

# Pharmacy refrigerators compliant with DIN 58345



In the medical sector safety and reliability is of the utmost importance and therefore pharmacies, surgeries, hospitals as well as companies make high demands on the cabinets which are intended to store pharmaceutical products. Liebherr's pharmacy refrigerators are explicitly designed for the safe storage of pharmacy products compliant with DIN 58345. True to the motto „product quality on the highest level“ Liebherr pharmacy cabinets are both

energy-efficient and environmentally friendly. The range comprises two freestanding and two under-worktop pharmacy refrigerators, in each case with glass door and solid door versions. The forced-air cooling system in conjunction with the precision electronic controller ensures temperature stability and uniform temperature distribution in the interior. Numerous alarm and safety functions provide additional safety for the pharmacy products stored within the unit.



### The Comfort electronic controller

The precision Comfort electronic controller enables temperatures to be set to 1/10°C accuracy. Symbols indicate the operating status of the appliance at all times. To satisfy hygiene requirements, the Comfort electronic controller is flush-mounted and has an easy-clean membrane keypad.



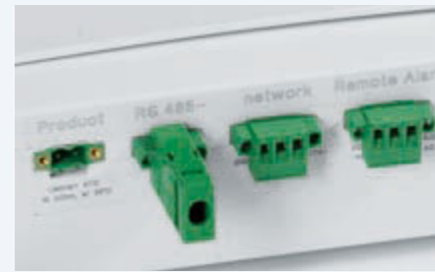
### Integrated alarm systems

A visual and audible temperature alarm alerts the user if temperature deviation limits of +2 °C and +8 °C are exceeded. In addition, a visual and audible alarm is activated if the door is open for longer than 1 minute. The door-open alarm delay can be adjusted between 1 and 5 minutes.



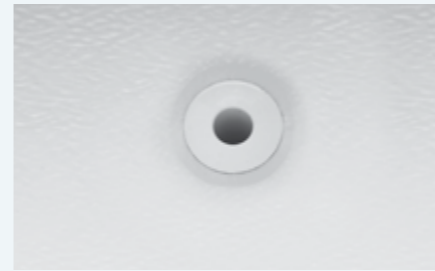
### Integrated data memory with min/max temperatures

The Comfort electronic controller has an integrated data memory. It logs the maximum and minimum internal temperatures that occurred once the set temperature was reached, 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.



### External temperature and alarm connections

The pharmacy refrigerators with Comfort electronic controllers are equipped with a volt-free contact for alarm forwarding to an external remote warning system. In addition, the appliances have an RS 485 serial interface for central documentation of the temperature profile data and alarm events.



### Access port for an external temperature sensor

In the pharmacy refrigerators with Comfort electronic controllers there is provision for an independent temperature sensor allowing, for instance, a PT 100 probe or similar measuring elements to be positioned in the interior. The diameter of the access port is 10 mm.



### Hygienic interior for versatile use

The seamless commercial-grade polystyrol inner liner is exceptionally easy to clean. The moulded trayslides prevent the grid shelves from tipping and allow height-adjustment in increments of 32 mm for particularly versatile use of the interior.



### Close-mesh grid shelves

The plastic-coated grid shelves are easily adjustable in height and can be removed at a door opening angle of 90°. The close-mesh grid shelves ensure secure storage even for small items. The grid shelves have an extremely high loading capacity of up to 60 kg.



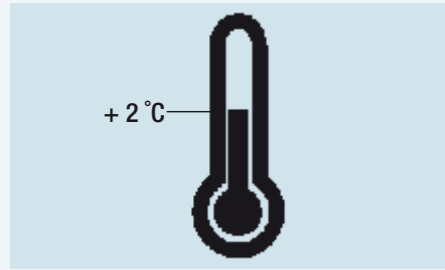
### LED light

The MKv 3913 and MKUv 1613 pharmacy refrigerators with glass door have a LED light with separate switch for uniform illumination of the interior and fast, direct access to the stored products.



### Practical door

The doors are self-closing for convenient use. The integrated lock is exceedingly sturdy and protects the stored products against unauthorised access. The doors hinges are reversible and the gaskets are replaceable.



### Safety thermostat

The pharmacy refrigerators are fitted with a safety thermostat to ensure the temperature does not fall to below +2°C. This means that, in the event of a fault, any sensitive products being stored are protected from damage.



### Power failure alarm

An integrated power-failure alarm with incorporated self-charging battery warns in case of supply power failure for up to 12 hrs. The audible alarm can be muted using the reset button.



## Functional and practical accessories



### Additional lock barrels

For specific locking requirements, up to 10 lock barrels each with a different key can be retrofitted to the pharmacy refrigerators with Comfort controllers.



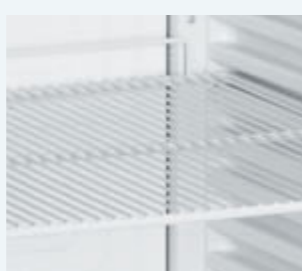
### Roller sets and adjustable-height feet

30 mm-high roller sets can be retrofitted to the under-worktop MKUv models and adjustable-height feet can be retrofitted to the MKv models to allow easy cleaning underneath. The feet are adjustable between 115 mm and 170 mm in height.



### Stacking kit

A stacking kit is available as an accessory for the MKUv 1613 and MKUv 1610 models. This enables laboratory refrigerators and freezers with independent temperatures to be combined on a small footprint.



### Plastic-coated grid shelves

Additional plastic-coated grid shelves can be retrofitted as required to provide extra storage options. The robust grid shelves have an extremely high loading capacity of up to 60 kg.



### Interface converter with documentation software

A special interface converter including documentation software is available for central documentation of the temperature profile data and alarm events of multiple appliances via the RS 485 serial interface. Up to 20 laboratory appliances can be networked for central monitoring and temperature recording.

### Pharmacy refrigerators compliant with DIN 58345

<b>Total gross / net capacity</b>	360 / 281 l	360 / 300 l	141 / 115 l	141 / 116 l
<b>Exterior dimensions in mm (w/d/h)</b>	600 / 615 / 1840	600 / 615 / 1840	600 / 615 / 820	600 / 615 / 820
<b>Interior dimensions in mm (w/d/h)</b>	440 / 435 / 1635	440 / 435 / 1635	440 / 435 / 670	440 / 435 / 670
<b>Energy consumption in 24h*</b>	1.315 kWh	0.846 kWh	1.010 kWh	0.747 kWh
<b>General</b>				
Cooling system	dynamic	dynamic	dynamic	dynamic
Defrosting method	automatic	automatic	automatic	automatic
Temperature range	+5°C	+5°C	+5°C	+5°C
Housing material / colour	steel / white	steel / white	steel / white	steel / white
Door / lid material	glass door	steel	glass door	steel
Liner material	white plastic	white plastic	white plastic	white plastic
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 at least 12hrs visual and audible	immediately upon power failure for at least 12 hrs visual and audible	immediately upon power failure for at least 12 hrs visual and audible	immediately upon power failure for at least 12 hrs visual and audible
Temperature and door open alarm	RS 485	RS 485	RS 485	RS 485
Interface	•	•	•	•
Volt-free contact	•	•	•	•
Interior light	LED lighting, with separate switch		LED lighting, with separate switch	
Adjustable storage shelves	5	5	3	3
Usable shelf area in mm (w/d)	440 / 420	440 / 420	440 / 420	440 / 420
Shelf material	grid shelves, plastic-coated	grid shelves, plastic-coated	grid shelves, plastic-coated	grid shelves, plastic-coated
Shelf loading capacity	60 kg	60 kg	60 kg	60 kg
Handle	ergonomic slimline handle	ergonomic slimline handle	ergonomic slimline handle	ergonomic slimline handle
Lock	•	•	•	•
Self-closing door	•	•	•	•
Door hinges	right hand, reversible	right hand, reversible	right hand, reversible	right hand, reversible
Gross / net weight	91 / 85 kg	71 / 66 kg	46 / 43 kg	40 / 37 kg
Climate rating	SN	SN	SN	SN
Sound power level	43 dB (A)	43 dB (A)	42 dB (A)	42 dB (A)
Refrigerant	R 600a	R 600a	R 600a	R 600a
Voltage / Connection rating	220-240 V~ / 1.5 A	220-240 V~ / 1.5 A	220-240 V~ / 1.0 A	220-240 V~ / 1.0 A

### Accessories

Grid shelf, plastic-coated	7112313	7112313	7112313	7112313
Stacking kit, white			9876687	9876687
Roller set			9590521	9590521
Adjustable legs	9590233	9590233		
Converter incl. software (serial connection)	9590387	9590387	9590387	9590387
Additional lock barrels (up to 10)	on request	on request	on request	on request

\* measured at +25 °C ambient temperature and +5 °C set temperature.



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