

Fridges and freezers
Laboratory & pharmacy
2020

Quality, Design and Innovation



LIEBHERR

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Quality, Design and Innovation

As a specialist for fridges and freezers, Liebherr offers an extensive range of robust special appliances for commercial use. The unique quality, timeless design and innovation that characterise our products are expressions of our many years of experience in the manufacture of modern refrigeration. Every day, Liebherr appliances allow our customers to experience and benefit from the expertise we have developed over decades in the commercial field.

Quality

For more than 70 years, the name Liebherr has stood for high-quality and innovative fridges and freezers. Our focus, from the product conception to development and production through to marketing, is on offering innovative top-quality products. In the process, we consistently implement new product ideas for the perfect and safe storage of foods and of sensitive samples, medication or research materials in laboratory use. We are familiar with the specific requirements and know what is needed to ensure that you can rely on your professional fridge or freezer one hundred percent, 24 hours a day, and 365 days a year. We conduct checks as early as the development stage to ensure that all refrigeration, mechanical and electronic components function dependably and over the long term, and we also make sure that optimal operability and operational reliability of appliances is guaranteed. For example, in the quality test, door hinges must complete at least 100,000 opening cycles - equivalent to usage of over 15 years. A visual inspection of processing quality also occurs. This helps us to ensure the optimal compatibility of all components with one another: for maximum functionality and efficiency.

Design

Liebherr appliances for professional use are characterised by a specific combination of aesthetics and functionality. With their elegant and timeless design, the fridges and freezers meet the highest aesthetic standards. The high-quality look of our commercial appliances shows itself in many details: from stainless steel processing to a selection of high-quality materials and to the interior features. Thanks to their consistent design, our professional appliances can be easily combined and also really catch the eye.

Innovation

The constant development of our high-quality products is particularly important to us. That is why all Liebherr production sites have development centres with modern equipment and highly qualified employees. We invest in research and development because only then can we truly offer our customers top quality in the long term, while simultaneously meeting our own high standards. Our aim is to be "best in class" in every aspect. Innovations, whether in refrigeration technology, convenience or safety, have always been an important and supporting pillar in our history and will remain so in future as well. With great dedication and passion we work hard to incorporate innovations into our appliances in order to set new standards in the field of professional fridges and freezers. Last but not least, our appliances for commercial use are highly efficient thanks to state-of-the-art electronics combined with optimised cooling circuits, so they make a considerable contribution towards economic and ecological sustainability.

The Liebherr Group



Material Handling



Mining



Mobile Construction Cranes



Tower Cranes



Concrete Technology



Maritime Cranes



Aerospace & Transportation Systems



Machine Tools and Automation Systems



Components



Hotels



Refrigeration & Freezing

The Liebherr Group was established in 1949 by Dr Hans Liebherr. In a company history spanning more than 70 years, the Liebherr family business has demonstrated stability and reliability. Liebherr is one of the biggest manufacturers of construction equipment and is also successfully active in many other industries. The Group has a decentralised organisation with more than 46,000 employees worldwide and is divided into independently operating business units.

The Group now covers eleven product divisions: earth moving, mining, vehicle cranes, tower cranes, concrete technology, maritime cranes, aerospace and traffic technology, machine tools and automation systems, refrigeration domestic appliances, components and hotels with more than 130 companies on all continents. The holding company of the Group is Liebherr-International AG in Bulle / Switzerland, all of whose shareholders are members of the Liebherr family.

The Domestic Appliances division was established at the Ochsenhausen site in 1954 and has for many years played an important role in the development of the Group. For more than 60 years Liebherr-Hausgeräte has been a premium manufacturer of innovative fridges and freezers for private households and for commercial use; with annual production exceeding 2.2 million appliances, we are one of the leading European suppliers of fridges. The five production sites in Ochsenhausen (Germany), Lienz (Austria), Radinovo (Bulgaria), Kluang (Malaysia) and Aurangabad (India) form a manufacturing network for fridges and freezers that meets the most modern of standards. Liebherr-Hausgeräte is active around the world: with an extensive network of sales companies and offices in Bulgaria, Germany, the United Kingdom, Austria, Canada, Malaysia, Russia, Switzerland, Singapore, South Africa and the USA, the specialist in refrigeration ensures that customers receive competent advice and that professional service and maintenance work is provided on site.



Save energy and act sustainably

As a family business operating globally, Liebherr bears great responsibility towards society, the environment, customers, employees and suppliers. Going beyond regulations and legislation, the environmental effects of products and production sites are reduced and kept to a minimum. This is why a responsible and sustainable approach to energy is especially important to Liebherr in all development processes.

Energy efficiency has always been a central issue for Liebherr, and it has a decisive effect even during the design of fridges and freezers for professional use. High-quality components allow the appliances to provide excellent cooling. Tailored for professional use, these components also help lower electricity costs. With our products, the concept of protecting the environment is taken into account throughout the life cycle. Liebherr was the first company to convert its entire range of professional fridges and freezers to CFC-free and HFC-free refrigerants. Since then we have been using the natural and environmentally friendly refrigerants R 290 and R 600a. In combination with powerful compressors and modern cooling components, they ensure that our appliances for professional use are particularly energy-efficient and economical.

The plastics we use are all labelled for optimum recycling, and our production processes are also arranged for efficient resource use. Throughout the entire production process, any generated heat is recovered as heating energy. At an early stage, suppliers and service providers are integrated into the current quality and sustainability standards. Our integrated management system serves to fulfil these requirements and to achieve the objectives sought. Its effectiveness is regularly checked by audits. All European Liebherr production sites are certified according to the international standards for quality (ISO 9001), environmental management (ISO 14001) and energy management (ISO 50001). Since September 2019, Liebherr has also been awarded the silver status in EcoVadis for sustainable performance at the Lienz plant.



Perfect quality assurance – logged temperature measurement

Whether for biotechnology, pharmaceutical research or healthcare, professional Liebherr fridges and freezers are used wherever stringent requirements for storage safety and temperature consistency apply. Integrated alarm systems document the temperatures, alert the user of deviations and offer optimum safety.

The dynamic cooling system in laboratory and pharmaceutical appliances, in combination with precise electronics, guarantees maximum temperature stability in the interior. In addition, very short defrost cycles avoid the risk of temperature spikes. Liebherr laboratory appliances are designed for optimal temperature stability and consistency as per EN 60068-3 in order to ensure the best storage conditions for sensitive samples and medication. They are also equipped with a volt-free contact to relay alarms to an external remote monitoring system. In addition, they feature a serial interface RS 485 for central documentation of temperature curves and possible alarm events. Up to 20 appliances can thus be connected to a central documentation and alarm system in order to provide greater safety. The integrated data memory documents and saves the min./max. values for up to 41 days.



Worldwide comprehensive service – long-term availability of spare parts

Verified quality for the highest professional standards

Liebherr service is characterised by a strong customer focus. The main aim is to ensure customer satisfaction through fast processing. The worldwide Liebherr customer service network provides competent experts on all matters relating to service – via email, phone or mail.

As a manufacturer of high-quality fridges and freezers for professional use, we want to live up to our standard of being a competent and reliable partner, and when it comes to servicing and customer service as well. That is what Liebherr customers expect from us, and we want to justify it with our performance. All incoming questions, whether asked in writing or in person, are recorded in our customer database and processed quickly by our customer service employees, who are highly qualified master craftsmen and technicians. We always aim to offer our customers the best possible solution.



Liebherr stands for reliability and durability. That is why we use only the highest quality materials and components in production. Every appliance is tested intensively for quality and functionality, even during the production process. We are always working to develop our appliances, optimise all components and process them properly to the last detail, so we can guarantee the proverbial Liebherr quality with the long durability of our appliances. And if you should still need a spare part for our appliances with their essentially maintenance-free design, you can rely on our service at all times. We provide only original Liebherr spare parts – in most cases for up to ten years after the appliance was purchased.

A great deal of know-how, development work and attention to detail is invested in every single Liebherr appliance. Before an appliance goes into series production, engineers have completed months of research and development to ensure that a high quality product is created which meets all the requirements of professional use.

As a premium manufacturer we have something essential in common with our customers: we set the highest possible standards for our appliances and components. The quality of Liebherr appliances is a solid foundation for the high level of trust that customers have in the Liebherr brand. At our production locations, we are working constantly on the further development and optimisation of all appliance components and materials. Our professional appliances and components undergo continuous quality monitoring throughout the entire production process. In order to guarantee these high standards of quality, we subject

all components to extreme loads in extensive and practical testing. In doing so, we ensure that only the highest quality appliances, which fully meet the particular requirements for commercial use, leave our production locations. Our highly-qualified and well-trained employees are also a central factor here. Thanks to their dedication and commitment, Liebherr continues to set high standards and guarantee outstanding quality. No wonder then that customers around the world are impressed by the durability of our fridges and freezers.



Symbol picture

Good reasons to choose Liebherr



Highest performance

Liebherr appliances for the laboratory and pharmacy sectors offer constant cooling even in extreme ambient temperatures. The use of ultra-advanced components, high-performance and environmentally-friendly refrigerants, and precision controls ensures optimal storage for chemicals and research materials, medication and sensitive samples. Thanks to innovative hot-gas defrosting, they need to be defrosted less often. The process is also considerably quicker and temperature spikes are avoided. Optional documentation software continuously logs the temperature profile – and if required, warning systems alert the user when defined temperature limits are exceeded.

Efficiency

Highly efficient with low energy consumption: the precise electronic controller, the dynamic refrigeration system and highly effective insulation guarantee low operating costs and are eco-friendly as well. The high quality of the appliances guarantees long life and reliable operation and provides for economic and ecological sustainability.

Reliability

All laboratory appliances are designed according to the EN 60068-3 standard with regard to maximum temperature stability. They are specially constructed for intensive professional use and feature a very sturdy design – with highest-quality materials and perfect workmanship right down to the smallest detail. The exemplary quality of the appliances is ensured by elaborate tests. All electronic and refrigeration components are optimally coordinated – perfect for use in the laboratory and pharmacy sectors.

Easy cleaning

Hygiene and easy cleaning play a special role in research, in laboratories and in the medical sector. That is why Liebherr appliances feature, among other things, moulded inner liners with large radii that are convenient to clean. High-quality seals prevent condensation, dirt and dust accumulation. Robust castors ensure that the surfaces under the appliances can also be easily cleaned.

Safety

In order to meet the highest standards for reliability and precise temperature consistency, Liebherr appliances are equipped with integrated alarm systems: If unwanted temperature fluctuations occur, a visual and audible alarm provides a warning – as it does if the door is opened for more than 1 minute. A visual power failure alarm and a sensor defect alarm provide additional safety. The appliances can be connected via the volt-free contact to an external remote warning system – and up to 20 appliances can be networked with a monitoring and alarm system via the serial interface RS 485. In case of a power failure, the electronic controller is powered by a battery for 12 hours (on MKv and MKUv) respectively 72 hours (on LKPv and LGPv) to prevent data loss. The calibration option allows precise temperature control adapted to specific applications. On MKv and MKUv models all alarm parameters are pre-set as per the requirements of DIN 58345.

Easy servicing

Durability and reliability are given top priority in the material selection and development of Liebherr laboratory appliances. The exemplary quality and easy usability of the appliances are ensured by elaborate tests. In appliances with ceiling-mounted cooling components, these components are integrated in an easily accessible way. The door remains open at 90° and is self-closing at less than 60° for convenient use. The interior is easy to clean. The variable adjustment of grid shelves also allows optimum utilisation of the space. The separately controlled LED ceiling lighting on glass-door appliances ensures the best possible illumination. You therefore quickly gain an overview of the contents.

Fridges and freezers Research and laboratory

Fridges and freezers for use in the laboratory and in research have to meet very stringent requirements, especially with regard to safety and temperature consistency. Liebherr appliances are therefore equipped with many functions and features to ensure optimum storage of sensitive samples, critical chemicals and research materials. The precise electronic controller enables accurate temperature setting and creates optimum storage conditions in conjunction with highly effective insulation and the dynamic cooling system. Integrated visual and audible alarm systems warn the user of undesired temperature deviations. Liebherr fridges and freezers provide the safety that is essential in the laboratory and research sector – 24 hours a day, 365 days a year.

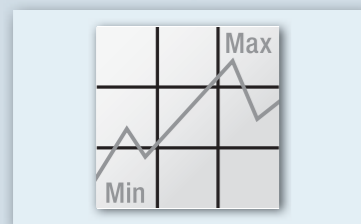


The advantages at a glance

The LKPv 1420, LKPv 1423 and LGPv 1420 body can be split and reassembled for difficult delivery situations. This needs to be undertaken by a trained engineer. Contact sales for more information.



The **refrigeration components** are securely integrated in the ceiling area, allowing ready access.



The integrated data logger includes a **min/max temperature memory function**.



These appliances have an access port (7.0 mm in diameter) in the ceiling area to enable connection of an **independent temperature sensor**.

In case of power failure, the electronic controller is immediately powered by an **integrated 12 V battery**. As a result, the **integrated memory continues to log** the internal temperatures without interruption for another 72 hours.



The **smooth interior** made of 304-grade stainless steel is easy to clean and enables **optimum hygiene**.

To increase the **net capacity** of the inner liner, functional parts like fans and evaporators are located **outside** the refrigerator compartment to save space.



The **practical door** remains open at 90° and is **self-closing** at less than 60° for convenient use.



The state-of-the-art **controller** has an integrated real time clock and can be **set to 1/10°C accuracy**.



After a refrigerator or freezer door has been opened, a **vacuum** is built up by **air exchange** – with the effect that the door is hard to reopen immediately afterwards. The **integrated pressure relief valve** ensures that the vacuum is quickly equalised so that the door can easily be reopened.

The laboratory appliances are equipped with a volt-free contact for **alarm forwarding** to an external warning system.

Maximum temperature stability in the interior is ensured by the **dynamic cooling system** with two evaporator fans, in conjunction with optimal routing of the air flow.

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.



The **hot-gas defrost on demand with electronic control** avoids temperature spikes. To additionally improve temperature stability during defrost, the internal temperature is lowered slightly, shortly before the defrost starts.

The calibration function enhances validation and enables temperature control adapted to the specific application.

The LKPv and LGPv ranges **come with castors as standard** to allow versatile use depending on the available space and convenient cleaning also underneath the appliances.



LKPv 6520

Quality right down to the smallest detail

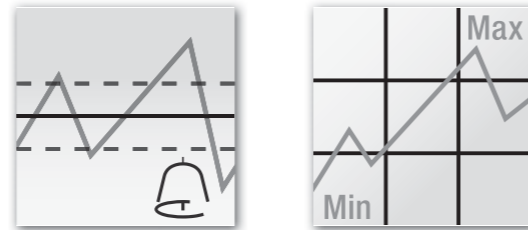
The Mediline range appliances are equipped with many features to guarantee the safety of stored products and temperature stability in the interior. High-quality materials and precise workmanship, extremely efficient refrigeration components as well

as documentation and alarm functions ensure optimum storage of sensitive samples, chemicals and research materials.



Integrated digital controller.

The intuitive controller with integrated real-time clock allows the temperature to be set to 1/10°C accuracy. The large display allows improved temperature visibility at a glance. The keyboard is dirt resistant and easy to clean – to meet the most stringent hygiene requirements in the laboratory.

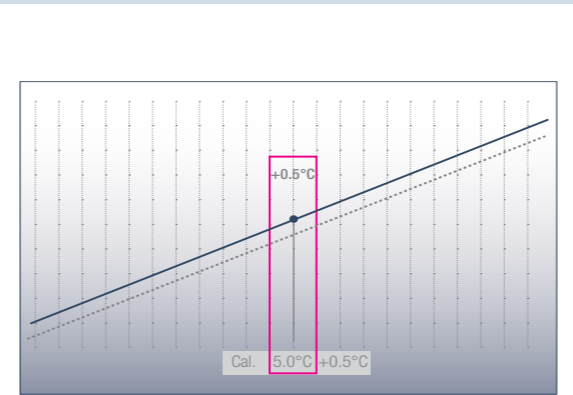


Integrated alarm systems.

A visual and audible door alarm alerts the user to temperature deviations. An alarm is also raised if the door is open for longer than one minute or in the event of power failure.

Integrated data memory.

The min/max temperature memory function stores the values for up to 41 days. In addition the alarm memory function records the last 3 alarm conditions with alarm type, date and time, duration and maximum temperature.



Accurate 1-point calibration.

The digital controller includes a calibration function for extremely accurate temperature control and display. This permits 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.

72
hours

Mains-independent power supply of the electronic controller.

In case of power failure, the electronic controller is powered by a battery. The memory continues to log the internal temperature for another 72 hours. If external alarm and monitoring systems have been connected, then data transfer to these is also maintained.

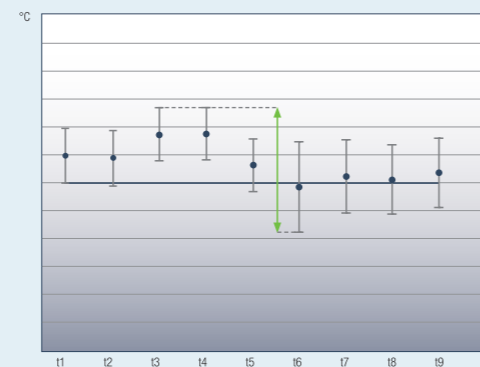
External temperature sensor.

The laboratory appliances have an access port (diameter 7.0 mm) in the appliance ceiling which allows a temperature sensor to be positioned in the interior.



External temperature and alarm documentation.

The laboratory appliances are equipped with a volt-free contact for alarm forwarding to an external remote warning system. In addition the appliances have an RS 485 interface which enables as many as 20 appliances to be networked with a central monitoring and alarm 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 defrost phases. All laboratory appliances are designed according to the EN 60068-3 standard with regard to maximum temperature stability and consistency.

Advantage of hot gas defrost

It is quick, with minimal temperature rise.

30 min
Electric defrost

10 min
Hot gas defrost

Energy-efficient hot-gas defrost system/ No temperature spikes.

Defrost less often and faster: the controller calculates the optimum defrost cycles based on the compressor run-time. Then the fridges defrost in just 8 minutes and the freezers in just 12 minutes. The internal temperature is slightly lowered shortly before so it remains almost constant during the defrost cycle.



Heavy-duty professional stable door.

Quick access, minimal cold loss, maintaining of product quality. Half-door appliances are ideal particularly with the frequent door opening which occurs in the pharmaceutical industry or the laboratory. Samples and compounds used more frequently are stored in the upper area for quick access while below there is plenty of space for materials and raw materials which are needed less frequently. Thanks to the stable doors with their self-closing mechanism, only a small amount of cold air escapes on opening and this helps to maintain temperature stability and therefore the quality of the goods stored over the long term.



Heavy-duty fridges	LKPv 1423 MediLine	LED	LKPv 1420 MediLine	LKPv 8420 MediLine	LKPv 6523 MediLine	LED	LKPv 6520 MediLine	LKPv 6527 MediLine
Gross capacity	1361 litre		1361 litre	856 litre	597 litre		597 litre	596 litre
Exterior dimensions in mm (w/d/h)	1430/830/2160		1430/830/2160	790/980/2160	700/830/2160		700/830/2160	700/830/2160
Interior dimensions in mm (w/d/h)	1236/650/1500		1236/650/1550	620/850/1550	533/650/1500		533/650/1550	533/650/1550
Energy consumption in 365 days ¹	820 kWh		714 kWh	603 kWh	571 kWh		497 kWh	688 kWh
Ambient temperature range	+10 °C to +40 °C		+10 °C to +40 °C	+10 °C to +40 °C	+10 °C to +40 °C		+10 °C to +40 °C	+10 °C to +40 °C
Refrigerant	R 290		R 290	R 290	R 290		R 290	R 290
Sound power level	58 dB(A)		58 dB(A)	58 dB(A)	58 dB(A)		58 dB(A)	58 dB(A)
Voltage/Connection rating	220–240V~/3.0 A		220–240V~/2.5 A	220–240V~/2.0 A	220–240V~/2.0 A		220–240V~/2.0 A	220–240V~/2.0 A
Cooling system	forced-air		forced-air	forced-air	forced-air		forced-air	forced-air
Defrost	automatic		automatic	automatic	automatic		automatic	automatic
Temperature range	0 °C to +16 °C		-2 °C to +16 °C	-2 °C to +16 °C	0 °C to +16 °C		-2 °C to +16 °C	-2 °C to +16 °C
Gradient* / max. fluctuation**	3.8 °C/3.9 °C		3.6 °C/2.9 °C	2.1 °C/1.8 °C	2.0 °C/1.6 °C		1.8 °C/1.0 °C	1.8 °C/1.0 °C
External cabinet finish	steel/white		steel/white	steel/white	steel/white		steel/white	steel/white
Door material	glass door		steel	steel	glass door		steel	steel
Internal liner material	304-grade stainless steel		304-grade stainless steel	304-grade stainless steel	304-grade stainless steel		304-grade stainless steel	304-grade stainless steel
Type of control	electronic controller		electronic controller	electronic controller	electronic controller		electronic controller	electronic controller
Temperature display	external digital		external digital	external digital	external digital		external digital	external digital
Power failure alarm	immediately upon power failure for 72 hrs		immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs		immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs
Fault: warning signal	visual and audible		visual and audible	visual and audible	visual and audible		visual and audible	visual and audible
Interface/Volt-free alarm contact	RS 485/yes		RS 485/yes	RS 485/yes	RS 485/yes		RS 485/yes	RS 485/yes
Interior light	LED lighting, with separate switch				LED lighting, with separate switch			
Adjustable shelves	8		8	4	4		4	4
Usable shelf area in mm (w/d)	1236/640		1236/640	620/800	533/650		533/650	533/650
Shelf material	wire shelves plastic-coated		wire shelves plastic-coated	wire shelves plastic-coated	wire shelves plastic-coated		wire shelves plastic-coated	wire shelves plastic-coated
Shelf loading	60 kg		60 kg	60 kg	60 kg		60 kg	60 kg
Castors	castors with brake at the front, castors at the rear		castors with brake at the front, castors at the rear	castors with brake at the front, fixed castors at the rear	castors with brake at the front, fixed castors at the rear		castors with brake at the front, fixed castors at the rear	castors with brake at the front, fixed castors at the rear
Handle	full-length integrated handle		full-length integrated handle	full-length integrated handle	full-length integrated handle		full-length integrated handle	full-length integrated handle
Lock	fitted		fitted	fitted	fitted		fitted	fitted
Self-closing door	yes		yes	yes	yes		yes	yes
Door hinges	left hand/right hand		left hand/right hand	right, reversible on site	right, reversible on site		right, reversible on site	right, reversible on site
Gross/net weight	266/221 kg		247/201 kg	175/145 kg	163/136 kg		152/126 kg	155/129 kg
Accessories								
Shelf, plastic-coated	7112393		7112393	7113643	7112393		7112393	7112393
U-shaped trayslide, right	9001761		9001761	9005089	9001761		9001761	9001761
U-shaped trayslide, left	9001757		9001757	9005077	9001757		9001757	9001757
Foot pedal opener	9590639		9590639	9590659	9590659		9590659	9590659
RS 485/RS 232 adapter, data log software	9590387		9590387	9590387	9590387		9590387	9590387
NTC product temperature sensor	9590407		9590407	9590407	9590407		9590407	9590407
Side-by-Side set	9901947		9901947	9901947	9901947		9901947	

¹ Measured at +25°C ambient temperature and +5°C set temperature for fridges and -20°C for freezers

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.

** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.



Heavy-duty freezers	LGPv 1420 MediLine	LGPv 8420 MediLine	LGPv 6520 MediLine	LGPv 6527 MediLine
Gross capacity	1361 litre	856 litre	597 litre	596 litre
Exterior dimensions in mm (w/d/h)	1430/830/2160	790/980/2160	700/830/2160	700/830/2160
Interior dimensions in mm (w/d/h)	1236/650/1550	620/850/1550	533/650/1550	533/650/1550
Energy consumption in 365 days ¹	2654 kWh	1739 kWh	1367 kWh	2019 kWh
Ambient temperature range	+10 °C to +40 °C	+10 °C to +40 °C	+10 °C to +40 °C	+10 °C to +40 °C
Refrigerant	R 290	R 290	R 290	R 290
Sound power level	60 dB(A)	60 dB(A)	60 dB(A)	60 dB(A)
Voltage/Connection rating	220–240V~/4.5 A	220–240V~/4.0 A	220–240V~/4.0 A	220–240V~/4.0 A
Cooling system	forced-air	forced-air	forced-air	forced-air
Defrost	automatic	automatic	automatic	automatic
Temperature range	–9 °C to –26 °C	–9 °C to –35 °C ²	–9 °C to –35 °C ²	–9 °C to –35 °C ²
Gradient* / max. fluctuation**	4.3 °C/6.7 °C	4.5 °C/5.7 °C	2.9 °C/3.6 °C	2.9 °C/3.6 °C
External cabinet finish	steel/white	steel/white	steel/white	steel/white
Door material	steel	steel	steel	steel
Internal liner material	304-grade stainless steel	304-grade stainless steel	304-grade stainless steel	304-grade stainless steel
Type of control	electronic controller	electronic controller	electronic controller	electronic controller
Temperature display	external digital	external digital	external digital	external digital
Power failure alarm	immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs	immediately upon power failure for 72 hrs
Fault: warning signal	visual and audible	visual and audible	visual and audible	visual and audible
Interface/Volt-free alarm contact	RS 485/yes	RS 485/yes	RS 485/yes	RS 485/yes
Adjustable shelves	8	4	4	4
Usable shelf area in mm (w/d)	1236/640	620/800	533/650	533/650
Shelf material	wire shelves plastic-coated	wire shelves plastic-coated	wire shelves plastic-coated	wire shelves plastic-coated
Shelf loading	60 kg	60 kg	60 kg	60 kg
Castors	castors with brake at the front, castors at the rear	castors with brake at the front, fixed castors at the rear	castors with brake at the front, fixed castors at the rear	castors with brake at the front, fixed castors at the rear
Handle	full-length integrated handle	full-length integrated handle	full-length integrated handle	full-length integrated handle
Lock	fitted	fitted	fitted	fitted
Self-closing door	yes	yes	yes	yes
Door hinges	left hand/right hand	right, reversible on site	right, reversible on site	right, reversible on site
Gross/net weight	253/207 kg	183/151 kg	160/133 kg	162/136 kg
Accessories				
Shelf, plastic-coated	7112393	7113643	7112393	7112393
U-shaped trayslide, right	9001761	9005089	9001761	9001761
U-shaped trayslide, left	9001757	9005077	9001757	9001757
Foot pedal opener	9590639	9590659	9590659	9590659
RS 485/RS 232 adapter, data log software	9590387	9590387	9590387	9590387
NTC product temperature sensor	9590407	9590407	9590407	9590407
Side-by-Side set	9901947	9901947	9901947	

¹ Measured at +25°C ambient temperature and +5°C set temperature for fridges and -20°C for freezers
² The temperature range is valid at a maximum ambient temperature of +30°C

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.
 ** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.

The advantages at a glance



The **volt-free contact** for forwarding alarms to an **external remote warning system**.



The **commercial-grade moulded polystyrol inner liner** is exceptionally easy to clean and enables **optimum hygiene**.



The sturdy, **plastic-coated grid shelves** have a **loading capacity of up to 45 kg**, are easily adjustable in height and can be removed at a door opening angle of 90°.

Access port for integration of the optionally available NTC temperature sensor or independent temperature sensor PT 100 or similar measuring instruments.



In laboratory fridge-freezer LCv4010, the **drawers** can be removed easily using the **recessed grips** integrated on the sides. The drawers have a transparent front to provide a clear view of the goods.

No Frost

No more defrosting thanks to **NoFrost technology** (only for LGv appliances). Re-circulated air cooling binds humidity to the evaporator, while short cyclical defrosting phases ensure that it is conducted out of the interior. And the advantage of this? Unlike with manual defrosting, the tedious task of moving sensitive cooled goods around is no longer necessary – for convenient, safe and ice-free storage.



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



The **precise electronic controller** with digital temperature display allows accurate temperature setting to 1/10°C. 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 fridges LKv 3913 and LKv 1613 with a **glass door** feature and **efficient LED interior light** with a separate switch.



1-point calibration for accurate temperature control. This permits compensation between the set temperature and the actual internal temperature.

Convenient **opening of the door** requiring little force: The ergonomically designed **lever handle** enables smooth opening of the door with less shaking of the appliance. This means that samples or small stored items are safe when the door is opened.



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



The **dynamic cooling system** in conjunction with the **precise electronic controller** ensures maximum temperature stability and high temperature consistency in the interior.

LKv 3913

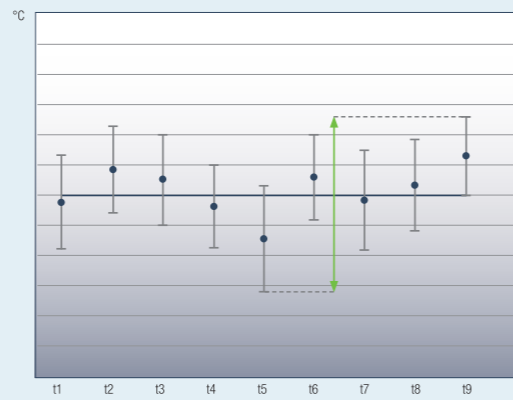
Quality right down to the smallest detail

Liebherr MediLine laboratory fridges the ideal solution for a small footprint or for under-worktop integration. The range comprises two freestanding and under-worktop fridges with a glass door or a solid door. The precise electronic controller enables temperatures to be set accurately. The dynamic cooling system ensures high temperature consistency. Integrated alarm systems guarantee safe storage.



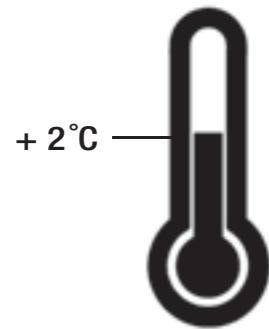
External temperature and alarm documentation.

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



Maximum temperature consistency.

The dynamic cooling system in conjunction with the precise electronic controller ensures maximum temperature stability. All laboratory appliances are designed according to the EN 60068-3 standard with regard to optimum temperature consistency.



Safety thermostat.

The appliances with electronic controllers are equipped with an additional safety thermostat to prevent temperatures dropping below +2°C and to protect sensitive products in the event of a fault.

External temperature sensor.

The laboratory appliances have an access port (diameter 10 mm) on the rear which allows the temperature sensor to be positioned in the interior.



Lever handle.

Convenient opening of the door requiring little force: The ergonomically designed lever handle enables smooth opening of the door with less shaking of the appliance. This means that samples or small stored items are safe when the door is opened.



Laboratory fridges with electronic controls

Laboratory fridges with electronic controls	LKv 5710 MediLine	LKv 3913 MediLine	LED	LKv 3910 MediLine
Total gross/net capacity	583/540 litre	386/332 litre		361/333 litre
Exterior dimensions in mm (w/d/h)	751/750/1844	601/618/1840		601/618/1840
Interior dimensions in mm (w/d/h)	634/538/1500	440/435/1635		440/435/1635
Energy consumption in 365 days¹	438 kWh	480 kWh		309 kWh
Ambient temperature range	+10 °C to +35 °C	+10 °C to +35 °C		+10 °C to +35 °C
Refrigerant	R 600a	R 600a		R 600a
Sound power level	52 dB(A)	48 dB(A)		48 dB(A)
Voltage/Connection rating	220–240V~/1.0 A	220–240V~/1.5 A		220–240V~/1.5 A
Cooling system	forced-air	forced-air		forced-air
Defrost	automatic	automatic		automatic
Temperature range	+3 °C to +16 °C	+3 °C to +16 °C		+3 °C to +16 °C
Gradient*/max. fluctuation**	3.8 °C/3.1 °C	5.6 °C/4.7 °C		4.1 °C/3.6 °C
External cabinet finish	steel/white	steel/white		steel/white
Door material	steel	glass door		steel
Internal liner material	commercial grade moulded polystyrol	commercial grade moulded polystyrol		commercial grade moulded polystyrol
Type of control	electronic controller	electronic controller		electronic controller
Temperature display	external digital	external digital		external digital
Power failure alarm	when mains power return	when mains power return		when mains power return
Fault: warning signal	visual and audible	visual and audible		visual and audible
Interface/Volt-free alarm contact	RS 485/yes	RS 485/yes		RS 485/yes
Interior light		LED lighting, with separate switch		
Adjustable shelves	5	5		5
Usable shelf area in mm (w/d)	634/518	440/420		440/420
Shelf material	wire shelves plastic-coated	wire shelves plastic-coated		wire shelves plastic-coated
Shelf loading	60 kg	45 kg		45 kg
Castors	castors with brake at the front, fixed castors at the rear			
Handle	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism		slimline handle with integrated opening mechanism
Lock	fitted	fitted		fitted
Self-closing door	yes	yes		yes
Door hinges	right, reversible on site	right, reversible on site		right, reversible on site
Gross/net weight	99/91 kg	88/82 kg		70/65 kg
Accessories				
Shelf, plastic-coated	7113485	7113333		7113333
Evaporator cover, white		9590241		9590241
Adjustable legs				9590231
RS 485/RS 232 adapter, data log software	9590387	9590387		9590387
Additional lock barrels (up to 10)		on request		on request
Foot pedal opener	9094502			
Roller bars		9590380		9590380

¹ Measured at +25°C ambient temperature and +5°C set temperature for fridges and -20°C for freezers

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.

** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.



Laboratory fridges and freezers with electronic controls

	LKUv 1613 MediLine	LED	LKUv 1610 MediLine	LGv 5010 MediLine	No Frost
Total gross/net capacity	152/132 litre		142/133 litre	478/337 litre	
Exterior dimensions in mm (w/d/h)	601/618/820		601/618/820	751/750/1844	
Interior dimensions in mm (w/d/h)	440/435/670		440/435/670	602/520/1224	
Energy consumption in 365 days ¹	369 kWh		273 kWh	1245 kWh	
Ambient temperature range	+10 °C to +35 °C		+10 °C to +35 °C	+16 °C to +35 °C	
Refrigerant	R 600a		R 600a	R 290	
Sound power level	47 dB(A)		47 dB(A)	55 dB(A)	
Voltage/Connection rating	220–240V~/1.0 A		220–240V~/1.0 A	220–240V~/3.0 A	
Cooling system/Defrost	forced-air/automatic		forced-air/automatic	forced-air/automatic	
Temperature range	+3 °C to +16 °C		+3 °C to +16 °C	–9 °C to –35 °C	
Gradient*/max. fluctuation**	5.1 °C/4.9 °C		4.3 °C/4.6 °C	5.8 °C/4.9 °C	
External cabinet finish	steel/white		steel/white	steel/white	
Door material	glass door		steel	steel	
Internal liner material	commercial grade moulded polystyrol		commercial grade moulded polystyrol	commercial grade moulded polystyrol	
Type of control	electronic controller		electronic controller	electronic controller	
Temperature display	external digital		external digital	external digital	
Power failure alarm	when mains power return		when mains power return	when mains power return	
Fault: warning signal	visual and audible		visual and audible	visual and audible	
Interface/Volt-free alarm contact	RS 485/yes		RS 485/yes	RS 485/yes	
Interior light	LED lighting, with separate switch				
Adjustable shelves	3		3		
Usable shelf area in mm (w/d)	440/420		440/420	602/485	
Shelf material	wire shelves plastic-coated		wire shelves plastic-coated	wire shelves plastic-coated	
Shelf loading	45 kg		45 kg	60 kg	
Castors				castors with brake at the front, fixed castors at the rear	
Drawers/Number of baskets				8/2	
Handle	slimline handle with integrated opening mechanism		slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism	
Lock	fitted		fitted	fitted	
Self-closing door	yes		yes	yes	
Door hinges	right, reversible on site		right, reversible on site	right, reversible on site	
Gross/net weight	46/43 kg		39/37 kg	124/114 kg	
Accessories					
Shelf, plastic-coated	7113333		7113333	7112059	
Stacking kit, white	9592697		9592697		
Roller bars	9590521		9590521		
Evaporator cover, white	9590523		9590523		
NTC product temperature sensor				9591493	
RS 485/RS 232 adapter, data log software	9590387		9590387	9590387	
Foot pedal opener				9094502	
Additional lock barrels (up to 10)	on request		on request		

¹ Measured at +25°C ambient temperature and +5°C set temperature for fridges and -20°C for freezers

Laboratory fridge-freezer combination with electronic controls

	LCv 4010 MediLine	Smart Frost
Total gross/net capacity fridge compartment	254/240 litre	
Total gross/net capacity freezer compartment	107/105 litre	
Exterior dimensions in mm (w/d/h)	601/618/2003	
Interior dimensions in mm (w/d/h) fridge compartment	440/441/1105	
Interior dimensions in mm (w/d/h) freezer compartment	433/435/597	
Energy consumption in 365 days ¹	657 kWh	
Ambient temperature range	+10 °C to +35 °C	
Refrigerant	R 600a	
Sound power level	52 dB(A)	
Voltage/Connection rating	220–240V~/1.5 A	
Cooling system	fridge/freezer comp. forced-air/static	
Defrost	fridge/freezer comp. automatic/manual	
Temperature range	fridge/freezer comp. +3 °C to +16 °C / –9 °C to –30 °C	
Gradient*	fridge/freezer comp. 5.2 °C/7.9 °C	
Max. fluctuation**	fridge/freezer comp. 5.7 °C/5.5 °C	
External cabinet finish	steel/white	
Door material	steel	
Internal liner material	commercial grade moulded polystyrol	
Type of control	electronic controller	
Temperature display	external digital	
Power failure alarm	when mains power return	
Fault: warning signal	visual and audible	
Interface/Volt-free alarm contact	RS 485/yes	
Adjustable shelves	fridge compartment 4	
Usable shelf area in mm (w/d)	fridge compartment 440/409	
Shelf material	fridge/freezer comp. wire shelves plastic-coated/glass	
Shelf loading	fridge/freezer comp. 45 kg/24 kg	
Drawers	freezer compartment 3	
Handle	slimline handle with integrated opening mechanism	
Lock	fitted	
Self-closing door	yes	
Door hinges	right, reversible on site	
Gross/net weight	90/84 kg	
Accessories		
Shelf, plastic-coated, for fridge compartment	7113333	
Evaporator cover, white, for fridge compartment	9590391	
NTC product temperature sensor	9590407	
RS 485/RS 232 adapter, data log software	9590387	
Roller bars	9592756	
Additional lock barrels (up to 10)	on request	

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.

** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.

The advantages at a glance



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



Access port for integration of an **independent temperature sensor** (e.g. an optionally available NTC temperature sensor or similar measuring instruments) in laboratory appliances.



The **commercial-grade moulded polystyrol inner liner** is exceptionally easy to clean and enables **optimum hygiene**.



The **glass shelves** of the laboratory fridges with spark-free interior are **height adjustable** and can easily be removed at a door opening angle of 90°.



The **drawers** in the LCexv laboratory fridge-freezer can easily be removed by the handles recessed in the sides. The drawers have a transparent front providing a **clear view of the products stored inside**.



The **electronic controller** with digital temperature display allows **accurate temperature setting to 1/10°C**. The large display allows improved temperature visibility at a glance.



All laboratory fridges and freezers with **spark-free interior** are tested according to the 2014/34/EU (ATEX) Directive.



The **precise electronic controller** has an **integrated data memory**. It logs e.g. the maximum and minimum internal temperatures.

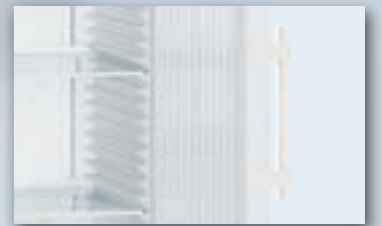


Laboratory appliances with a **electronic controller** provide **1-point calibration** for accurate temperature control. This permits compensation between the set temperature and the actual internal temperature.

The **self-closing door** prevents unnecessary cold loss and contributes to the temperature stability of the appliances. The **integrated lock** is very sturdy and protects the samples and products against unauthorised access.



Convenient **opening of the door** requiring little force: The ergonomically designed **lever handle** enables smooth opening of the door with less shaking of the appliance. This means that samples or small stored items are safe when the door is opened.



Door seals can be **replaced**.

Quality right down to the smallest detail

Liebherr provides fridges and freezers with spark-free interior especially for storing explosive and highly flammable substances in labs and in the chemical industry. The inner liners meet the safety requirements of the EU Directive 2014/34/EU (ATEX) and have been tested according to the EN 1127-1, IEC 60079-0 and IEC 60079-15 standards by elecosuisse -



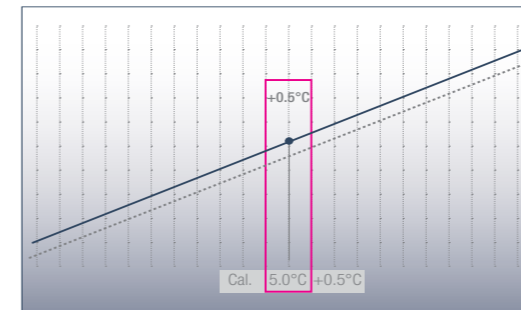
Certified according to ATEX.

All appliances with spark-free interior are tested according to the 2014/34/EU (ATEX) Directive. Rated as II 3G Ex nA II T6, these appliances are suitable for storing explosive and highly flammable substances in sealed containers.



The electronic controller.

The precise electronic controller with digital temperature display enables temperatures to be set accurately to 1/10°C. Symbols indicate the operating status of the appliance. The electronic controller is flush-mounted and equipped with a membrane keyboard for perfect hygiene. The large display allows improved temperature visibility at a glance.



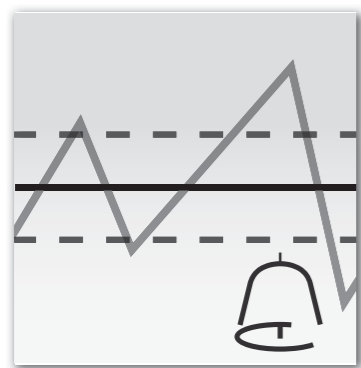
Accurate 1-point calibration.

The laboratory appliances with electronic controls have a 1-point calibration function for accurate temperature control. This permits 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 documentation.

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



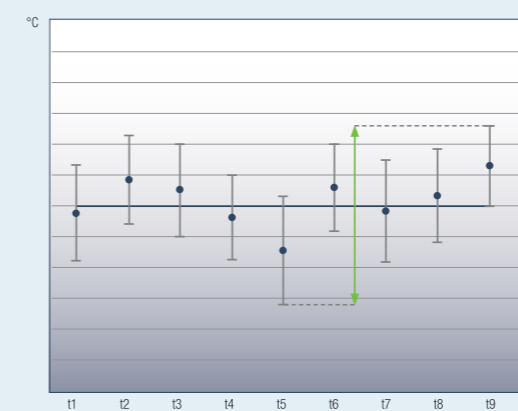
Integrated alarm systems.

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. Furthermore, the laboratory appliances with electronic controls have a visual power failure alarm and a sensor defect alarm.



Integrated data memory.

The electronic controller 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. These data can be read out on the display.



Maximum temperature consistency.

Maximum temperature stability is ensured by the cooling systems of the laboratory fridges and freezers in conjunction with the electronic controller. The fridges are equipped with a safety thermostat to prevent temperatures below +2°C in case of a fault. All laboratory appliances with electronic controls are designed according to the EN 60068-3 standard with regard to maximum temperature stability and consistency.



Sturdy glass shelves.

The sturdy glass shelves are easily adjustable in height and can conveniently be removed at a door opening angle of 90°. They ensure secure positioning of the refrigerated or frozen products and have a loading capacity of up to 40 kg in the refrigerator compartment and up to 24 kg in the freezer compartment.

External temperature sensor.

The laboratory appliances with electronic controls have an access port (diameter 10 mm) on the rear which allows the temperature sensor to be positioned in the interior.



Laboratory fridge-freezer combination
with electronic controls and spark-free interior

Total gross/net capacity	fridge compartment	254/240 litre
Total gross/net capacity	freezer compartment	107/105 litre
Exterior dimensions in mm (w/d/h)		601/618/2003
Interior dimensions in mm (w/d/h)	fridge compartment	440/441/1105
Interior dimensions in mm (w/d/h)	freezer compartment	433/433/597
Energy consumption in 365 days ¹		657 kWh
Ambient temperature range		+10 °C to +35 °C
Refrigerant		R 600a
Sound power level		52 dB(A)
Voltage/Connection rating		220–240V~/1.5 A
Cooling system	fridge/freezer comp.	forced-air/static
Defrost	fridge/freezer comp.	automatic/manual
Temperature range	fridge/freezer comp.	+3 °C to +16 °C / –9 °C to –30 °C
Gradient*	fridge/freezer comp.	4.0 °C/7.9 °C
Max. fluctuation**	fridge/freezer comp.	3.9 °C/5.5 °C
External cabinet finish		steel/white
Door material		steel
Internal liner material		commercial grade moulded polystyrol
Type of control		electronic controller
Temperature display		external digital
Power failure alarm		when mains power return
Fault: warning signal		visual and audible
Interface/Volt-free alarm contact		RS 485/yes
Adjustable shelves	fridge compartment	4
Usable shelf area in mm (w/d)	fridge compartment	440/409
Shelf material	fridge/freezer comp.	glass/glass
Shelf loading	fridge/freezer comp.	40 kg/24 kg
Drawers	freezer compartment	3
Handle		slimline handle with integrated opening mechanism
Lock		fitted
Self-closing door		yes
Door hinges		right, reversible on site
Gross/net weight		92/87 kg
Accessories		
Glass shelf		9293629
NTC product temperature sensor		9590145
RS 485/RS 232 adapter, data log software		9590387
Roller bars		9592756
Additional lock barrels (up to 10)		on request

LCexv 4010 MediLine



Laboratory fridges and freezers with electronic controls and spark-free interior

Total gross/net capacity		
Exterior dimensions in mm (w/d/h)		
Interior dimensions in mm (w/d/h)		
Energy consumption in 365 days ¹		
Ambient temperature range		
Refrigerant		
Sound power level		
Voltage/Connection rating		
Cooling system/Defrost		
Temperature range		
Gradient*/max. fluctuation**		
External cabinet finish		
Door material		
Internal liner material		
Type of control		
Temperature display		
Power failure alarm		
Fault: warning signal		
Interface/Volt-free alarm contact		
Adjustable shelves		
Usable shelf area in mm (w/d)		
Shelf material		
Shelf loading		
Drawers		
Number of baskets		
Compartment height in mm		
Handle		
Lock		
Self-closing door/Door hinges		
Gross/net weight		
Accessories		
Glass shelf		
Stacking kit, white		
Roller bars		
Evaporator cover, white		
Adjustable legs		
NTC product temperature sensor		
RS 485/RS 232 adapter, data log software		
Additional lock barrels (up to 10)		

¹ Measured at +25°C ambient temperature and +5°C set temperature for fridges and -20°C for freezers

LKexv 3910 MediLine

LKUexv 1610 MediLine

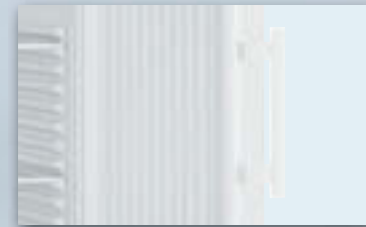
LGex 3410 MediLine

LGUex 1500 MediLine

360/344 litre	141/130 litre	310/284 litre	139/129 litre
601/618/1840	601/618/820	601/618/1840	601/618/820
440/435/1635	440/435/670	420/400/1587	454/450/663
316 kWh	315 kWh	478 kWh	338 kWh
+10 °C to +35 °C	+10 °C to +35 °C	+10 °C to +35 °C	+10 °C to +35 °C
R 600a	R 600a	R 600a	R 600a
48 dB(A)	47 dB(A)	45 dB(A)	45 dB(A)
220–240V~/1.5 A	220–240V~/1.0 A	220–240V~/1.5 A	220–240V~/1.0 A
forced-air/automatic	forced-air/automatic	static/manual	static/manual
+3 °C to +16 °C	+3 °C to +16 °C	–9 °C to –30 °C	–9 °C to –26 °C
5.5 °C/5.1 °C	3.9 °C/4.8 °C	6.9 °C/4.2 °C	6.6 °C/3.3 °C
steel/white	steel/white	steel/white	steel/white
steel	steel	steel	steel
commercial grade moulded polystyrol	commercial grade moulded polystyrol	commercial grade moulded polystyrol	commercial grade moulded polystyrol
electronic controller	electronic controller	electronic controller	electronic controller
external digital	external digital	external digital	external digital
when mains power return	when mains power return	when mains power return	when mains power return
visual and audible	visual and audible	visual and audible	visual and audible
RS 485/yes	RS 485/yes	RS 485/yes	RS 485/yes
5	3		
440/420	440/420	420/400	454/450
glass	glass	evaporator plates	evaporator plates
40 kg	40 kg	24 kg	24 kg
		8	3
			1
		185	149
slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism
fitted	fitted	fitted	fitted
yes/right, reversible on site	yes/right, reversible on site	yes/right, reversible on site	yes/right, reversible on site
74/68 kg	41/38 kg	91/86 kg	45/42 kg
9293629	9293629		
	9592697		9592697
9590380	9590521	9590380	9590521
9590241	9590523		
9590231		9590231	
		9590145	9590145
9590387	9590387	9590387	9590387
on request	on request	on request	on request

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.
** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.

The advantages at a glance



Convenient **opening of the door** requiring little force: The ergonomically designed **lever handle** enables smooth opening of the door with less shaking of the appliance.



The **moulded polystyrol inner liner** with large corner radii is exceptionally easy to clean and enables **optimum hygiene**.



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



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



Sealed defrost water drain in the laboratory appliances with spark-free interior for compliance with the ATEX Directive 2014/34/EU.



Reversible door hinges in the LKexv models enable individual adaption to space conditions. The door seals can also be easily replaced as required.



Quality right down to the smallest detail



Certified according to ATEX.

The LKexv models are labelled clearly and permanently on the outer housing in accordance with the ATEX Directive 2014/34/EU, including information for cleaning. Rated as II 3G Ex nA II T6, these appliances are suitable for storing explosive and highly flammable substances in sealed containers.



Hygienic interior for versatile use.

The commercial-grade moulded polystyrol inner liner is exceptionally easy to clean and enables optimum hygiene. The moulded trayslides prevent the glass shelves from tipping and allow them to be varied in height.



Glass shelves.

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



Water tray.

The defrost water drain in the laboratory appliances with spark-free interior is sealed for compliance with the ATEX Directive 2014/34/EU. The defrost water obtained during the automatic defrost cycle is collected in a tray which has to be emptied manually at regular intervals.



Laboratory fridges with mechanical control and spark-free interior	LKexv 5400 Mediline	LKexv 3600 Mediline	LKexv 2600 Mediline	LKexv 1800 Mediline
Total gross/net capacity	554/520 litre	333/307 litre	240/221 litre	180/160 litre
Exterior dimensions in mm (w/d/h)	750/729/1640	600/610/1641	600/610/1250	600/600/860
Interior dimensions in mm (w/d/h)	600/560/1452	470/440/1452	470/440/1062	513/441/702
Energy consumption in 365 days ¹	359 kWh	346 kWh	287 kWh	328 kWh
Ambient temperature range	+10 °C to +40 °C	+10 °C to +43 °C	+10 °C to +40 °C	+10 °C to +30 °C
Refrigerant	R 600a	R 600a	R 600a	R 600a
Sound power level	48 dB(A)	48 dB(A)	48 dB(A)	47 dB(A)
Voltage/Connection rating	220–240V~/1.5 A	220–240V~/1.5 A	220–240V~/1.0 A	220–240V~/1.0 A
Cooling system	forced-air	forced-air	forced-air	forced-air
Defrost	automatic	automatic	automatic	automatic
Temperature range	+1 °C to +15 °C	+1 °C to +15 °C	+1 °C to +15 °C	+1 °C to +15 °C
Gradient*/max. fluctuation**	6.9 °C/5.8 °C	4.8 °C/3.0 °C	6.4 °C/5.5 °C	10.2 °C/7.4 °C
External cabinet finish	steel/white	steel/white	steel/white	steel/white
Door material	steel	steel	steel	steel
Internal liner material	commercial grade moulded polystyrol	commercial grade moulded polystyrol	commercial grade moulded polystyrol	commercial grade moulded polystyrol
Type of control	analogue control	analogue control	analogue control	analogue control
Temperature display	external digital	external digital	external digital	external digital
Adjustable shelves	5	5	4	3
Usable shelf area in mm (w/d)	600/550	470/425	470/425	513/412
Shelf material	glass	glass	glass	glass
Shelf loading	40 kg	40 kg	40 kg	40 kg
Handle	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism	ergonomic slimline handle
Lock	fitted	fitted	fitted	fitted
Door hinges	right, reversible on site	right, reversible on site	right, reversible on site	right, reversible on site
Gross/net weight	84/77 kg	64/59 kg	53/49 kg	41/38 kg
Accessories				
Glass shelf	9293613	9293615	9293615	9293631
Castor base	9086365	9086323	9086323	
Adjustable legs	9590229	9590231	9590231	
Additional lock barrels (up to 10)	on request	on request	on request	

¹ Measured at +25°C ambient temperature and +5°C set temperature

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.

** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.

The advantages at a glance

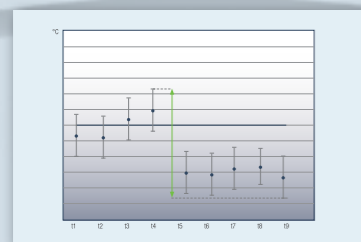


Visual and audible temperature alarms alert the user if **temperature deviation limits** are exceeded. The parameters for the temperature alarm can be individually set. The integrated data memory with min/max

temperatures logs temperature fluctuations with date, time and duration of the alarm. In addition the electronic controller ensures high temperature consistency in the interior. All laboratory chest freezers are designed in accordance with EN 60068-3.

Volt-free contact for forwarding alarms to an **external remote warning system**.

Precise electronic controller with digital temperature display for accurate temperature setting. Thanks to its position on the **chest rear**, the electronic controller can be connected to external systems.



The electronic controller ensures **maximum temperature stability** and **high temperature consistency** in the interior.

Stop Frost

The **StopFrost system** fitted to the LGT models reduces frosting of the interior and the freezer contents – so the time-consuming process of defrosting is necessary far less often. The **vacuum** is also equalised quickly after the lid is opened and closed so that the chest can be re-opened effortlessly.



Sturdy, one-piece and easy-to-clean **lid**. The **strong lid hinges** are designed for at least 50,000 openings.

The **aluminium handle** on the LGT models is simple and tough for intensive commercial use. All appliances have **locks** as standard.



The lid has an integrated, **energy-efficient LED interior light** to **improve visibility** in the interior.



Access port (diameter 10 mm) for integration of the optionally available **NTC temperature sensor** or independent temperature sensor PT 100 or similar measuring instruments.



Laboratory chest freezers are equipped with **1-point calibration** for accurate temperature control.

Quality right down to the smallest detail

The Liebherr laboratory chest freezers down to -45°C are available in three different sizes and are specially designed for the requirements in the research, laboratory, healthcare and industrial sector. The 1-point calibration ensures high temperature

consistency. Integrated alarm systems and external temperature and alarm monitoring contribute to the safe storage of samples, chemicals and research materials.



External temperature and alarm documentation.

The laboratory chest freezers are equipped with a volt-free contact for alarm forwarding to an external remote warning system. In addition, they have an RS 485 serial interface for central documentation of the temperature profiles and alarm events.



The electronic controller.

The precise electronic controller with digital temperature display enables temperatures to be set accurately. Symbols indicate the operating status of the appliance. To ensure the level of hygiene required in the laboratory, the electronic controller is flush-mounted and equipped with a membrane keyboard.



Accurate 1-point calibration.

The laboratory chest freezers are equipped with 1-point calibration for accurate temperature control. This permits 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.



StopFrost System.

The StopFrost system fitted to the LGT models offers several key advantages: frosting of the freezer compartment and its contents is reduced and the time-consuming process of defrosting is necessary far less often. The vacuum is also equalised after the chest lid is opened and closed so that the laboratory chest can be re-opened effortlessly.



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 lid-open alarm delay can be adjusted between 1 and 5 minutes. Additional safety is provided by a visual power failure alarm and sensor defect alarm.



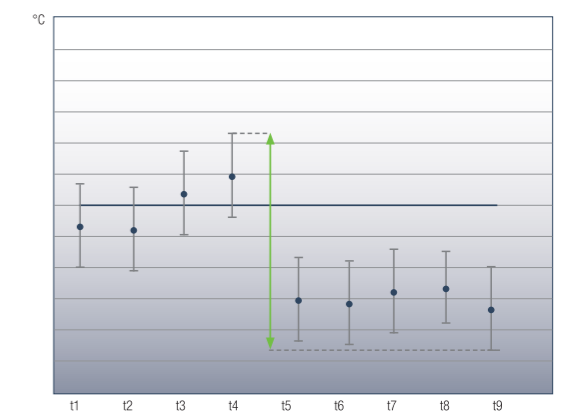
Integrated data memory.

The electronic controller 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. These data can be read out on the display.



External temperature sensor.

The laboratory chest freezers have an access port (diameter 10 mm) on the rear which allows temperature sensor to be positioned in the interior.



Maximum temperature consistency.

The dynamic cooling system in conjunction with the electronic controller ensures maximum temperature stability. All laboratory chest freezers are designed according to the EN 60068-3 standard with regard to optimum temperature consistency.



Laboratory chest freezers
down to -45°C

LGT 4725 MediLine



LGT 3725 MediLine



LGT 2325 MediLine



	LGT 4725 MediLine	LGT 3725 MediLine	LGT 2325 MediLine
Total gross / net capacity	441 / 418 litre	350 / 332 litre	215 / 201 litre
Exterior dimensions in mm (w/d/h)	1648 / 808 / 907	1373 / 808 / 907	1132 / 760 / 907
Interior dimensions in mm (w/d/h)	1445 / 500 / 650	1170 / 500 / 650	889 / 410 / 630
Energy consumption in 365 days ¹	1589 kWh	1069 kWh	824 kWh
Ambient temperature range	+10 °C to +30 °C	+10 °C to +30 °C	+10 °C to +30 °C
Refrigerant	R 290	R 290	R 290
Sound power level	55 dB(A)	55 dB(A)	55 dB(A)
Voltage / Connection rating	220–240V~ / 3.5 A	220–240V~ / 3.0 A	220–240V~ / 2.0 A
Cooling system	static	static	static
Defrost	manual	manual	manual
Temperature range	-10 °C to -45 °C	-10 °C to -45 °C	-10 °C to -45 °C
Gradient* / max. fluctuation**	3.5 °C / 1.8 °C	4.3 °C / 2.2 °C	4.7 °C / 1.9 °C
External cabinet finish	steel / white	steel / white	steel / white
Lid material	steel	steel	steel
Internal liner material	white coated aluminium	white coated aluminium	white coated aluminium
Type of control	electronic controller	electronic controller	electronic controller
Temperature display	external digital	external digital	external digital
Power failure alarm	when mains power return	when mains power return	when mains power return
Interface / Volt-free alarm contact	RS 485 / yes	RS 485 / yes	RS 485 / yes
Insulation	100 mm	100 mm	120 mm
Number of baskets	0	0	0
Number of baskets, max	16	13	10
Interior light	LED	LED	LED
Handle	profiled aluminium	profiled aluminium	profiled aluminium
Lock	fitted	fitted	fitted
Gross / net weight	91 / 76 kg	80 / 68 kg	68 / 58 kg
Accessories			
NTC product temperature sensor	9590407	9590407	9590407
RS 485 / RS 232 adapter, data log software	9590387	9590387	9590387
Basket large 479×208×190 mm	7113627	7113627	
Basket small 385×202×195 mm			7112317

¹ Measured at +25°C ambient temperature and -45°C set temperature

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.

** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.



Accessories

Heavy-duty laboratory fridges and freezers

Side-by-side set

The side-by-side set 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 set prevents condensation and ice formation between two appliances which, without the side-by-side set, would otherwise be positioned next to one another.



U-shaped trayslides and plastic-coated shelves

Additional U-shaped trayslides 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.



Interface converter with monitoring software

A special interface converter including the Liebherr LTM monitoring software is available for central documentation of the temperature profile data and alarm events of multiple appliances via the RS 485 serial interface. It is possible to network as many as 20 laboratory appliances and centrally document their parameters. Alarm forwarding or regular status reports to up to three email addresses can be configured as an additional feature. Alternatively, commercially available converters can be used to connect the appliances to a PC via WLAN or LAN. Software requirements: PC with Windows® operating system.



NTC product temperature sensor

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



Foot-pedal door opener

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



Laboratory fridges, freezers and fridge-freezer combinations with electronic controls

Interface converter with monitoring software

A special interface converter including LTM monitoring software is available for central documentation of the temperature profile data and alarm events of multiple appliances via the RS 485 serial interface. Capability is provided for interconnecting as many as 20 laboratory appliances and centrally documenting their parameters. Alarm forwarding or regular status reports to up to three email addresses can be configured as an additional feature. Alternatively, commercially available converters can be used to connect the appliances to a PC via WLAN or LAN. Software requirements: PC with Windows® operating system.



Accessories

Laboratory fridges, freezers and fridge-freezer combinations with electronic controls

NTC product temperature sensor

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



Additional lock barrels

Up to 10 additional lock barrels to protect the stored products against unauthorised access are available as accessories for the laboratory appliances with electronic controller. 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.



Stacking kit

A stacking kit is available as an accessory for combining the LKUv 1613, LKUv 1610, LKUxv 1610 and LGUex 1500 models as desired. This allows stacking a glass door appliance and solid door appliance or a refrigerator and freezer 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.



Evaporator cover

An evaporator cover can be installed for added safety, to ensure that cold-sensitive products cannot touch the evaporator.



Foot-pedal door opener

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



Roller bars and adjustable legs

30 mm high roller sets can be retrofitted to the under-worktop LKUv models and height-adjustable legs can be retrofitted to the upright LKv models. The legs are adjustable between 115 mm and 170 mm in height.

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.



Shelves plastic-coated

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 60 kg.



Laboratory fridges and freezers with electronic controls and spark-free interior

NTC spark-free product temperature sensor

An NTC product temperature sensor without metal sheath is available as a retrofit kit for registering product temperatures. The registering temperatures can either be read by the control system or transferred to an external documentation system via the RS 485 interface.



Interface converter with monitoring software

A special interface converter including LTM monitoring software is available for central documentation of the temperature profile data and alarm events of multiple appliances via the RS 485 serial interface. Capability is provided for interconnecting as many as 20 laboratory appliances and centrally documenting their parameters. Alarm forwarding or regular status reports to up to three email addresses can be configured as an additional feature. Commercially available converters can be used to connect the connected appliances to a PC via WLAN or LAN. Software requirements: PC with Windows® operating system.



Additional lock barrels

Up to 10 additional lock barrels to protect the stored products against unauthorised access are available as accessories for the laboratory appliances with electronic controller. 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

Additional glass shelves can be retrofitted to the LCexv, LKexv and LKUxv models as required to provide extra storage options. The glass shelves made of toughened safety glass meet the standards for spark-free fridges in accordance with ATEX and have a loading capacity of up to 40 kg.



Stacking kit

A stacking kit is available as an accessory for combining the LKUxv and LGUex models as well as other under-worktop models in the LKUv range. 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.



Accessories

Laboratory fridges and freezers with electronic controls and spark-free interior

Roller bars and adjustable legs

30 mm high roller sets can be retrofitted to the under-worktop LKUxv models and height-adjustable legs can be retrofitted to the upright LKexv models. The legs are adjustable between 115 mm and 170 mm in height. 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.



Evaporator cover

An evaporator cover can be installed for added safety, to ensure that cold-sensitive products cannot touch the evaporator.



Laboratory fridges with analogue controls and spark-free interior

Glass shelves

Additional glass shelves can be retrofitted to the LKexv models as required to provide extra storage options. The glass shelves made of toughened safety glass meet the standards for spark-free fridges in accordance with ATEX and have a loading capacity of up to 40 kg.



Castor base

A castor base is available as an accessory for the LKexv 5400, 3600 and 2600 models to allow flexible use of the appliances in different rooms.



Adjustable legs

Adjustable-height legs can be retrofitted to the LKexv 5400, 3600 and 2600 models for easy cleaning underneath. They are adjustable between 115 mm and 170 mm in height.



Additional lock barrels

Up to 10 additional lock barrels to protect the stored products against unauthorised access are available as accessories for the laboratory appliances. 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.



Low temperature (-45°C) laboratory chest freezers

NTC product temperature sensor

An NTC product temperature sensor for logging product temperatures is available as a retrofit kit for the laboratory chest freezers. The logged product temperatures can either be read by the electronic controller or transferred to an external documentation system via the existing RS 485 interface.



Interface converter with documentation software

A special interface converter including LTM documentation software is available for central documentation of the temperature profile data and alarm events of multiple appliances via the RS 485 serial interface. It is possible to network as many as 20 laboratory appliances and centrally monitor their parameters. Alarm forwarding or regular status reports to up to three email addresses can be configured as an additional feature. Commercially available converters can be used to connect the connected appliances to a PC via WLAN or LAN. Software requirements: PC with Windows® operating system.



Baskets

The optional baskets provide an optimum overview of the stored preparations and can help to improve the handling and organising of the freezer contents.





Pharmacy fridges compliant with DIN 58345

Fridges for use in pharmacies, hospitals and surgeries must meet very stringent requirements for the storage of pharmaceutical products. Liebherr pharmacy fridges compliant with DIN 58345 are therefore equipped with many functions and features to ensure optimum protection of high-quality preparations and sensitive pharmaceutical products. The flush-mounted electronic controller enables accurate temperature control and creates optimum storage conditions in conjunction with highly effective insulation and the forced-air cooling system. Integrated visual and audible alarm systems warn the user of undesired temperature deviations. Liebherr fridges offer the safety and consistency that are essential for the storage of pharmaceutical products: 24 hours a day, 365 days a year.

Safety compliant with DIN 58345

All Liebherr medical storage appliances comply with the DIN standard "Fridges for drugs DIN 58345". This guarantees that the appliances are particularly suitable for medicine storage and that they offer the highest standard for conscientious users.

DIN 58345 includes the following basic requirements:

- Maintenance of an operating temperature from +2°C to +8°C
- Can be used in ambient temperatures from +10°C to +35°C
- Noise emission less than 60 dB(A)
- Visual and audible warning installation for high and low temperature alarms
- Preparation of operating temperature recording
- Visual and audible power failure alarm for at least 12h
- Safety thermostat to avoid temperatures below +2°C
- Mechanical resistance of internal fittings at least 100 kg/m²
- Lockable door

The advantages at a glance



Volt-free contact: For forwarding alarms to an **external remote warning system**.



Monitoring and maintaining proper storage conditions: If the **temperature is exceeded** or not met by +2°C and +8°C and the door is open for longer than 1 minute, or in instances of power failure, a visual and acoustic **alarm** is triggered.

The **moulded inner liner** is exceptionally easy to clean and enables **perfect hygiene**.

The **evaporator cover** prevents contact between the **stored pharmaceutical products** and the cold evaporator surface.



The narrow-mesh **plastic-coated wire shelves** are easily adjustable with many shelf positions for maximum flexibility and use of space. The shelves are removable at 90° door opening.

Liebherr pharmacy fridges comply with **DIN 58345** for the storage of pharmaceutical products, thus ensuring the highest standards for protecting temperature-critical pharmacy products.



Access port (diameter 10 mm) allows **integration of an external temperature probe** (e.g. PT 100 or similar) in case independent temperature monitoring is required.



Temperature is set at the factory to +5°C. The pharmacy fridges are equipped with an additional **safety thermostat** to prevent temperatures dropping below +2°C in case of a malfunction. In view of the potentially high value of the contents of a pharmacy fridge, this important feature gives added protection.

The precise **electronic controller** with digital display enables temperatures to be set accurately to 1/10°C. The large display allows improved temperature visibility at a glance.



The **LED ceiling light** with separate switch on glass door models MKv 3913 and MKUv 1613 allows good visibility of the fridge contents.



The flush-mounted controller has an **integrated data memory**. It logs e.g. the maximum and minimum internal temperatures that occur once the set temperature is reached. The min/max temperature memory function stores the values for up to 41 days.



Convenient **opening of the door** requiring little force: The ergonomically designed **lever handle** enables smooth opening of the door with less shaking of the appliance. This means that samples or small stored items are safe when the door is opened.



Self-closing doors for convenient use and improved temperature stability. The integrated lock is very sturdy and protects the stored products against unauthorised access.



In case of power failure, the electronic controller is immediately supplied by an **integrated 12 V battery** and indicates the failure optically and audibly for at least 12 hours.

MKv 3913

Quality right down to the smallest detail

Liebherr medical storage fridges comply with DIN 58345. A visual and audible alarm alerts the user to temperature deviations or a power failure. The safety thermostat prevents temperatures below +2°C. All appliances are equipped with a volt-free

contact for alarm forwarding to an external remote warning system. The inner liner with the individually height-adjustable, sturdy wire shelves is easy to clean and enables perfect hygiene. This ensures safe storage of your pharmaceutical products.



Electronic controls.

The precision electronic controller features a 1/10°C temperature display. Symbols indicate the operating status of the appliance. To ensure hygiene, the electronic controller is flush-mounted and features a membrane keyboard. The temperature is set to +5°C at the factory. The pharmacy fridges are equipped with a safety thermostat to prevent temperatures below +2°C in case of a malfunction. The large display allows improved temperature visibility at a glance.



Integrated alarm systems.

Visual and audible alarm systems alert the user to undesired temperature deviations or when the door is open. All alarm parameters are pre-set in accordance with DIN 58345 requirements. The door-open alarm delay can be adjusted between 1 and 5 minutes. Additional safety is provided by a visual power failure alarm and sensor defect alarm.



Integrated data memory.

The flush-mounted electronic controller has 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. These data can be read out on the display.



External temperature sensor.

The pharmacy fridges have an access port (diameter 10 mm) on the rear which allows a temperature sensor to be positioned in the interior.

External temperature and alarm documentation.

The pharmacy fridges are equipped with a volt-free contact for alarm forwarding to an external remote warning system, as well as with a serial interface RS 485 which enables central documentation of temperature profiles and alarm events (optionally available).

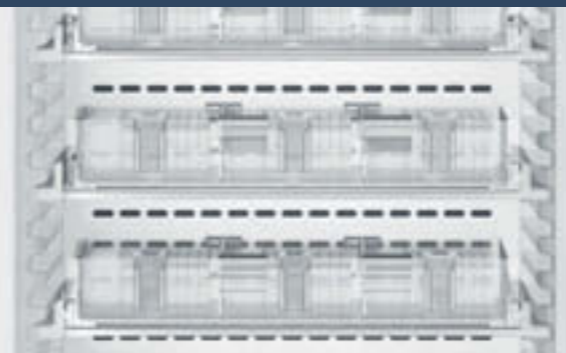
Safety compliant with DIN 58345.

Liebherr medical storage fridges comply with the standard "DIN 58345". Therefore they are able to store pharmaceutical products at an operating temperature from +2°C to +8°C. Visual and audible alarm systems alert the user to undesired temperature deviations and power failures. A safety thermostat prevents temperatures below +2°C. In addition the appliances can be used in ambient temperatures from +10°C to +35°C – and can be locked to prevent unauthorised access.



Hygienic interior for versatile use.

Added hygiene: the seamless inner liner is exceptionally easy to clean. Moulded trays prevent the grid shelves from tipping and allow flexible height adjustment in increments of 32 mm. The evaporator cover prevents pharmaceutical products from freezing onto the rear wall.



Drawer with organisational system.

Clear storage for fast access: Get an instant overview of the medicines in store. The flexibly adjustable organisational system allows the interior to be ordered perfectly and therefore used efficiently. The transparent front provides a quick overview of goods and thereby helps to keep the temperature stable in the appliance due to short door opening times. The sturdy aluminium body also ensures optimum cooling distribution. This keeps power consumption low and helps to maintain the quality of the medicines in the long term.



LED ceiling lighting.

The appliances with glass door (MKv 3913, MKUv 1613) have a LED ceiling light with separate switch. It ensures uniform illumination of the interior and enables fast, direct access to the stored pharmaceutical products.



Pharmacy fridges compliant with DIN 58345	MkV 3913 MediLine	LED	MkV 3910 MediLine	MkUv 1613 MediLine	LED	MkUv 1610 MediLine	MkV 3913 var. H63 MediLine	LED	MkV 3910 var. H63 MediLine	MkUv 1613 var. H63 MediLine	LED	MkUv 1610 var. H63 MediLine
Total gross/net capacity	386/278 litre		361/280 litre	152/109 litre		142/109 litre	386/201 litre		361/202 litre	152/76 litre		142/76 litre
Exterior dimensions in mm (w/d/h)	601/618/1840		601/618/1840	601/618/820		601/618/820	601/618/1840		601/618/1840	601/618/820		601/618/820
Interior dimensions in mm (w/d/h)	440/435/1635		440/435/1635	440/435/670		440/435/670	440/435/1635		440/435/1635	440/435/670		440/435/670
Energy consumption in 365 days ¹	480 kWh		309 kWh	369 kWh		273 kWh	434 kWh		309 kWh	369 kWh		273 kWh
Ambient temperature range	+10 °C to +35 °C		+10 °C to +35 °C	+10 °C to +35 °C		+10 °C to +35 °C	+10 °C to +35 °C		+10 °C to +35 °C	+10 °C to +35 °C		+10 °C to +35 °C
Refrigerant	R 600a		R 600a	R 600a		R 600a	R 600a		R 600a	R 600a		R 600a
Sound power level	48 dB(A)		48 dB(A)	47 dB(A)		47 dB(A)	48 dB(A)		48 dB(A)	47 dB(A)		47 dB(A)
Voltage/Connection rating	220–240V~/1.5 A		220–240V~/1.5 A	220–240V~/1.0 A		220–240V~/1.0 A	220–240V~/1.5 A		220–240V~/1.5 A	220–240V~/1.0 A		220–240V~/1.0 A
Cooling system/Defrost	forced-air/automatic		forced-air/automatic	forced-air/automatic		forced-air/automatic	forced-air/automatic		forced-air/automatic	forced-air/automatic		forced-air/automatic
Temperature range	+5 °C		+5 °C	+5 °C		+5 °C	+5 °C		+5 °C	+5 °C		+5 °C
Gradient*/max. fluctuation**	6.1 °C/3.9 °C		4.1 °C/3.6 °C	5.1 °C/4.9 °C		4.3 °C/4.6 °C	3.5 °C/1.5 °C		2.7 °C/1.5 °C	4.1 °C/1.5 °C		2.8 °C/1.3 °C
External cabinet finish	steel/white		steel/white	steel/white		steel/white	steel/white		steel/white	steel/white		steel/white
Door material	glass door		steel	glass door		steel	glass door		steel	glass door		steel
Internal liner material	commercial grade moulded polystyrol		commercial grade moulded polystyrol	commercial grade moulded polystyrol		commercial grade moulded polystyrol	commercial grade moulded polystyrol		commercial grade moulded polystyrol	commercial grade moulded polystyrol		commercial grade moulded polystyrol
Type of control	electronic controller		electronic controller	electronic controller		electronic controller	electronic controller		electronic controller	electronic controller		electronic controller
Temperature display	external digital		external digital	external digital		external digital	external digital		external digital	external digital		external digital
Power failure alarm	immediately upon power failure for at least 12 hrs		immediately upon power failure for at least 12 hrs	immediately upon power failure for at least 12 hrs		immediately upon power failure for at least 12 hrs	immediately upon power failure for at least 12 hrs		immediately upon power failure for at least 12 hrs	immediately upon power failure for at least 12 hrs		immediately upon power failure for at least 12 hrs
Fault: warning signal	visual and audible		visual and audible	visual and audible		visual and audible	visual and audible		visual and audible	visual and audible		visual and audible
Interface/Volt-free alarm contact	RS 485/yes		RS 485/yes	RS 485/yes		RS 485/yes	RS 485/yes		RS 485/yes	RS 485/yes		RS 485/yes
Interior light	LED lighting, with separate switch			LED lighting, with separate switch			LED lighting, with separate switch			LED lighting, with separate switch		
Number of shelves	6		6	4		4	2		2	1		1
Adjustable shelves	5		5	3		3	0		0	0		0
Number of drawers	0		0	0		0	8		8	3		3
Usable shelf area in mm (w/d)	440/420		440/420	440/420		440/420	440/420		440/420	440/420		440/420
Shelf material	wire shelves plastic-coated		wire shelves plastic-coated	wire shelves plastic-coated		wire shelves plastic-coated	wire shelves plastic-coated		wire shelves plastic-coated	wire shelves plastic-coated		wire shelves plastic-coated
Shelf loading	45 kg		45 kg	45 kg		45 kg	45 kg		45 kg	45 kg		45 kg
Handle	slimline handle with integr. opening mechanism		slimline handle with integr. opening mechanism	slimline handle with integr. opening mechanism		slimline handle with integr. opening mechanism	slimline handle with integrated opening mechanism		slimline handle with integrated opening mechanism	slimline handle with integrated opening mechanism		slimline handle with integrated opening mechanism
Lock	fitted		fitted	fitted		fitted	fitted		fitted	fitted		fitted
Self-closing door	yes		yes	yes		yes	yes		yes	yes		yes
Door hinges	right, reversible on site		right, reversible on site	right, reversible on site		right, reversible on site	right, reversible on site		right, reversible on site	right, reversible on site		right, reversible on site
Gross/net weight	91/85 kg		73/68 kg	48/45 kg		41/39 kg	91/85 kg		73/68 kg	48/45 kg		41/39 kg
Accessories												
Shelf, plastic-coated	7113333		7113333	7113333		7113333	7113333		7113333	7113333		7113333
Stacking kit, white				9592697		9592697			9592697	9592697		9592697
Roller bars	9590380		9590380	9590521		9590521	9590380		9590380	9590521		9590521
Adjustable legs			9590231						9590231			
RS 485/RS 232 adapter, data log software	9590387		9590387	9590387		9590387	9590387		9590387	9590387		9590387
Additional lock barrels (up to 10)	on request		on request	on request		on request	on request		on request	on request		on request

¹ Measured at +25°C ambient temperature and +5 °C set temperature

* Gradient as defined in EN 60068-3: the difference between the warmest and coldest average measurements, increased by their expanded uncertainty, throughout the duration.

** Max. fluctuation as per EN 60068-3: greatest fluctuation value determined throughout the duration of measurements.

Shelves plastic-coated

Additional plastic-coated shelves can be retrofitted as required to provide extra storage options. They have an extremely high loading capacity of up to 45 kg.



Stacking kit

A stacking kit is available as an accessory for combining the MKUv 1613 and MKUv 1610 models as well as other table-height appliances in the Liebherr research and laboratory range. This allows stacking a glass door appliance and solid door appliance or a refrigerator and freezer 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.



Roller bars

30 mm high 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.



Adjustable legs

Adjustable legs can be retrofitted to the models MKv 3910 to allow easy cleaning underneath. The legs are adjustable between 115 mm and 170 mm in height.



Interface converter with monitoring software

A special interface converter including LTM monitoring software is available for central documentation of the temperature profile data and alarm events of multiple appliances via the RS 485 serial interface. Capability is provided for interconnecting as many as 20 appliances and centrally documenting their parameters. Alarm forwarding or regular status reports to up to three email addresses can be configured as an additional feature. Commercially available converters can also be used to connect the connected appliances to a PC via WLAN or LAN. Software requirements: PC with Windows® operating system.



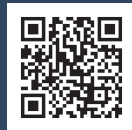
Additional lock barrels

Up to 10 additional lock barrels to protect the stored products against unauthorised access are available as accessories for the pharmacy fridges. 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.



Liebherr commercial appliances can be found at specialist retailers where providing first-class service and expert advice is their top priority.

You will find an overview of other Liebherr appliances in our catalogue of fridges and freezers for professional use. Available in stores or on home.liebherr.com.



This link will take you to the Liebherr catalogues that are available in your language.
home.liebherr.com/professional-catalogues

Smart communication on all fronts



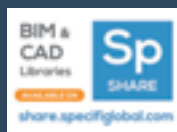
Discover the world of Liebherr-Appliances with the latest interesting news, stories, valuable tips and tricks on food storage, recipes and lots more besides!



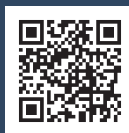
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BIM data available with immediate effect
The cooperation between Liebherr-Hausgeräte and Specifi[®] gives planners and dealers worldwide access to a digital Liebherr-Hausgeräte library with BIM models for the Food Service and Scientific areas. Compatible with AutoCAD[®] and Revit.
home.liebherr.com/bimdata



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