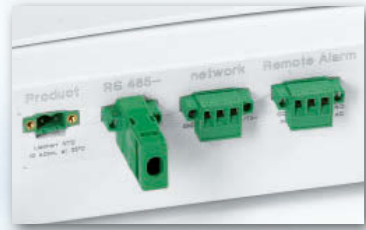


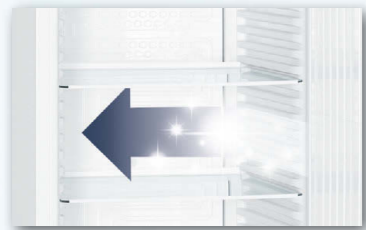
# The advantages at a glance



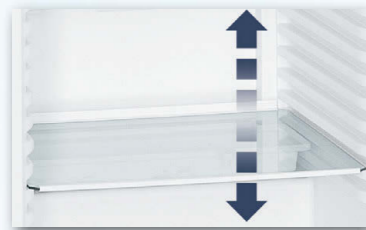
The laboratory appliances with a **Comfort electronic controller** are equipped with a volt-free contact for **alarm forwarding** to an external remote warning system.



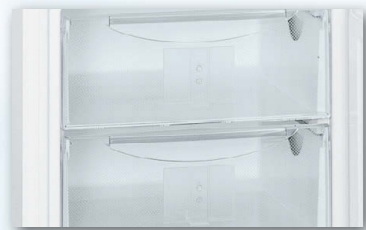
Access port for integration of an **independent temperature sensor** (e.g. an optionally available NTC temperature sensor or similar measuring instruments) in laboratory appliances with a Comfort electronic controller.



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



The **glass shelves** of the laboratory refrigerators 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**.



LCexv 4010

The **precision Comfort electronic controller** with digital temperature display allows **accurate temperature setting to 1/10 °C**.



All laboratory refrigerators and freezers with **spark-free interior** are tested according to the 94/9 EC (ATEX 95) Directive.



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



Laboratory appliances with a **Comfort 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.



Door seals are replaceable.

# Quality right down to the smallest detail

Liebherr offers refrigerators and freezers with a Comfort electronic controller and spark-free interior especially for storing explosive and highly flammable substances in the chemical industry. The inner liners meet the safety requirements of the EU Directive 94/9 EG

(ATEX 95) and have been tested according to the EN 1127-1, IEC 60079-0 and IEC 60079-15 standards by electrosuisse – SEV (Swiss Association for Electrical Engineering, Power and Information Technologies), an approved ATEX conformity evaluation organisation.



### Certified according to ATEX 95.

All appliances with spark-free interior are tested according to the 94/9 EC (ATEX 95) Directive. Rated as II 3G Ex nA II T6, these appliances are suitable for storing explosive and highly flammable substances in sealed containers.



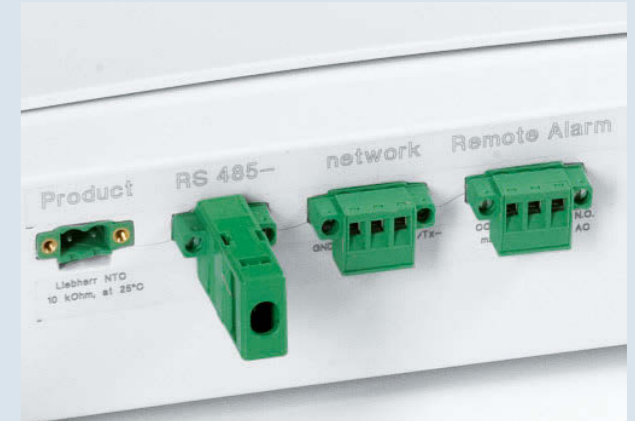
### The Comfort electronic controller.

The precision Comfort 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.



### Accurate 1-point calibration.

The laboratory appliances with a Comfort electronic controller 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.



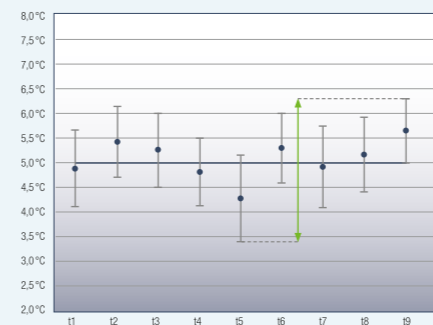
### Integrated alarm systems.

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 a Comfort electronic controller have a visual power failure alarm and a sensor defect alarm.



### Integrated data memory.

The Comfort 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 refrigerators and freezers in conjunction with the precision Comfort electronic controller. The refrigerators are equipped with a safety thermostat to prevent temperatures below +2 °C in case of a fault. All laboratory appliances with a Comfort electronic controller are designed according to the ISO 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 a Comfort electronic controller have an access port (diameter 10 mm) on the rear which allows the temperature sensor to be positioned in the interior.

## Laboratory fridge-freezer with Comfort electronic controller and spark-free interior



## Laboratory refrigerators and freezers with Comfort electronic controller and spark-free interior



### Laboratory fridge-freezer

with Comfort electronic controller and spark-free interior

<b>Total gross/net capacity</b>	fridge compartment
<b>Total gross/net capacity</b>	freezer compartment
<b>Exterior dimensions in mm (w/d/h)</b>	
<b>Interior dimensions in mm (w/d/h)</b>	fridge compartment
<b>Interior dimensions in mm (w/d/h)</b>	freezer compartment
<b>Energy consumption in 24 h *</b>	
<b>General</b>	
Cooling system	fridge/freezer comp.
Defrost	fridge/freezer comp.
Temperature range	fridge/freezer comp.
External cabinet finish	
Door/lid material	
Internal liner material	
Type of control	
Temperature display	
Power failure alarm	
Fault: warning signal	
Interface/Volt-free alarm contact	
Adjustable shelves	fridge compartment
Usable shelf area in mm (w/d)	fridge compartment
Shelf material	fridge/freezer comp.
Shelf loading	fridge/freezer comp.
Drawers	freezer compartment
Handle	
Lock	
Self-closing door	
Door hinges	
Gross/net weight	
Climate rating	
Sound power level	
Refrigerant	
Voltage/Connection rating	
<b>Accessories</b>	
Glass shelf	
NTC product temperature probe	
RS 485/RS 232 adapter, data log software	
Additional lock barrels (up to 10)	

### LCexv 4010 MediLine

Total gross/net capacity	254/240 litre
Total gross/net capacity	107/105 litre
Exterior dimensions in mm (w/d/h)	600/615/2000
Interior dimensions in mm (w/d/h) fridge compartment	440/435/1105
Interior dimensions in mm (w/d/h) freezer compartment	431/435/597
Energy consumption in 24 h *	1.800 kWh
<b>General</b>	
Cooling system	forced-air/static
Defrost	automatic/manual
Temperature range	+3°C to +16°C / -9°C to -30°C
External cabinet finish	steel/white
Door/lid 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	4
Usable shelf area in mm (w/d)	440/420
Shelf material	glass/glass
Shelf loading	40 kg/24 kg
Drawers	3
Handle	ergonomic slimline handle
Lock	fitted
Self-closing door	yes
Door hinges	right, reversible on site
Gross/net weight	93/87 kg
Climate rating	SN-ST
Sound power level	52 dB(A)
Refrigerant	R 600a
Voltage/Connection rating	220-240V~/1.5 A

### Laboratory refrigerators and freezers with Comfort electronic controller and spark-free interior

<b>Total gross/net capacity</b>	
<b>Exterior dimensions in mm (w/d/h)</b>	
<b>Interior dimensions in mm (w/d/h)</b>	
<b>Energy consumption in 24 h *</b>	
<b>General</b>	
Cooling system/Defrost	
Temperature range	
External cabinet finish	
Door/lid 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	
Climate rating	
Sound power level	
Refrigerant	
Voltage/Connection rating	
<b>Accessories</b>	
Glass shelf	
Stacking kit, white	
Roller bars	
Evaporator cover, white	
Adjustable legs	
NTC product temperature probe	
RS 485/RS 232 adapter, data log software	
Additional lock barrels (up to 10)	

### LKexv 3910 MediLine

Total gross/net capacity	360/344 litre
Exterior dimensions in mm (w/d/h)	600/615/1840
Interior dimensions in mm (w/d/h)	440/435/1635
Energy consumption in 24 h *	0.865 kWh
<b>General</b>	
Cooling system	forced-air/automatic
Temperature range	+3°C to +16°C
External cabinet finish	steel/white
Door/lid 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	5
Usable shelf area in mm (w/d)	440/420
Shelf material	glass
Shelf loading	40 kg

### LKUexv 1610 MediLine

Total gross/net capacity	141/130 litre
Exterior dimensions in mm (w/d/h)	600/615/820
Interior dimensions in mm (w/d/h)	440/435/670
Energy consumption in 24 h *	0.863 kWh
<b>General</b>	
Cooling system	forced-air/automatic
Temperature range	+3°C to +16°C
External cabinet finish	steel/white
Door/lid 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	3
Usable shelf area in mm (w/d)	440/420
Shelf material	glass
Shelf loading	40 kg

### LGex 3410 MediLine

Total gross/net capacity	310/284 litre
Exterior dimensions in mm (w/d/h)	600/615/1840
Interior dimensions in mm (w/d/h)	420/400/1587
Energy consumption in 24 h *	1.309 kWh
<b>General</b>	
Cooling system	static/manual
Temperature range	-9°C to -30°C
External cabinet finish	steel/white
Door/lid 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	
Usable shelf area in mm (w/d)	
Shelf material	evaporator plates
Shelf loading	24 kg
Drawers/Number of baskets	8/-
Compartment height in mm	185
Handle	ergonomic slimline handle
Lock	fitted
Self-closing door	yes
Door hinges	right, reversible on site
Gross/net weight	92/87 kg
Climate rating	SN-ST
Sound power level	45 dB(A)
Refrigerant	R 600a
Voltage/Connection rating	220-240V~/1.5 A

### LGUex 1500 MediLine

Total gross/net capacity	139/129 litre
Exterior dimensions in mm (w/d/h)	600/615/820
Interior dimensions in mm (w/d/h)	454/450/663
Energy consumption in 24 h *	0.926 kWh
<b>General</b>	
Cooling system	static/manual
Temperature range	-9°C to -26°C
External cabinet finish	steel/white
Door/lid 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	
Usable shelf area in mm (w/d)	
Shelf material	evaporator plates
Shelf loading	24 kg
Drawers/Number of baskets	3/1
Compartment height in mm	149
Handle	ergonomic slimline handle
Lock	fitted
Self-closing door	yes
Door hinges	right, reversible on site
Gross/net weight	45/42 kg
Climate rating	SN-ST
Sound power level	45 dB(A)
Refrigerant	R 600a
Voltage/Connection rating	220-240V~/1.0 A

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	9876687		9876687
	9590521		9590521
9590525	9590523		
9590233		9590233	
9590145	9590145	9590145	9590145
9590387	9590387	9590387	9590387
on request	on request	on request	on request

\* measured at +25°C ambient temperature and +5°C set temperature for fridges and -20°C for freezers



# WolfLabs

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