

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

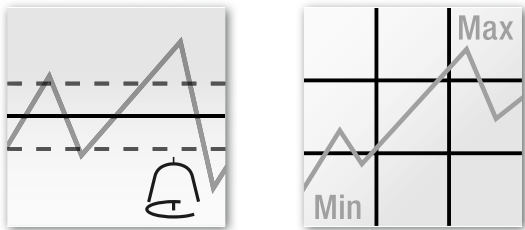
The Medline range appliances are equipped with many features to guarantee the safety of stored products and temperature stability in the interior. High-quality materials and precise workmanship, extremely efficient refrigeration components as well

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.

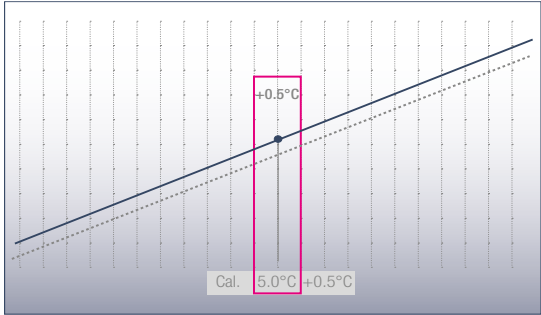


Integrated alarm systems.

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.

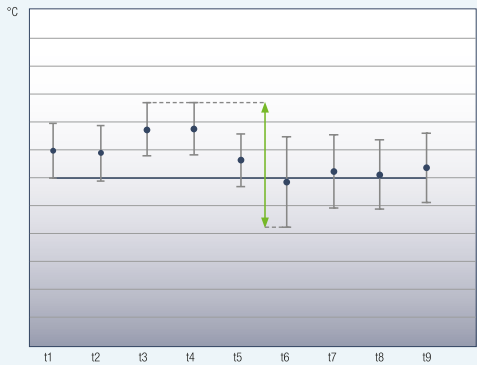
External temperature sensor.

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.



**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 | | 254/199 kg | 178/147 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 | 182/152 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 | |
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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.



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The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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