Hotels



Reasons to Choose Liebherr



Highest Performance

Liebherr refrigerators and freezers for research and laboratory use provide consistent performance, even in extreme climate conditions. The use of ultra-modern components, efficient and environmentally-friendly refrigerants, and precision controls ensures that samples, chemicals, and research materials are stored optimally.

Energy Efficient

Thanks to the precision electronic control and optimized refrigeration system, Liebherr commercial appliances are highly efficient, with very low energy consumption. In addition, highly effective insulation make the appliances environmentally friendly, while lowering operating and energy costs. Liebherr quality guarantees long life and reliable operation of all commercial appliances, along with economic and ecological sustainability.

Reliability

All laboratory appliances are designed according to the EN 60068-3 standard regarding maximum temperature stability. Liebherr commercial appliances are specially constructed for intensive professional use, featuring sturdy designs, the highest-quality materials, and perfect craftsmanship down to the smallest detail. Each Liebherr appliance is subject to elaborate tests prior to leaving the production facility. All electronic and refrigeration components are well balanced to ensure maximum functionality and efficiency, ideal for the storing of valuable and temperature-sensitive materials.

Safety

To meet the most stringent reliability and temperature consistency requirements, Liebherr appliances are equipped with multiple alarm and monitoring features. A visual and audible door alarm alerts the user of any undesired temperature deviations. The units can also be connected via the volt-free contact to an external remote warning system. In addition, the calibration option allows for precise temperature control for adaptation to specific applications.

Easy to Clean

Hygiene plays an important role in laboratories. For this reason, Liebherr appliances are equipped with high quality interior materials, with easy-to-clean and large rounded corners. Flush seals prevent condensation and the accumulation of dirt and dust. Sturdy casters also allow for easy cleaning of the floor space underneath the appliance. In appliances with stainless-steel interiors, the condensing unit is located in the top compartment, allowing for easy service access. The practical doors are equipped with a self-closing system for convenient, hands-free use.

Easy Maintenance

Liebherr professional appliances are designed with the user in mind. The combination of sophisticated concepts and high-quality, durable materials ensures that Liebherr refrigerators and freezers are virtually maintenance-free and easy to operate. In appliances with stainless-steel interiors, the condensing unit is located within the top compartment, allowing for easy service access. In addition, the practical doors are equipped with a self-closing system for convenient, hands-free use.

The Liebherr Advantage



Easy to open panels provide **easy access for servicing and cleaning.**

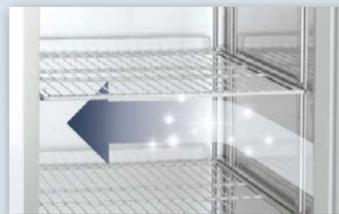


The electronic control allows for min/max temperature recording of up to 41 days for **easy logging of storage conditions.**



Laboratory appliances with electronic controls and top mounted cooling systems are equipped with an access port (7 mm / 9/32" in diameter) in the top compartment for **connecting independent temperature sensors.**

In case of power failure, the electronic control becomes automatically powered by an integrated 12V battery, allowing for **uninterrupted temperature logs for up to 72 hours.**



The smooth, stainless steel interior is **easy to clean for optimal hygiene.**

To **increase interior net capacity**, the condensing unit and refrigerant components are located outside the refrigerator and freezer compartments.



LRT and LFT models include casters as a standard, allowing for **versatile use within spaces**, as well as **convenient cleaning** of underneath the appliance.



Temperatures can be **set and kept to the exact degree** thanks to the electronic control.



After a refrigerator or freezer door has been opened, a vacuum is built up by air exchange – making the door difficult to reopen immediately afterwards. The integrated pressure relief valve ensures that the vacuum is quickly equalized so that the **doors will always open easily.**

If a door is open for longer than 1 minute, a visual and acoustic alarm is triggered. The temperature and power failure alarm indicates that the temperature is either exceeded or not met, and also warns in the event of power failures.



Laboratory appliances with electronic controls are equipped with a volt-free contact for **alarm forwarding** to an external, central alarm system.

The hot-gas defrost system with demand and time controls creates short defrost cycles, resulting in the absence of temperature spikes during defrost, ensuring **temperature stability in variable conditions.**

Maximum temperature stability is ensured by a dynamic cooling system with double ventilation, along with optimal routing of air flow.

The appliance door stays open at a 90° angle, and **self-closes** at an angle of less than 60° for convenient **hands-free** use.



LRT21G1HC

Quality down to the smallest detail

The Mediline range of appliances with electronic controls are equipped with various features that guarantee the safety of stored products and advanced temperature stability. High-quality materials and precise workmanship, extremely

efficient refrigeration components, and temperature logging functions ensure the optimal storage of sensitive samples, chemicals and research materials.



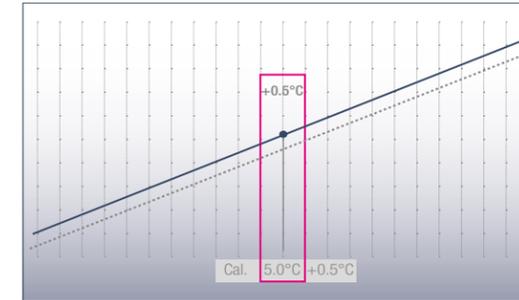
Alarm logs

An integrated data-memory logs the last three temperature alarms and power failures, recording time, date and duration of the alarm.



Integrated alarm systems

A visual and audible alarm alerts the user of temperature deviations. An alarm also alerts if the door is open for longer than one minute or in the event of power failure. The alarm-limits can be adjusted by customers to fit their needs.



Accurate 1-point calibration

Laboratory appliances with an electronic controls include a 1-point calibration function for accurate temperature control. This allows for compensation between the set temperature and the actual internal temperature. Positive or negative changes to the correction value can be made in steps of 0.1 K.



Backup power supply to the electronic control

In case of power failure, the electronic control becomes powered by an independent battery. As a result, the memory continues to log the internal min/max-temperatures without interruption for up to 72 hours.

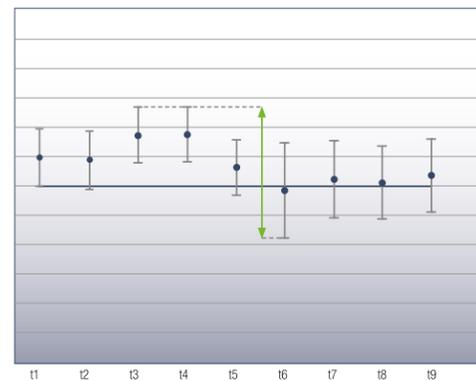
External temperature sensor

Laboratory appliances with electronic controls and top mounted cooling systems are equipped with an access port (7 mm / 9/32" in diameter) in the top compartment for connecting independent temperature sensors.



Alarm forwarding

Laboratory appliances with electronic controls are equipped with a volt-free contact for alarm forwarding to an external remote warning system.



Maximum temperature consistency

Maximum temperature stability in the interior is ensured by the dynamic cooling system with double ventilation. Very short defrost cycles allow the internal temperature to be kept almost constant during the cycle. All laboratory appliances are designed according to the EN 60068-3 standard with regard to maximum temperature stability and consistency.

Advantages of hot gas defrosting for minimal temperature changes during defrost cycle



Energy efficient hot gas defrost system

Defrost faster and less often. The appliance defrosts only when required as the electronic control calculates defrost cycles based on compressor run-times. Energy efficient hot gas reduces the defrost time to 8 minutes in refrigerators, and 12 minutes in freezers.



Versatile interior

Sturdy and versatile, the shelves are easily height-adjustable so that refrigerated or frozen products can be stored optimally on the plastic-coated grid shelves. The interior is made of high-quality stainless steel, which is easy to clean thanks to the large corner radii, for additional hygienic requirements.

Laboratory Refrigerators with Top Mount Compressor and Electronic Controls



Laboratory refrigerators with electronic controls

LRT50W2HC MediLine



LRT50G2HC MediLine



Total gross/net capacity l (cu.ft.)	1365/1325 (48.2/46.8)	1398/1357 (49.4/47.9)
Exterior dimensions in mm (w/d/h)	1430/830/2160	1430/830/2160
in inches (w/d/h)	56 5/16"/32 11/16"/85 1/16"	56 5/16"/32 11/16"/85 1/16"
Interior dimensions in mm (w/d/h)	1236/650/1500	1236/650/1500
in inches (w/d/h)	48 11/16"/25 5/8"/59 1/16"	48 11/16"/25 5/8"/59 1/16"
Energy consumption in 365 days *	1333 kWh	1577 kWh
Ambient temperature in °C (°F)	10°C to 40°C (50°F to 104°F)	16°C to 43°C (61°F to 109°F)
Refrigerant	R290	R290
Sound rating **	62 dB(A)	62 dB(A)
Connection rating	5.0 A	5.0 A
Frequency/voltage	60 Hz/115V~	60 Hz/115V~
Cooling system	forced-air	forced-air
Defrost	automatic	automatic
Temperature range in °C (°F)	-2°C to 16°C (28°F to 61°F)	-2°C to 16°C (28°F to 61°F)
External cabinet finish	steel/white	steel/white
Door/lid material	steel	glass door
Internal liner material	stainless steel	stainless steel
Type of control	electronic control	electronic control
Temperature display	external digital	external digital
Alarm	visual and audible	visual and audible
Alarm forwarding	yes	yes
Interior light	LED ceiling light	LED ceiling light
Adjustable shelves	8	8
Shelf material	clear-coated wire shelves	clear-coated wire shelves
Shelf load weight in kg (lbs)	60 (132.3)	60 (132.3)
Usable shelf area in mm (inches)	1236/640 (48 11/16"/25 1/4")	1236/640 (48 11/16"/25 1/4")
Casters	casters with brake at the front, casters at the rear	casters with brake at the front, casters at the rear
Handle	full-length integrated handle	full-length integrated handle
Lock	recessed	recessed
Self-closing door	yes	yes
Door hinges	left/right hand hinged, not reversible	left/right hand hinged, not reversible
Insulation in mm (inches)	83-60 (3 5/16" - 2 3/8")	83-60 (3 5/16" - 2 3/8")
Gross/net weight in kg (lbs)	259/212 (571/467.4)	270/226 (595.2/498.2)
Accessories		
Shelf, plastic-coated	7113327	7113327
U-shaped tray slide, right	9001761	9001761
U-shaped tray slide, left	9001757	9001757
Foot pedal opener	9590639	9590639
Side-by-Side kit	9901947	9901947

* Measured unloaded at 26.6°C (80°F) ambient temperature with set point of 3.3°C (38°F).

Laboratory refrigerators with electronic controls

LRT30W1HC MediLine



LRT21G1HC MediLine



Total gross/net capacity l (cu.ft.)	856/831 (30.2/29.3)	622/604 (22.0/21.3)
Exterior dimensions in mm (w/d/h)	790/980/2160	700/830/2160
in inches (w/d/h)	31 1/8"/38 5/8"/85 1/16"	27 9/16"/32 11/16"/85 1/16"
Interior dimensions in mm (w/d/h)	623/805/1500	532/650/1500
in inches (w/d/h)	24 9/16"/31 3/4"/59 1/16"	21"/25 5/8"/59 1/16"
Energy consumption in 365 days *	909 kWh	939 kWh
Ambient temperature in °C (°F)	10°C to 40°C (50°F to 104°F)	10°C to 40°C (50°F to 104°F)
Refrigerant	R290	R290
Sound rating **	62 dB(A)	62 dB(A)
Connection rating	5.0 A	4.0 A
Frequency/voltage	60 Hz/115V~	60 Hz/115V~
Cooling system	forced-air	forced-air
Defrost	automatic	automatic
Temperature range in °C (°F)	-2°C to 16°C (28°F to 61°F)	-2°C to 16°C (28°F to 61°F)
External cabinet finish	steel/white	steel/white
Door/lid material	steel	glass door
Internal liner material	stainless steel	stainless steel
Type of control	electronic control	electronic control
Temperature display	external digital	external digital
Alarm	visual and audible	visual and audible
Alarm forwarding	yes	yes
Interior light	LED ceiling light	LED ceiling light
Adjustable shelves	4	4
Shelf material	clear-coated wire shelves	clear-coated wire shelves
Shelf load weight in kg (lbs)	60 (132.3)	60 (132.3)
Usable shelf area in mm (inches)	623/789 (24 9/16"/31 1/8")	532/640 (21"/25 1/4")
Casters	casters with brake at the front, fixed casters at the rear	casters with brake at the front, fixed casters at the rear
Handle	full-length integrated handle	full-length integrated handle
Lock	recessed	recessed
Self-closing door	yes	yes
Door hinges	right, reversible on site	right, reversible on site
Insulation in mm (inches)	83-60 (3 5/16" - 2 3/8")	83-60 (3 5/16" - 2 3/8")
Gross/net weight in kg (lbs)	183/159 (403.4/350.5)	165/140 (363.8/308.6)
Accessories		
Shelf, plastic-coated	7113325	7113327
U-shaped tray slide, right	9005089	9001761
U-shaped tray slide, left	9005077	9001757
Foot pedal opener	9590659	9590659
Side-by-Side kit	9901947	9901947

** Noise level – sound power re 1pW – according to IEC 60704-2-14.

Laboratory Freezers with Top Mount Compressor and Electronic Controls



Laboratory freezers with electronic controls

LFT50W2HC Mediline



LFT30W1HC Mediline

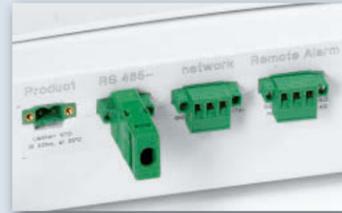


Total gross/net capacity l (cu.ft.)	1365/1325 (48.2/46.8)	856/831 (30.2/29.3)
Exterior dimensions in mm (w/d/h) in inches (w/d/h)	1430/830/2160 56 5/16"/32 11/16"/85 1/16"	790/980/2160 31 1/8"/38 5/8"/85 1/16"
Interior dimensions in mm (w/d/h) in inches (w/d/h)	1236/650/1500 48 11/16"/25 5/8"/59 1/16"	623/805/1500 24 9/16"/31 3/4"/59 1/16"
Energy consumption in 365 days *	3136 kWh	1606 kWh
Ambient temperature in °C (°F)	16°C to 43°C (61°F to 109°F)	16°C to 43°C (61°F to 109°F)
Refrigerant	R290	R290
Sound rating **	65 dB(A)	65 dB(A)
Connection rating	10.0 A	10.0 A
Frequency/voltage	60 Hz/115V~	60 Hz/115V~
Cooling system	forced-air	forced-air
Defrost	automatic	automatic
Temperature range in °C (°F)	-10°C to -26°C (14°F to -15°F)	-10°C to -35°C (14°F to -31°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
Alarm	visual and audible	visual and audible
Alarm forwarding	yes	yes
Interior light	LED ceiling light	LED ceiling light
Adjustable shelves	8	4
Shelf material	clear-coated wire shelves	clear-coated wire shelves
Shelf load weight in kg (lbs)	60 (132.3)	60 (132.3)
Usable shelf area in mm (inches)	1236/640 (48 11/16"/25 1/4")	623/789 (24 9/16"/31 1/8")
Casters	casters with brake at the front, casters at the rear	casters with brake at the front, fixed casters at the rear
Handle	full-length integrated handle	full-length integrated handle
Lock	recessed	recessed
Self-closing door	yes	yes
Door hinges	left/right hand hinged, not reversible	right, reversible on site
Insulation in mm (inches)	83-60 (3 5/16" - 2 3/8")	83-60 (3 5/16" - 2 3/8")
Gross/net weight in kg (lbs)	264/217 (582/478.4)	183/154 (403.4/339.5)
Accessories		
Shelf, plastic-coated	7113327	7113325
U-shaped tray slide, right	9001761	9005089
U-shaped tray slide, left	9001757	9005077
Foot pedal opener	9590639	9590659
Side-by-Side kit	9901947	9901947

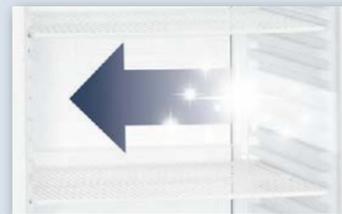
* Refrigerators measured unloaded at 26.6°C (80°F) ambient temperature with set point of 3.3°C (38°F).
Freezers measured unloaded at 26.6°C (80°F) ambient temperature with set point of -17.7°C (0°F).



The Liebherr Advantage



Laboratory appliances with electronic controls are equipped with a volt-free contact for **alarm forwarding to an external remote warning system.**



The **commercial-grade, molded polystyrol inner liner** is exceptionally **easy to clean** for **optimal hygiene.**



The sturdy, plastic-coated grid shelves have a **loading capacity of up to 60 kg / 132 lbs** (LRB23W1HC and LFB19W1HC) and **45 kg / 99 lbs** (LRB06W1HC and LRB06G1HC), are **easily adjustable** in height, and can be removed at a door opening angle of 90°.

Laboratory appliances with electronic controls are equipped with an access port for **connecting independent temperature sensors.**



LRB23W1HC

An **integrated data memory** logs the last three temperature alarms and power failures, together with the time, date, and duration of the alarm. The respective **data can be recalled** using the AlarmLog function and read on the display panel.



Laboratory refrigerators feature an **efficient LED interior light** for **optimal illumination of the interior.**



Laboratory appliances with electronic controls include a **1-point calibration function for accurate temperature control.** This permits compensation between the set temperature and the actual internal temperature.

Self-closing doors prevent the unnecessary loss of cold air and contribute to the temperature stability of the appliance. The **integrated lock** is very sturdy and **protects samples and products against unauthorized access.**



The dynamic cooling system in conjunction with the precision electronic control **ensures maximum temperature stability and high temperature consistency** throughout the interior.



Quality down to the smallest detail

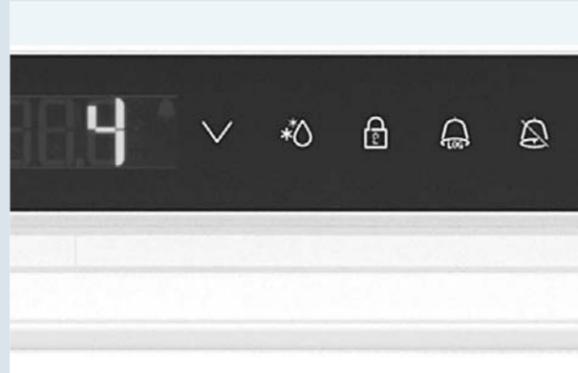
The Mediline range of appliances with electronic controls are equipped with various features that guarantee the safety of stored products and advanced temperature stability. High-quality materials and precise workmanship, extremely

efficient refrigeration components, and temperature logging functions ensure the optimal storage of sensitive samples, chemicals and research materials.



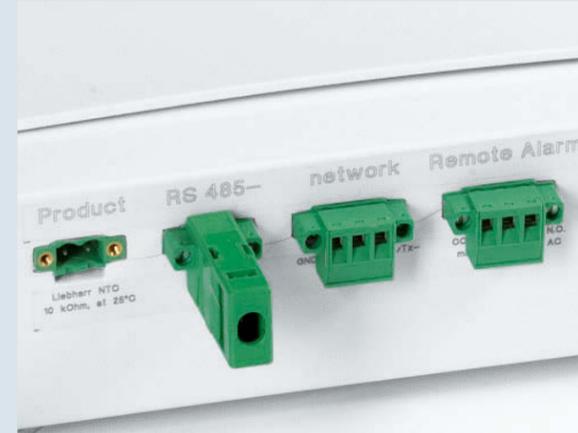
Electronic controls

The precision electronic control with digital temperature display enables temperatures to be set accurately. The electronic control is flush-mounted and equipped with a membrane keyboard for optimal hygiene.



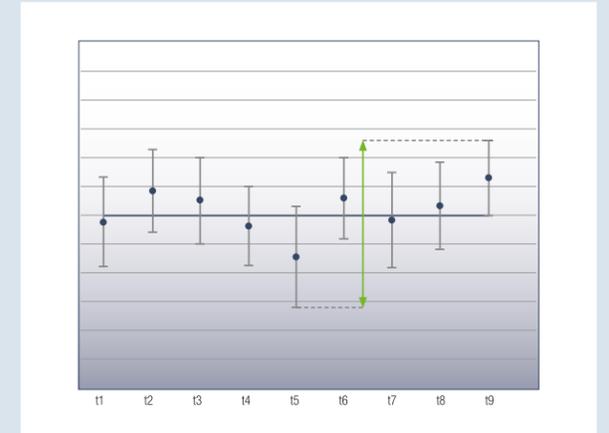
Integrated alarm systems

Visual and audible alarm systems alert the user to undesired temperature deviations or when the door is open. All alarm parameters can be individually set. For example, the door-open alarm delay can be adjusted between 1 and 5 minutes. Additional safety is provided by a sensor defect alarm.



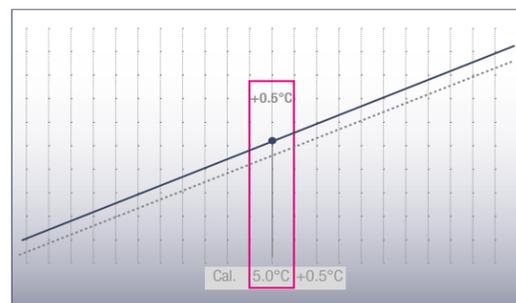
External temperature and alarm logs

Laboratory appliances are equipped with a volt-free contact for alarm forwarding to an external remote warning system, as well as with a RS 485 serial interface which enables central documentation of temperature profiles and alarm events. LTM documentation software is optionally available.



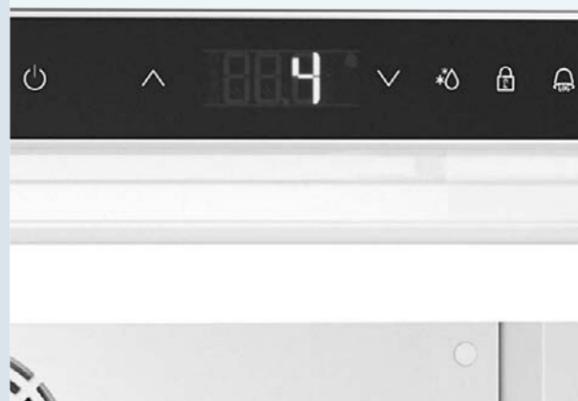
Maximum temperature consistency

Maximum temperature stability is ensured by the cooling systems of the laboratory refrigerators and freezers, in conjunction with precision electronic controls. All laboratory appliances with electronic controls are designed according to the EN 60068-3 standard with regard to maximum temperature stability and consistency.



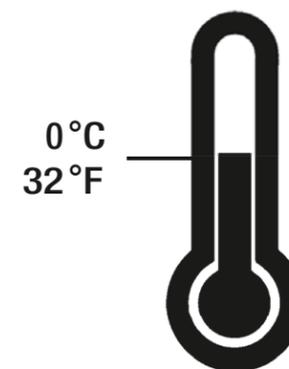
Accurate 1-point calibration

Laboratory appliances with electronic controls come equipped with 1-point calibration for accurate temperature control. This allows for compensation between the set temperature and the actual internal temperature. Positive or negative changes to the correction value can be made in steps of 0.1 K.



Integrated data memory

The electronic control is equipped with an integrated data memory which logs the maximum and minimum internal temperatures as well as the last three temperature alarms and power failures, together with the time, date and duration. The logged data can be read on the digital display.



Freeze protection guard

Liebherr appliances are equipped with an additional freeze protection guard to prevent temperatures from dropping below 0°C/32°F, and to protect sensitive products in the event of a failure.



External temperature sensor

Laboratory appliances with electronic controls are equipped with an access port (10 mm / 13/32" in diameter) in the rear, allowing for the temperature sensor to be positioned in the interior.



Laboratory Refrigerators and Freezers with Bottom Mount Compressor and Electronic Controls



Laboratory refrigerators and freezers with electronic controls

LRB23W1HC MediLine

LED

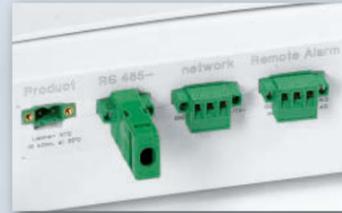
LFB19W1HC MediLine

No Frost

Total gross/net capacity l (cu.ft.)	664/627 (23.4/22.1)	556/475 (19.6/16.8)
Exterior dimensions in mm (w/d/h) in inches (w/d/h)	751/750/2044 29 5/8"/29 9/16"/80 1/2"	751/750/2044 29 5/8"/31 3/16"/80 1/2"
Interior dimensions in mm (w/d/h) in inches (w/d/h)	650/581/1710 25 5/8"/22 7/8"/67 3/8"	610/500/1395 24 1/16"/19 11/16"/54 15/16"
Energy consumption in 365 days *	344 kWh	1171 kWh
Ambient temperature in °C (°F)	10°C to 35°C (50°F to 95°F)	16°C to 35°C (61°F to 95°F)
Refrigerant	R290	R290
Sound rating **	55 dB(A)	62 dB(A)
Connection rating	3.0 A	5.0 A
Frequency/voltage	60 Hz/115V~	60 Hz/115V~
Cooling system	forced-air	forced-air
Defrost	automatic	automatic
Temperature range in °C (°F)	3°C to 16°C (37°F to 61°F)	-10°C to -32°C (14°F to -26°F)
External cabinet finish	steel/white	steel/white
Door/lid material	steel	steel
Internal liner material	commercial grade molded polystyrol	commercial grade molded polystyrol
Type of control	electronic control	electronic control
Temperature display	external digital	external digital
Alarm	visual and audible	visual and audible
Alarm forwarding	yes	yes
Interior light	LED light	n/a
Adjustable shelves	5	5
Shelf material	wire shelves plastic-coated	wire shelves plastic-coated
Shelf load weight in kg (lbs)	60 (132.3)	60 (132.3)
Usable shelf area in mm (inches)	650/530 (25 5/8"/20 7/8")	610/500 (24 1/16"/19 11/16")
Casters	casters with brake at the front, fixed casters at the rear	casters with brake at the front, fixed casters at the rear
Handle	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism
Lock	recessed	recessed
Self-closing door	yes	yes
Door hinges	right, reversible on site	right, reversible on site
Insulation in mm (inches)	50 (2")	70 (2 13/16")
Gross/net weight in kg (lbs)	113/103 (249.1/227.1)	126/117 (277.8/257.9)
Accessories		
Shelf, plastic-coated	7113485	7113475
NTC product temperature sensor		9591493
Adjustable legs		9592785

** Noise level – sound power re 1pW – according to IEC 60704-2-14.

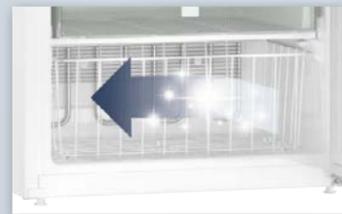
The Liebherr Advantage



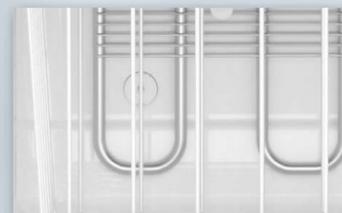
Laboratory appliances with electronic controls are equipped with a volt-free contact for **alarm forwarding to an external remote warning system.**



The **drawers** in the LFBFS05W1HC freezer can be easily removed by the handles recessed on the sides of the appliance. The drawers have a transparent front providing a **clear view of the products stored inside.**



The commercial-grade, molded polystyrol inner liner is exceptionally **easy to clean, allowing for optimal hygiene.**



Laboratory appliances with electronic controls are equipped with an access port for **connecting independent temperature sensors**, such as optionally available NTC temperature sensors or similar instruments.



The precision electronic control with digital temperature display allows for **accurate temperature settings** from -9°C to -26°C (16°F to -15°F).



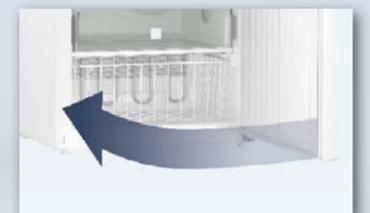
All laboratory refrigerators and freezers with **spark-free interiors** are tested according to **UL standards**, meaning they can be used for storing flammable substances in sealed containers meeting requirements for **Class I, Division 2 storage of flammable substances.**



The precision electronic control includes an **integrated data memory** which logs the maximum and minimum internal temperatures for up to 41 days.



Self-closing doors prevent the unnecessary **loss of cold air** and contribute to the temperature stability of the appliance. The **integrated lock** is very sturdy and **protects samples and products against unauthorized access.**



Door seals are replaceable for **easy and fast maintenance.**

Laboratory appliances with electronic controls include a **1-point calibration function for accurate temperature control.** This permits compensation between the set temperature and the actual internal temperature.

LFBFS05W1HC*

*Interior is free from sources of ignition and meets the requirements for Class I, Division 2 for storage of flammable substances in sealed containers. Product complies with applicable NFPA 45 and NFPA 99 requirements.

Quality down to the smallest detail

The LFBFS05W1HC with electronic controls is suitable for storing potentially explosive and highly flammable materials. The spark-free interior meets the applicable UL and NFPA safety requirements. This undercounter unit is suitable for

storing Class 1, Division I, and Group C and D combustible materials within sealed containers.



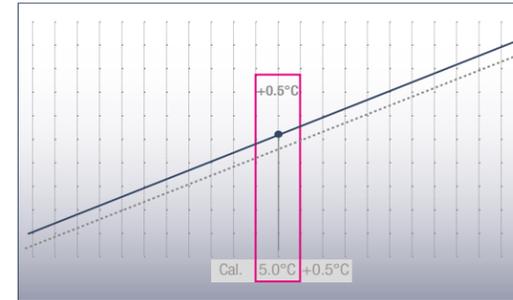
Storage of flammable materials

All appliances with spark-free interiors are tested according applicable UL-standards and NFPA-guidelines. Rated with Class I, Division I, Group C and D interiors, these appliances are suitable for storing potentially explosive and highly flammable substances in sealed containers.



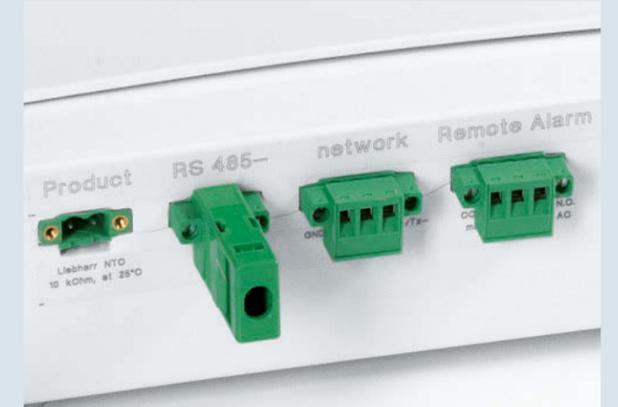
Electronic controls

The precision electronic control with digital temperature display enables temperatures to be set accurately between -9°C to -26°C (16°F to -15°F). The electronic control is flush-mounted and equipped with a membrane keyboard for optimal hygiene.



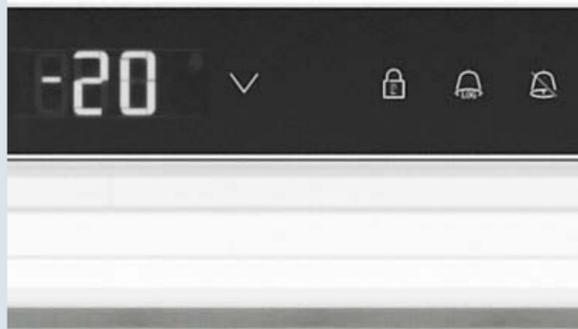
Accurate 1-point calibration

Laboratory appliances with electronic controls include a 1-point calibration function for accurate temperature control. This allows for compensation between the set temperature and the actual internal temperature. Positive or negative changes to the correction value can be made in steps of 0.1 K.



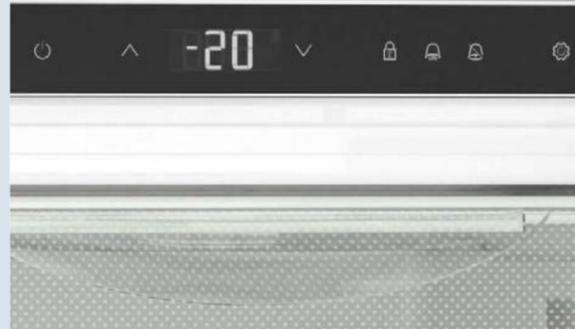
External temperature and alarm logs

Laboratory appliances with electronic controls are equipped with a volt-free contact for alarm forwarding to an external remote warning system, as well as with a RS 485 serial interface which enables central documentation of temperature profiles and alarm events.



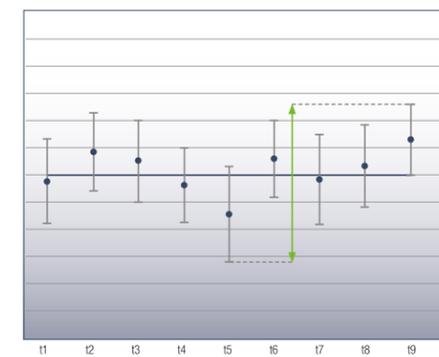
Integrated alarm systems

Visual and audible alarm systems alert the user to undesired temperature deviations or if the door is open. All alarm parameters can be individually set. For example, the door-open alarm delay can be adjusted between 1 and 5 minutes. Furthermore, laboratory appliances with electronic controls have a visual power failure alarm and a sensor defect alarm.



Integrated data memory

The electronic control is equipped with an integrated data memory which logs the maximum and minimum internal temperatures as well as the last three temperature alarms and power failures, together with the time, date and duration. The logged data can be read on the digital display.



Maximum temperature consistency

Maximum temperature stability is ensured by the cooling systems of the laboratory refrigerators and freezers, in conjunction with precision electronic controls. All laboratory appliances with electronic controls are designed according to the EN 60068-3 standard with regard to maximum temperature stability and consistency.



External temperature sensor

Laboratory appliances with electronic controls are equipped with an access port (10 mm / 13/32" in diameter) in the rear, allowing for the temperature sensor to be positioned in the interior.

Undercounter Laboratory Refrigerators with Electronic Controls

Undercounter Laboratory Freezers Suitable for Flammable Material Storage



Undercounter Laboratory refrigerators	LRB05W1HC MediLine	LED	LRB05G1HC MediLine	LED	Undercounter Laboratory freezer, suitable for flammable material storage	LFBF05W1HC *** MediLine	Smart Frost
Total gross/net capacity l (cu.ft.)	142/133 (5.0/4.7)		152/143 (5.4/5.0)		Total gross/net capacity l (cu.ft.)	140/123 (4.9/4.3)	
Exterior dimensions in mm (w/d/h)	601/618/825		601/618/825		Exterior dimensions in mm (w/d/h)	601/618/821	
in inches (w/d/h)	23 11/16"/24 3/8"/32 1/2"		23 11/16"/24 3/8"/32 1/2"		in inches (w/d/h)	23 11/16"/24 3/8"/32 3/8"	
Interior dimensions in mm (w/d/h)	440/435/670		440/435/670		Interior dimensions in mm (w/d/h)	454/450/663	
in inches (w/d/h)	17 3/8"/17 3/16"/26 7/16"		17 3/8"/17 3/16"/26 7/16"		in inches (w/d/h)	17 7/8"/17 3/4"/26 1/8"	
Energy consumption in 365 days *	261 kWh		328 kWh		Energy consumption in 365 days *	332 kWh	
Ambient temperature in °C (°F)	10°C to 35°C (50°F to 95°F)		10°C to 35°C (50°F to 95°F)		Ambient temperature in °C (°F)	10°C to 35°C (50°F to 95°F)	
Refrigerant	R600a		R600a		Refrigerant	R600a	
Sound rating **	52 dB(A)		52 dB(A)		Sound rating **	45 dB(A)	
Connection rating	1.5 A		1.5 A		Connection rating	2.5 A	
Frequency/voltage	60 Hz/115V~		60 Hz/115V~		Frequency/voltage	60 Hz/115V~	
Cooling system	forced-air		forced-air		Cooling system	static	
Defrost	automatic		automatic		Defrost	manual	
Temperature range in °C (°F)	3°C to 16°C (37°F to 61°F)		3°C to 16°C (37°F to 61°F)		Temperature range in °C (°F)	-9°C to -26°C (16°F to -15°F)	
External cabinet finish	steel/white		steel/white		External cabinet finish	steel/white	
Door/lid material	steel		glass door		Door/lid material	steel	
Internal liner material	commercial grade molded polystyrol		commercial grade molded polystyrol		Internal liner material	commercial grade molded polystyrol	
Type of control	electronic control		electronic control		Type of control	electronic control	
Temperature display	external digital		external digital		Temperature display	external digital	
Alarm	visual and audible		visual and audible		Alarm	visual and audible	
Alarm forwarding	yes		yes		Alarm forwarding	yes	
Interior light	LED ceiling light		LED ceiling light		Interior light	n/a	
Adjustable shelves	3		3		Drawers/Number of baskets	3/1	
Shelf material	wire shelves plastic-coated		wire shelves plastic-coated		Shelf material	evaporator plates	
Shelf load weight in kg (lbs)	45 (99.2)		45 (99.2)		Shelf load weight in kg (lbs)	24 (52.9)	
Usable shelf area in mm (inches)	440/420 (17 3/8"/16 9/16")		440/420 (17 3/8"/16 9/16")		Usable shelf area in mm (inches)	454/450 (17 7/8"/17 3/4")	
Handle	slimline handle with integrated opening mechanism		slimline handle with integrated opening mechanism		Handle	slimline handle with integrated opening mechanism	
Lock	recessed		recessed		Lock	recessed	
Self-closing door	yes		yes		Self-closing door	yes	
Door hinges	right, reversible on site		right, reversible on site		Door hinges	right, reversible on site	
Insulation in mm (inches)	40 (1 5/8")		40 (1 5/8")		Insulation in mm (inches)	55 (2 3/16")	
Gross/net weight in kg (lbs)	39/37 (86/81.6)		46/43 (101.4/94.8)		Gross/net weight in kg (lbs)	45/42 (99.2/92.6)	
Accessories					Accessories		
Shelf, plastic-coated	7113333		7113333		NTC product temperature sensor	9590145	
Additional lock barrels (up to 10)	on request		on request		Additional lock barrels (up to 10)	on request	
Roller bars	9592543				Roller bars	9592543	
Stacking kit, white	9592697		9592697		Stacking kit, white	9592697	

* Refrigerators measured unloaded at 26.6°C (80°F) ambient temperature with set point of 3.3°C (38°F).
Freezers measured unloaded at 26.6°C (80°F) ambient temperature with set point of -17.7°C (0°F).
** Noise level – sound power re 1pW – according to IEC 60704-2-14.

*** Interior is free from sources of ignition and meets the requirements for Class I, Division 2 for storage of flammable substances in sealed containers.
Product complies with applicable NFPA 45 and NFPA 99 requirements.

The Liebherr Advantage



LRBFS models are labelled clearly on the outer housing for **easy identification as a flammable material storage refrigerator.**



The molded polystyrol inner liner with large corner radii is exceptionally **easy to clean for optimal hygiene.**



The sturdy glass shelves are easily adjustable in height and can be conveniently removed at a door opening angle of 90°. They ensure **secure storage and have a loading capacity of up to 40 kg / 88 lbs.**



The integrated lock is exceedingly sturdy and **protects stored products against unauthorized access.**



Door hinges can be easily reversed on-site to accommodate space and design requirements. Door seals can also be **easily replaced as required.**



LRBFS20W1HC*

Quality down to the smallest detail



Storage of flammable material

All appliances with spark-free interiors are tested according applicable UL standards and NFPA guidelines. Rated with Class I, Division I, Group C and D interiors, these appliances are suitable for storing potentially explosive and highly flammable substances in sealed containers.



Hygienic interior for versatile use

The commercial-grade, molded polystyrol inner liner is exceptionally **easy to clean for optimal hygiene.** Molded trays prevent the glass shelves from tipping over, allowing for adjustable heights of the shelves.



Glass shelves

The glass shelves ensure secure storage even for small items and have a loading capacity of up to 40 kg / 88 lbs.



Water tray

The defrost water drain is sealed for compliance with UL standards for flammable material storage refrigerators. The defrost water obtained during the automatic defrost cycle is collected in a tray which has to be emptied manually at regular intervals.

* Interior is free from sources of ignition and meets the requirements for Class I, Division 2 for storage of flammable substances in sealed containers. Product complies with applicable NFPA 45 and NFPA 99 requirements.

Laboratory Refrigerators with Analog Controls Suitable for Flammable Material Storage



Laboratory refrigerators with analog controls and spark-free interiors	LRBFS20W1HC *** MediLine	LRBFS12W1HC *** MediLine	Laboratory refrigerators with analog controls and spark-free interiors	LRBFS09W1HC *** MediLine	LRBFS06W1HC *** MediLine
Total gross/net capacity l (cu.ft.)	567/533 (20.0/18.8)	343/318 (12.1/11.2)	Total gross/net capacity l (cu.ft.)	247/229 (8.7/8.1)	180/165 (6.4/5.8)
Exterior dimensions in mm (w/d/h)	750/729/1641	600/610/1641	Exterior dimensions in mm (w/d/h)	600/610/1250	597/611/859
in inches (w/d/h)	29 9/16"/28 3/4"/64 5/8"	23 5/8"/24 1/16"/64 5/8"	in inches (w/d/h)	23 5/8"/24 1/16"/49 1/4"	23 9/16"/24 1/16"/33 7/8"
Interior dimensions in mm (w/d/h)	600/460/1452	470/440/1452	Interior dimensions in mm (w/d/h)	470/440/1062	513/441/702
in inches (w/d/h)	23 5/8"/18 1/8"/57 3/16"	18 9/16"/17 3/8"/57 3/16"	in inches (w/d/h)	18 9/16"/17 3/8"/41 13/16"	20 1/4"/17 3/8"/27 11/16"
Energy consumption in 365 days *	380 kWh	477 kWh	Energy consumption in 365 days *	305 kWh	372 kWh
Ambient temperature in °C (°F)	10°C to 35°C (50°F to 95°F)	10°C to 35°C (50°F to 95°F)	Ambient temperature in °C (°F)	10°C to 27°C (50°F to 81°F)	10°C to 27°C (50°F to 81°F)
Refrigerant	R600a	R290	Refrigerant	R600a	R600a
Sound rating **	50 dB(A)	50 dB(A)	Sound rating **	50 dB(A)	50 dB(A)
Connection rating	3.0 A	3.0 A	Connection rating	1.5 A	1.5 A
Frequency/voltage	60 Hz/220V~	60 Hz/115V~	Frequency/voltage	60 Hz/115V~	60 Hz/115V~
Cooling system	forced-air	forced-air	Cooling system	forced-air	forced-air
Defrost	automatic	automatic	Defrost	automatic	automatic
Temperature range in °C (°F)	1°C to 15°C (34°F to 59°F)	1°C to 15°C (34°F to 59°F)	Temperature range in °C (°F)	1°C to 15°C (34°F to 59°F)	1°C to 15°C (34°F to 59°F)
External cabinet finish	steel/white	steel/white	External cabinet finish	steel/white	steel/white
Door/lid material	steel	steel	Door/lid material	steel	steel
Internal liner material	commercial grade molded polystyrol	commercial grade molded polystyrol	Internal liner material	commercial grade molded polystyrol	commercial grade molded polystyrol
Type of control	analog control	analog control	Type of control	analog control	analog control
Temperature display	external digital	external digital	Temperature display	external digital	external digital
Interior light	n/a	n/a	Interior light	n/a	n/a
Adjustable shelves	5	5	Adjustable shelves	4	3
Shelf material	glass	glass	Shelf material	glass	glass
Shelf load weight in kg (lbs)	40 (88.2)	40 (88.2)	Shelf load weight in kg (lbs)	40 (88.2)	40 (88.2)
Usable shelf area in mm (inches)	600/550 (23 5/8"/21 11/16")	470/425 (18 9/16"/16 3/4")	Usable shelf area in mm (inches)	470/425 (18 9/16"/16 3/4")	513/412 (20 1/4"/16 1/4")
Handle	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism	Handle	slimline handle with integrated opening mechanism	ergonomic slimline handle
Lock	recessed	recessed	Lock	recessed	recessed
Door hinges	right, reversible on site	right, reversible on site	Door hinges	right, reversible on site	right, reversible on site
Insulation in mm (inches)	50 (2")	32-52 (1 5/16"-2 1/16")	Insulation in mm (inches)	32-52 (1 5/16"-2 1/16")	16-55 (11/16"-2 3/16")
Gross/net weight in kg (lbs)	88/82 (194/180.8)	64/59 (141.1/130.1)	Gross/net weight in kg (lbs)	53/49 (116.8/108)	42/39 (92.6/86)
Accessories			Accessories		
Glass shelf	9293595	9293597	Glass shelf	9293597	9293599
Additional lock barrels (up to 10)	upon request	upon request	Additional lock barrels (up to 10)	upon request	
Adjustable legs	9593245	9592815	Adjustable legs	9592815	

* Measured unloaded at 26.6°C (80°F) ambient temperature with set point of 3.3°C (38°F).
** Noise level – sound power re 1pW – according to IEC 60704-2-14.

*** Interior is free from sources of ignition and meets the requirements for Class I, Division 2 for storage of flammable substances in sealed containers. Product complies with applicable NFPA 45 and NFPA 99 requirements.

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.

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 CO₂ 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.



SUFsg 5001

Safe storage at very low temperatures

Liebherr's ultra-low temperature freezers (ULT) are the gold standard in the $-40\text{ }^{\circ}\text{C}$ to $-86\text{ }^{\circ}\text{C}$ 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.



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 CO₂ 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.

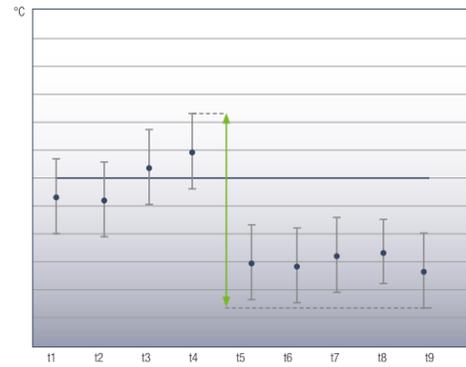


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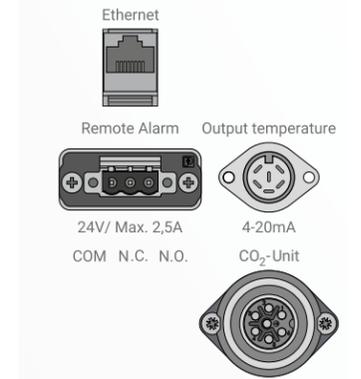
Lever handle

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.



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.



Interfaces

All appliances are equipped with a potential-free alarm output for remote monitoring and an Ethernet interface. The temperature and alarm records can also be read via the integrated USB interface. Optionally, a 4-20mA output enables the integration of the temperature value into existing systems for data recording.



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.



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.



Environmentally friendly cooling system

The cascade cooling system used is operated using the climate-friendly refrigerants R290 (propane) and R170 (ethane). Both refrigerants are natural HC refrigerants (hydrocarbons) and therefore future-proof in terms of the F-Gas Regulation (EU/517/2014). In combination with powerful compressors, they are very energy-efficient and ensure the best possible cooling. The positive effects are improved performance, low power consumption and low energy costs. This is particularly ideal for scientific institutions and laboratories if they are seeking to reduce their CO₂ balance and comply with sustainability guidelines.

Ultra-low temperature freezers - MediLine Series



Ultra-low temperature freezers	SUFsg 5001 115V/60Hz MediLine	SUFsg 5001 208-240V/60Hz MediLine
Total gross/net capacity l (cu.ft.)	491/477 (17.3/16.8)	491/477 (17.3/16.8)
Exterior dimensions in mm (w/d/h)	921/985/1966	921/985/1966
in inches (w/d/h)	36 1/4" / 38 3/4" / 77 3/8"	36 1/4" / 38 3/4" / 77 3/8"
Interior dimensions in mm (w/d/h)	586/605/1300	586/605/1300
in inches (w/d/h)	23 1/16" / 23 13/16" / 51 3/16"	23 1/16" / 23 13/16" / 51 3/16"
Energy consumption in 365 days	2.884 kWh	2.884 kWh
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	7.7 A/1.6 kW
Frequency/voltage	60 Hz/120V~	60 Hz/208-240V~
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	360 min
Warming -80°C to -60°C / to 0°C	230 min/2160 min	230 min / 2160 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	4
Max. number of cryo boxes 50 mm / 75 mm	352/224	352/224
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
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)	280/247 kg (617.2/544.5)
Further voltage range	230V/50Hz	230V/50Hz

Ultra-low temperature freezers	SUFsg 7001 115V/60Hz MediLine	SUFsg 7001 208-240V/60Hz MediLine
Total gross/net capacity l (cu.ft.)	728/700 (25.7/24.7)	728/700 (25.7/24.7)
Exterior dimensions in mm (w/d/h)	1110/985/1966	1110/985/1966
in inches (w/d/h)	43 11/16" / 38 3/4" / 77 3/8"	43 11/16" / 38 3/4" / 77 3/8"
Interior dimensions in mm (w/d/h)	890/590/1300	890/590/1300
in inches (w/d/h)	35 1/16" / 23 1/4" / 51 3/16"	35 1/16" / 23 1/4" / 51 3/16"
Energy consumption in 365 days *	2.957 kWh	2.884 kWh
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	7.7 A/1.6 kW
Frequency/voltage	60 Hz/120V~	60 Hz/208-240V~
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	450 min	450 min
Warming - 80 °C to - 60 °C / to 0 °C	250 min / 2220 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	6	6
Max. number of cryo boxes 50 mm/75 mm	528/336	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
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)	330/288 kg (727.5/ 634.9)	330/288 kg (727.5/ 634.9)
Further voltage range	230V/50Hz	230V/50Hz

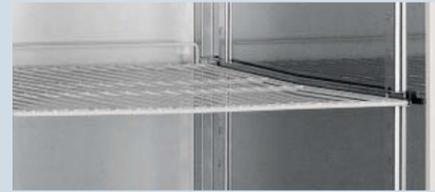
* Average sound pressure level at 1m distance.

* Average sound pressure level at 1m distance.

Accessories Laboratory Refrigerators and Freezers

U-shaped tray slides and plastic-coated shelves

Additional U-shaped tray slides and plastic-coated grid shelves can be retrofitted as required to provide extra storage options. The sturdy grid shelves have an extremely high loading capacity of up to 60 kg/132 lbs.



NTC product temperature sensor

An NTC product temperature sensor for logging product temperatures is available as a retrofit kit for Laboratory appliances with electronic controls. The logged product temperatures can either be read by the electronic control panel or transferred to an external documentation system via the existing RS 485 interface.



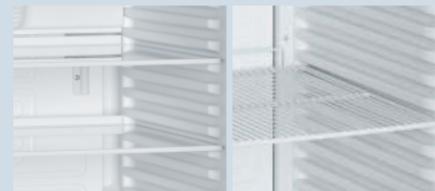
Additional lock barrels

Up to 10 additional lock barrels to protect stored products against unauthorized access are available as accessories for Laboratory appliances with electronic controls. In case of multiple appliances, different locks can be installed to ensure that the respective appliance can only be accessed by the staff members responsible for it.



Glass shelves / Plastic coated shelves

Additional glass shelves can be retrofitted to the LRBFS models as required to provide extra storage options. The glass shelves made of toughened safety glass meet the standards for spark-free refrigerators in accordance with ATEX 95 and have a loading capacity of up to 40 kg/80 lbs. Additional plastic-coated grid shelves can be retrofitted as required to provide extra storage options. The sturdy grid shelves have an extremely high loading capacity of up to 45 kg/99 lbs.



Foot-pedal door opener / Side-by-Side kit

The optional foot-pedal opener is useful when you don't have a hand free.

The Side-by-Side kit is easy to fit and enables the convenient use of two or more appliances next to one another and also allows their arrangement in a visually appealing manner. Furthermore, the Side-by-Side kit prevents condensation and ice formation between two appliances which, without the Side-by-Side kit, would otherwise be positioned next to one another.



Adjustable legs / Roller bars

The robust adjustable legs with a height of 105-150 mm provide adequate ground clearance and make it easy and convenient to clean under the appliance.

Roller bars can be retrofitted to all models to allow easy cleaning underneath. In order to guarantee optimum stability, roller sets must not be fitted to appliances which are installed using a connecting frame. This is only permitted for individual appliances.



Stacking kit

A stacking kit is available as an accessory for combining the LRB05W1HC/LRB05G1HC and LFBFS05W1HC models. This allows stacking laboratory fridge-freezers on a small footprint. In order to guarantee optimum stability, roller sets must not be fitted to appliances which are installed using a connecting frame. This is only permitted for individual appliances.



Pyxis-Lock-Adapter

Accessory Pyxis-Lock-Adapter available on request.

Accessories Ultra-low temperature freezers

CO₂ backup system

The CO₂ backup system ensures that the temperature-resistant cooling of the stored samples continues for up to 72 hours in the event of a power failure.

CO₂ bottle is not part of the accessories.



Racks for cryoboxes

Conveniently and clearly store samples with these temperature-resistant storage systems. Available as an aluminium/stainless steel rack for 5x4 or 6x4, 50 mm boxes and as a stainless steel drawer rack for 5x4 or 6x4, 50 mm boxes.



Cryoboxes

Ensure the safe storage and transport of valuable samples with a fixed 9x9 grid. The temperature-resistant cardboard boxes are available in sets of 36.



Stainless-steel shelves

Additional robust stainless-steel shelves are available for the flexible and individual partitioning of the refrigerator's interior.



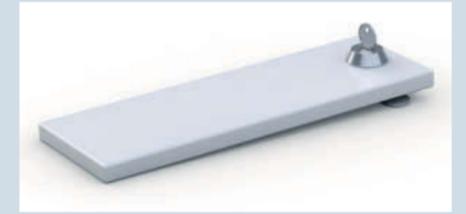
Insulated inner doors

Get the best possible insulation for improved temperature stability, efficient cooling and lower power consumption.



Cover for main switch, incl. key lock

Get protection against unintended disconnection or manipulation of the main switch.



4-20mA analogue output

The 4-20mA interface displays the current internal temperature.

