

## Laboratory appliances in compact format

Whenever floor space is limited or under-worktop installation is planned, the Mediline laboratory refrigerators with Comfort electronic controllers are the ideal solution. These appliances meet the exacting demands made of laboratory appliances. The range comprises two freestanding and two underworktop laboratory refrigerators, in each case with glass door and solid door versions. The temperature can be set from +3°C to +8°C. The forced-air cooling system in conjunction with the

precision electronic controller ensures temperature consistency and uniform temperature distribution in the interior. The LCv 4010 laboratory fridge-freezer further extends the range of compact laboratory appliances. It has two separately adjustable cooling circuits providing the utmost temperature stability and temperature consistency for both the refrigerator compartment and the freezer compartment.



### 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.



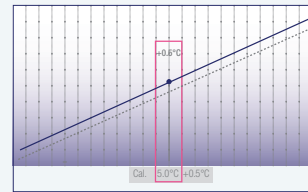
### Integrated data memory with min/max temperatures

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.



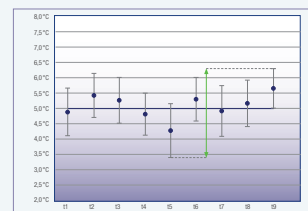
### External temperature and alarm connections

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.



### Maximum temperature stability and temperature consistency

The forced-air cooling system in conjunction with the precision Comfort electronic controller ensures maximum temperature stability and high temperature consistency in the interior. The appliances 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.





### Access port for an external temperature sensor

In the laboratory appliances 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.



### Interior light

The LKv 3912 and LKUv 1612 laboratory refrigerators with glass door have a ceiling light with separate switch for uniform illumination of the interior and fast, direct access to the stored products.



### Convenient, clear view drawers

The drawers in the freezer compartment of the LCv 4010 fridge-freezer 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. There is the additional possibility of using the freezer compartment just with the two integrated glass shelves as storage areas.



### 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.

## Functional and practical accessories



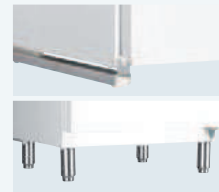
### Additional lock barrels

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 LKv, LCv and LKUv models to prevent laboratory preparations from freezing onto the rear-wall evaporator.



### Roller sets and adjustable-height feet

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



### 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.



### Stacking kit

A stacking kit is available as an accessory for the LKUv 1612 and LKUv 1610 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 refrigerators with Comfort electronic controllers	LKV 3912 MediLine	LKV 3910 MediLine	LKV 1612 MediLine	LKV 1610 MediLine
<b>Total gross / net capacity</b>	360 / 344 l	360 / 344 l	141 / 130 l	141 / 130 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	+3°C to +8°C	+3°C to +8°C	+3°C to +8°C	+3°C to +8°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	when mains power returns	when mains power returns	when mains power returns	when mains power returns
Temperature and door open alarm	visual and audible	visual and audible	visual and audible	visual and audible
Interface	RS 485	RS 485	RS 485	RS 485
Volt-free contact	•	•	•	•
Interior light	ceiling lighting, with separate switch		ceiling 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
Climate rating	SN-ST	SN-ST	SN-ST	SN-ST
Noise level re 1 pW	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
<b>Accessories</b>				
Grid shelf, plastic-coated	7112313	7112313	7112313	7112313
Stacking kit, white			9876687	9876687
Roller set			9590521	9590521
Evaporator cover, white	9590525	9590525	9590523	9590523
Adjustable legs	9590411	9590411		
NTC product temperature sensor	9590407	9590407	9590407	9590407
Converter incl. software (serial connection)	9590387	9590387	9590387	9590387

Laboratory fridge-freezer with Comfort electronic controllers	LCV 4010 MediLine
<b>Total gross / net capacity</b>	254 / 240 l
<b>Total gross / net capacity</b>	fridge compartment freezer compartment
<b>Exterior dimensions in mm (w/d/h)</b>	107 / 105 l 600 / 615 / 2000
<b>Interior dimensions in mm (w/d/h)</b>	fridge compartment freezer compartment
<b>Interior dimensions in mm (w/d/h)</b>	440 / 435 / 1105 431 / 435 / 597
<b>Energy consumption in 24h*</b>	1.800 kWh
<b>General</b>	
Cooling system	fridge / freezer comp.
Defrosting method	fridge / freezer comp.
Temperature range	fridge / freezer comp.
Housing material / colour	forced-air / static automatic / manual
Door / lid material	+3°C to +8°C / -9°C to -30°C
Liner material	steel / white
Type of control	steel
Temperature display	white plastic
Power failure alarm	electronic controller
Temperature and door open alarm	external digital
Interface	when mains power returns visual and audible
Volt-free contact	RS 485
Adjustable storage shelves	•
Usable shelf area in mm (w/d)	4
Shelf material	440 / 420
Shelf loading capacity	grid shelves, plastic-coated / glass
Number of drawers	60 kg / 24 kg
Handle	3
Lock	ergonomic slimline handle
Self-closing door	•
Door hinges	•
Climate rating	right hand, reversible
Noise level re 1 pW	SN-ST
Refrigerant	43 dB (A)
Voltage / Connection rating	R 600a
	220-240 V / 1.5 A
<b>Accessories</b>	
Grid shelf, plastic-coated, for	fridge compartment
Evaporator cover, white, for	fridge compartment
NTC product temperature sensor	
Converter incl. software (serial connection)	