

Storage of explosive and highly flammable substances

The range of laboratory appliances with Comfort electronic controllers comprises two refrigerators and two freezers with spark-free interior for storing explosive and highly flammable substances - for instance in the chemical industry or in special laboratories. The interiors of the appliances are in compliance with

the safety requirements of the EU Directive 94/9/EC (ATEX 95) and have been tested to the EN 1127-1, IEC 60079-0 and IEC 60079-15 standards by electro-suisse – SEV (Swiss Association for Electrical Engineering, Power and Information Technologies), the ATEX conformity evaluation organisation.



Certified to ATEX 95

All laboratory refrigerators and freezers 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. Symbols indicate the operating status of the appliance at all times. To satisfy laboratory hygiene requirements, the Comfort electronic controller is flush-mounted and has an easy-clean membrane keypad.



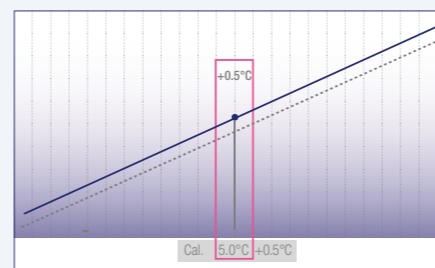
Integrated alarm systems

A visual and audible temperature alarm alerts the user if temperature deviation limits are exceeded. The parameters for the temperature alarm can be individually set. In addition, a visual and audible door 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. Furthermore, the laboratory appliances with Comfort electronic controllers have a visual power failure alarm when mains power returns and a sensor defect alarm.



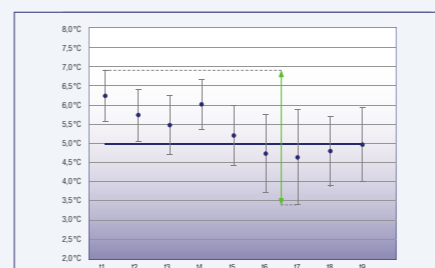
Integrated data memory with min/max temperatures

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.



1-point calibration

The laboratory appliances with Comfort electronic controllers provide 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 0.1K.



Maximum temperature stability and temperature consistency

In conjunction with the precision Comfort electronic controller, the forced-air cooling system of the laboratory refrigerators and the static cooling system of the laboratory freezers with spark-free interior ensure maximum temperature stability and high temperature consistency. The laboratory refrigerators are equipped with a secondary safety thermostat to prevent temperatures below +2°C in case of a fault. All the laboratory appliances with Comfort electronic controllers are tested according to the NF X 15-140 standard with regard to maximum temperature stability and optimal temperature consistency.



External temperature and alarm connections

The laboratory appliances 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 laboratory appliances with Comfort electronic controllers and spark-free interior there is provision for an independent temperature sensor allowing, for instance, a PT 100 or similar measuring elements to be positioned in the interior. The access port diameter is 10 mm.



Hygienic interior for versatile use

The seamless commercial-grade polystyrol inner liner of the laboratory refrigerators with spark-free interior is exceptionally easy to clean. The moulded trays prevent the glass shelves from tipping and allow height-adjustment in increments of 32 mm for particularly versatile use of the interior.



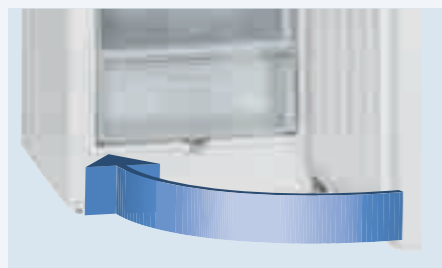
Glass shelves

The glass shelves of the laboratory refrigerators with spark-free interior are easily adjustable in height and can be removed at a door opening angle of 90°. They ensure secure storage even for small items and have a loading capacity of up to 40 kg.



Convenient, clear view drawers

The drawers of the spark-free laboratory freezers can be removed at a door opening angle of 90°. They have a transparent front providing a clear view of the substances stored inside, and handles recessed in the sides for easy carrying when the drawers are removed.



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 door hinges are reversible and the gaskets are replaceable.

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 laboratory models with Comfort controllers.



Evaporator cover

A white-coated aluminium evaporator cover is available as a retrofit kit for the LKexv and LKUexv models to prevent laboratory preparations from freezing onto the rear-wall evaporator.



Roller sets and adjustable legs

30 mm-high roller sets can be retrofitted to the under-worktop LKUexv 1610 and LGUex 1500 models and adjustable legs can be retrofitted to the LKexv 3910 and LGex 3410 models to allow easy cleaning underneath. The feet are adjustable between 115 mm and 170 mm in height.



Glass shelves

Additional glass shelves can be retrofitted to the LKexv and LKUexv models as required to provide extra storage options. The robust glass shelves have an extremely high loading capacity of up to 40 kg.



Stacking kit

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



NTC product temperature probe

An NTC product temperature probe for logging product temperatures is available as a retrofit kit for the laboratory appliances with Comfort electronic controllers. 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 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.

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

LCexv 4010
MediLine

Total gross / net capacity	fridge compartment
Total gross / net capacity	freezer compartment
Exterior dimensions in mm (w/d/h)	
Interior dimensions in mm (w/d/h)	fridge compartment
Interior dimensions in mm (w/d/h)	freezer compartment
Energy consumption in 24h*	
General	
Cooling system	fridge / freezer comp.
Defrosting method	fridge / freezer comp.
Temperature range	fridge / freezer comp.
Housing material / colour	
Door / lid material	
Liner material	
Type of control	
Temperature display	
Power failure alarm	
Temperature and door open alarm	
Interface	
Volt-free contact	
Adjustable storage shelves	fridge compartment
Usable shelf area in mm (w/d)	fridge compartment
Shelf material	fridge / freezer comp.
Shelf loading capacity	fridge / freezer comp.
Number of drawers	freezer compartment
Handle	
Lock	
Self-closing door	
Door hinges	
Gross / net weight	
Climate rating	
Sound power level	
Refrigerant	
Voltage / Connection rating	

254 / 240 l
107 / 105 l
600 / 615 / 2000
440 / 435 / 1105
431 / 435 / 597
1.800 kWh
dynamic / static
automatic / manual
+3°C to +8°C / -9°C to -30°C
steel / white
steel
white plastic
electronic controller
external digital
when mains power returns
visual and audible
RS 485
•
4
440 / 420
glass / glass
40 kg / 24 kg
3
ergonomic slimline handle
•
•
right hand, reversible
93 / 87 kg
SN-ST
43 dB (A)
R 600a
220-240 V~ / 1.5 A

Accessories

Glass shelf
NTC product temperature sensor
Converter incl. software (serial connection)
Additional lock barrels (up to 10)

9293629
9590407
9590387
on request

Laboratory refrigerators and freezers with Comfort electronic controller 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 24h*	
General	
Cooling system	
Defrosting method	
Temperature range	
Housing material / colour	
Door / lid material	
Liner material	
Type of control	
Temperature display	
Power failure alarm	
Temperature and door open alarm	
Interface	
Volt-free contact	
Adjustable storage shelves	
Usable shelf area in mm (w/d)	
Shelf material	
Shelf loading capacity	
Number of drawers / baskets	
Shelf height in mm	
Handle	
Lock	
Self-closing door	
Door hinges	
Gross / net weight	
Climate rating	
Sound power level	
Refrigerant	
Voltage / Connection rating	

Accessories

Glass shelf
Stacking kit, white
Roller set
Evaporator cover, white
Adjustable legs
NTC product temperature sensor
Converter incl. software (serial connection)
Additional lock barrels (up to 10)

LKexv 3910
MediLine

360 / 344 l
600 / 615 / 1840
440 / 435 / 1635
0.865 kWh
dynamic
automatic
+3°C to +8°C
steel / white
steel
white plastic
electronic controller
external digital
when mains power returns
visual and audible
RS 485
•
5
440 / 420
glass
40 kg
ergonomic slimline handle
•
•
right hand, reversible
74 / 68 kg
SN-ST
43 dB (A)
R 600a
220-240 V~ / 1.5 A

9293629
9590525
9590233
9590407
9590387
on request

LKUexv 1610
MediLine

141 / 130 l
600 / 615 / 820
440 / 435 / 670
0.863 kWh
dynamic
automatic
+3°C to +8°C
steel / white
steel
white plastic
electronic controller
external digital
when mains power returns
visual and audible
RS 485
•
3
440 / 420
glass
40 kg
ergonomic slimline handle
•
•
right hand, reversible
41 / 39 kg
SN-ST
42 dB (A)
R 600a
220-240 V~ / 1.0 A

9293629
9590521
9590523
9590407
9590387
on request

LGex 3410
MediLine

310 / 284 l
600 / 615 / 1840
420 / 400 / 1587
1.309 kWh
static
manual
-9°C to -30°C
steel / white
steel
white plastic
electronic controller
external digital
when mains power returns
visual and audible
RS 485
•
evaporator plates
24 kg
8 / -
185
ergonomic slimline handle
•
•
right hand, reversible
92 / 87 kg
SN-ST
45 dB (A)
R 600a
220-240 V~ / 1.5 A

9590233
9590407
9590387
on request

LGUex 1500
MediLine

139 / 129 l
600 / 615 / 820
454 / 450 / 663
0.926 kWh
static
manual
-9°C to -26°C
steel / white
steel
white plastic
electronic controller
external digital
when mains power returns
visual and audible
RS 485
•
evaporator plates
24 kg
3 / 1
149
ergonomic slimline handle
•
•
right hand, reversible
45 / 42 kg
SN-ST
42 dB (A)
R 600a
220-240 V~ / 1.0 A

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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.

