

Küsch

Your partner for medical and health-service refrigeration

Laboratory Refrigerators and Freezers

■ with explosion-proof interior

■ without explosion-proof interior



Since more than 140 years.

From the coppersmith's workshop to an industrial firm.

Established in 1865, the Philipp Kirsch company started out as a coppersmith's workshop. This craft business mainly produced distilling apparatus used for the production of alcohol. At the turn of the century the company began to make the first cooling systems for natural ice.

In the mid-1920s, the craft trade business, which had grown larger in the course of the years, embarked on the production of other refrigerating products as well and became a genuine industrial manufacturing plant.

Since the production of our first electric compressor-cooled refrigerator in the year 1956, the product range has been regularly extended and its technical development linked closely to state-of-the-art technologies.

The certificates prove: Kirsch Refrigerators and Freezers are top-quality products that are manufactured in series using cutting-edge equipment - used all over the world by laboratories, hospitals, blood banks, pharmaceutical chemists and institutes.

Philipp Kirsch, certified to ISO 9001:2000, guarantees consistently high quality and functional safety through its quality management system.



Laboratory Refrigerators and Freezers

Quality and function of our items.

TEMPERATURE

For storage purposes there is a large temperature range available between + 0° C to + 20° C and / or - 5° C to - 30°.

PERSPECTIVE

To ensure you have a clear view of the inside, some of the models are also available with insulated glass doors. This helps to cut down on any unnecessary opening and closing of the door to check the contents.

INSULATING

The housing is insulated with particularly good, environmentally-compatible pressure foam material to guarantee low energy consumption levels. The outside housing comprises galvanised sheet steel with a white powder coating. Large units have adjustable feet.

CONTAINER

The interior container is made of smooth aluminium with a transparent protective coating or of impact-resistant plastic with moulded supports.

INTERIOR EQUIPMENT

The drawers / shelves are adjustable within a 15mm raster for refrigerators and freezers with the interior of smooth aluminium sheet. The longitudinal and cross dividers within the drawers are individually adjustable.

DOOR

The lockable door has a plastic magnetic sealing frame that is easy to replace. There is no overhang when the door is open. Door hinged on the right as standard, however this can be changed to the left at later date.



General equipment features.

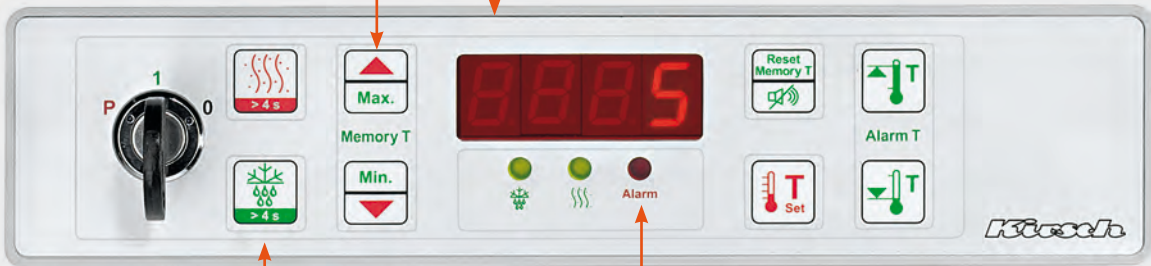
User guidance and tried-and-tested features.

MEMORY

The min./max. memory starts when the normal temperature is reached for the first time. It stores the highest and lowest temperature values since either the initial start or the last reset.

CONTROLLER

The temperature is kept constant automatically by means of an electronic, microprocessor controlled temperature control unit, even when there are fluctuations in the ambient temperature. To protect against unauthorised access, the electronic temperature monitoring unit is secured with a key switch. Units with alarm systems will provide warnings in case of unacceptable temperature deviations, when the door is open for too long, or when a processor or temperature sensor is defective.



DEFROSTING

Automatic defrosting with a time and temperature monitoring function. Refrigerators with an explosion-proof interior are fitted with a drip tray for manual disposal of defrost water. All other appliances feature automatic defrost water evaporation.

SECURITY FIXTURE

The warning system on the refrigerators prevents the temperature from dropping below the lower set temperature limit which is fixed ex works.



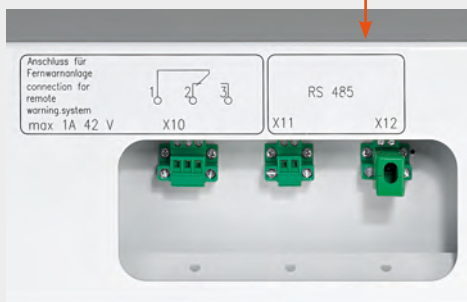
COOLING

Recirculating air-cooling reduced the physically induced temperature drop and enables an almost constant temperature to be maintained.



CONTACT

In the case of refrigerators and freezers with warning systems, the voltage-free contact allows the alarm to be switched to a variety of communication or monitoring systems (e.g. remote warning systems, central process control systems, telephone self-dialling devices, GSM-Module). These units can be connected to a computer system via the RS 485 interface.

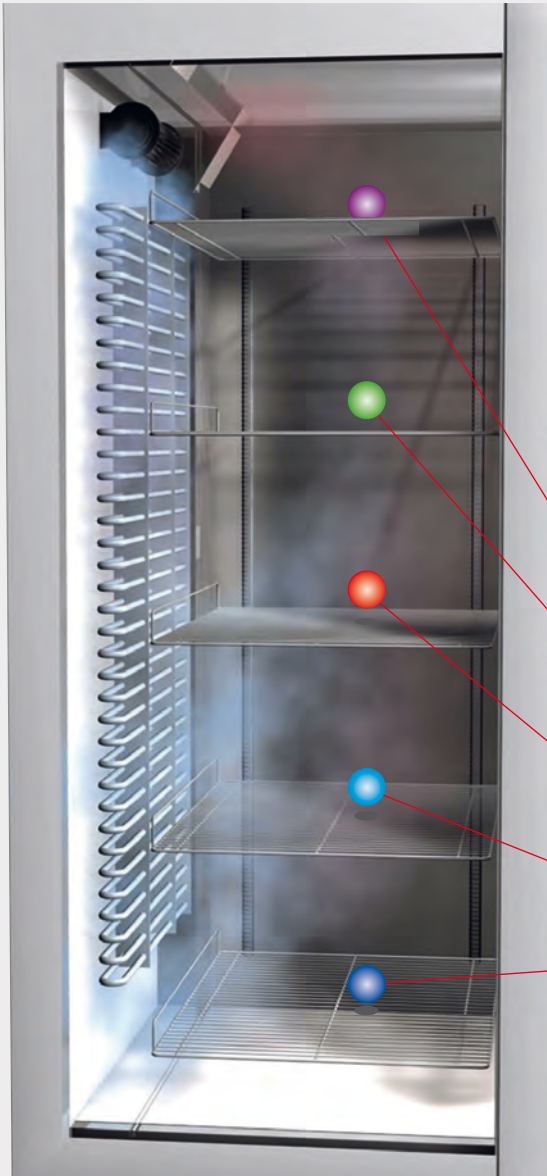


SHELVES/ DRAWERS

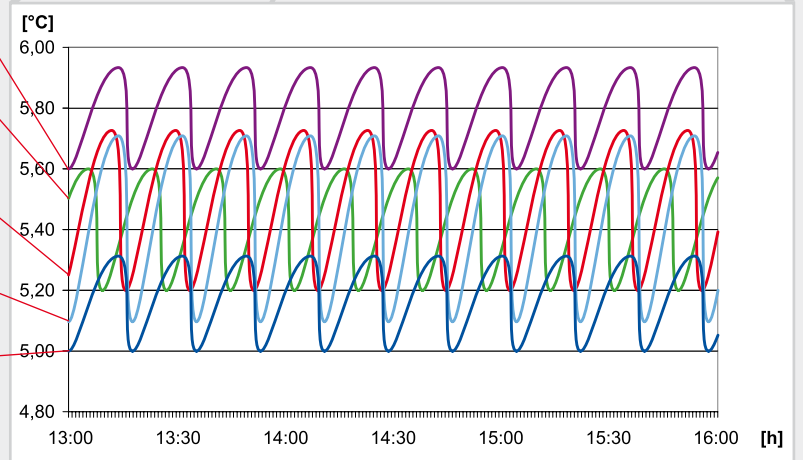
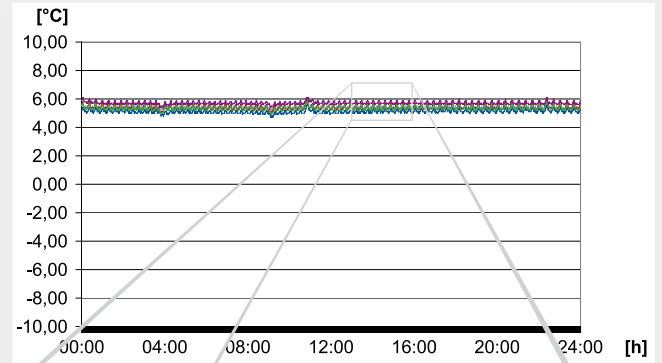
The sturdy PE-coated wire shelves have a load-bearing capacity of approx. 40 kg. The height of some of the model-specific optimized drawers can be adjusted, and they have adjustable depth and width separators. Thus ensuring tidy, clearly arranged storage.

Temperature measurement with record.

Validation with qualification documents.



TEMPERATURE CURVES



Measurements and examination during production guarantee optimum adjustment of the temperature-control sensors.

The calibration devices used in our manufacturing processes are monitored regularly, and we only use top-quality products in this very sensitive field.

The refrigerators and freezers are checked under changing environmental conditions in the cold chamber.

The temperature curves depicted show the very constant temperature progression. The values are measured using PT-sensors in the air (without defrosting). The combination of recirculating air-cooling and electronic, micro-processor controlled temperature regulator ensures an almost constant temperature of the cooled articles even under changing environmental conditions.

The type of recirculating air cooling used (air baffle, recirculating fan etc.) is specially matched to the respective refrigerator or freezer model.

Kirsch Refrigerators and Freezers are also used in demanding storage areas (pharmaceutical research, production, medical, biotechnology etc.). For this reason, the cooling appliances undergo multiple qualification or validation through users or specially nominated companies. We will be happy to support you with the validation or qualification of our products. We can also give you details of partner companies that can carry out validation for you and issue the qualification documents (IQ, OQ etc.).

Laboratory Refrigerators and Freezers

85 l

Capacity

Kirsch Laboratory Refrigerators and Freezers are available with different capacities and in numerous versions. The range comprises a wide assortment of models, from small to large-volume versions: Laboratory refrigerators with 80 to 700 litres, laboratory freezers with 70 to 700 litres capacity.

+2 to +20 °C

Temperature setting

There are large temperature ranges available for storing goods: Kirsch Laboratory Refrigerators from 0 to +20 °C, Laboratory Freezers (FROSTERS) from -5 bis -30 °C. The temperature set is maintained automatically – even under changing environmental conditions – by a thermostat or an electronic, micro-processor controlled temperature regulator.



Recirculating air-cooling

Recirculating air-cooling reduced the physically induced temperature drop and enables an almost constant temperature to be maintained.



Potential-free contact for alarm relaying

Kirsch Laboratory Refrigerators and Freezers with potential-free contact allow alarms to be relayed to different communication or monitoring systems such as remote warning systems, for example, self-dial telephones or central control technology. The potential-free contact triggers during mains power failure or alarm states, such as impermissible temperature deviations.



Automatic defrosting

With Kirsch Laboratory Refrigerators and Freezers with an automatic defrosting feature – which is carried out monitoring of time and temperature – manual defrosting is no longer required. Laboratory refrigerators and freezers with explosion-proof interiors have an integrated melt water dish which has to be emptied manually. In all other laboratory refrigerators and freezers from Kirsch, melt water evaporates automatically.

RS485

RS 485 Interface

The RS 485 interface allows the cooling appliances to be connected to IT systems, which in turn allows the data output to be digitally processed. A PC-Kit with temperature documentation software is available as an option and is used to record temperature data using a Windows-compatible PC.



Moulded support brackets

Interior containers made of impact-proof plastic moulded support brackets guarantee particularly high stability. The shelves and drawers can easily be inserted at the prescribed heights.



Support rails

Used with interior containers made of smooth aluminium with a transparent protective coating, support rails guarantee particularly versatile use of the interior. The sturdy, PE-coated shelves and drawers can be inserted according to individual requirements at intervals of only 15mm.



Explosion-proof interior













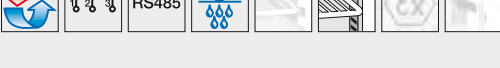












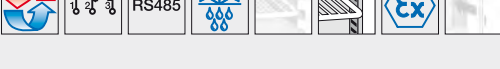
Kirsch Laboratory Refrigerators and Freezers are available with or without explosion-proof interior, depending on the version. The versions with explosion-proof interior (LABEX models) meet the safety requirements for zone 2 potentially explosive areas and guarantee there is no source of ignition on the interior.



Suitable for integration

Models that can be integrated in existing cupboards and are thus extremely space-saving. During installation, care must be taken that the cooling machine is sufficiently ventilated. The respective installation sketches are available as a PDF file for downloading from www.kirsch-offenburg.de

Summary

Model	Equipment	Page
LABO-85	80 l +2 to +12 °C 	8
LABO-100	95 l +2 to +20 °C 	9
LABO-125	120 l +2 to +20 °C 	10
SPEZIAL-282	280 l 0 to +10 °C 	11
SPEZIAL-432	430 l 0 to +10 °C 	11
SPEZIAL-340	330 l +2 to +20 °C 	12/13
SPEZIAL-468	460 l +2 to +20 °C 	12/13
SUPER-520	500 l 0 to +20 °C 	14/15
SUPER-720	700 l 0 to +20 °C 	14/15
FROSTER-320	300 l -5 to -30 °C 	16/17
FROSTER-520	500 l -5 to -30 °C 	16/17
FROSTER-720	700 l -5 to -30 °C 	16/17
SUPER-720-CHROMAT.....	700 l +4 to +20 °C 	18
ATEX/TÜV-Certificate		19
LABEX-105	95 l +2 to +20 °C 	20
LABEX-125	120 l +2 to +12 °C 	21
LABEX-285	280 l +2 to +20 °C 	22/23
LABEX-335	330 l +2 to +20 °C 	22/23
LABEX-465	460 l +2 to +20 °C 	22/23
LABEX-288	280 l +2 to +20 °C 	24/25
LABEX-340	330 l +2 to +20 °C 	24/25
LABEX-468	460 l +2 to +20 °C 	24/25
FROSTER-LABEX-70	70 l -15 to -22 °C 	26
FROSTER-LABEX-96	95 l -5 to -25 °C 	27
FROSTER-LABEX-320	300 l -5 to -30 °C 	28/29
FROSTER-LABEX-520	500 l -5 to -30 °C 	28/29
FROSTER-LABEX-720	700 l -5 to -30 °C 	28/29
Accessories		30/31

LABO-85

80 l

+2 to +12 °C



- 1 Drawer - 2 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Automatic defrosting
- Melt water evaporation
- Stepless temperative selection

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 42 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting automatically with thermal and time limit functions.

Melt water evaporation in the compressor area.

Temperature gear by room thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Cooling machine ventilator for operation at 60 Hz or when the static ventilation is not sufficient where appliances are integrated in cupboards
- Top drawer, lockable
- Water tray for manual emptying
- Optical and acoustic warning system incl. power failure alarm and interface RS 485

Appliances for temperature documentation:

- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



	LABO-85
Capacity	80 litres
Temperature setting	app. +2 °C to +12 °C
Drawer/shelves	1/2
Voltage	220 – 240 V, 50 Hz
Power draft	100 Watts
Average consumption	0,6 kWh/24 h
Overall dimensions (incl. distance from wall)	w x d x h = 47 x 51 x 74 cm
Interior dimensions	w x d x h = 38 x 41 x 63 cm (usable depth above 5 cm, below 15 cm less)
Overall dim. with door open at 90°	w x d = 47 x 96 cm
Shelf dimensions	23 x 37,8 cm resp. 34 x 37,8 cm
Drawer inner dimensions	w x d x h = 32 x 30 x 5 cm
Max. load per drawer/shelf	9,5 kg/25 kg
Weight	net 31 kg, gross 37 kg

LABO-100

95 l

+2 to +20 °C



- 2 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Recirculating air-cooling
- Automatic defrosting
- Melt water evaporation
- Digital temperature display

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 50 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Recirculating air-cooling by means of a cross flow blower which keeps the temperature constant and reduces the natural temperature stratification. The cross flow blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Defrosting automatically with thermal and time limit functions.

Melt water evaporation in the compressor area.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation with potential free contact for remote monitoring. Defrost control light and red warning light. Standard equipped with interface RS 485.

Temperature gear by electronic thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Safety control device prevents from freezing.

Compressor, dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains. Length of mains cable approx. 1,8 m.

- Minimum/maximum temperature memory
- Potential free contact
- Interface RS 485
- Safety control device prevents freezing
- Optical and acoustic warning in case of temperature deviation and door open alarm

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Work surface
- Additional shelves or drawers
- Lockable glass door
- Water tray for manual emptying
- GSM-Module
- Castors

Appliances for temperature documentation:

- PC-Kit (USB-Version)
- PC-Kit-Net (Network capable version) incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



	LABO-100
Capacity	95 litres
Temperature setting	app. +2 °C to +20 °C
Shelves	2
Voltage	220 – 240 V, 50/60 Hz
Power draft	150 Watts
Average consumption	0,42 kWh/24 h
Overall dimensions (incl. distance from wall)	w x d x h = 54 x 53,5 x 82 cm
Interior dimensions	w x d x h = 44 x 43 x 47 cm (usable depth 5 cm, width 2 cm less)
Overall dim. with door open at 90°	w x d = 54 x 105,5 cm
Shelf dimensions	43,8 cm x 36 cm
Max. load per drawer/shelf	13 kg/25 kg
Weight	net 42 kg, gross 50 kg

LABO-125

120 l

+2 to +20 °C



- 2 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Automatic defrosting
- Melt water evaporation
- Interior digital temperature display
- Acoustic warning in case of temperature deviation

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 50 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting automatically with thermal and time limit functions.

Melt water evaporation in the compressor area.

Temperature gear by electronic thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Additional shelves (43,8 x 33 cm) or drawers
- Water tray for manual emptying
- Work surface
- Digital temperature display prepared for external installation
- Connecting terminal for remote alarm (potential free contact)
- GSM-Module
- Glass door
- Castors

Appliances for temperature documentation:

- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



Option:
Digital temperature display prepared for external installation



	LABO-125
Capacity	120 litres
Temperature setting	app. +2 °C to +20 °C
Shelves	2
Voltage	220 – 240 V, 50 Hz
Power draft	125 Watts
Average consumption	0,55 kWh/24 h
Overall dimensions without work surface (incl. distance from wall)	w x d x h = 54 x 53,5 x 81 cm
Interior dimensions	w x d x h = 44 x 42 x 67 (usable depth above 5 cm, below less 15 cm , width 2 cm less)
Overall dim. with door open at 90°	w x d = 54 x 105,5 cm
Shelf dimensions	43,8 x 24 cm resp. 43,8 x 33 cm
Max. load per drawer/shelf	13 kg/25 kg
Weight	net 42 kg, gross 50 kg

SPEZIAL-282/-432

280 l

430 l

0 to +10 °C



- 3 Shelves (SPEZIAL-282)
- 4 Shelves (SPEZIAL-432)
- Recirculating air-cooling
- Automatic defrosting
- Melt water evaporation
- Stepless temperature selection

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in front in case of uneven floor.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 50 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Recirculating air-cooling by means of a cross flow blower which keeps the temperature constant and reduces the natural temperature stratification. The cross flow blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Defrosting automatically with thermal and time limit functions.

Melt water evaporation in the compressor area.

Temperature gear by interior thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains, model SPEZIAL-282 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Additional shelves
- Additional drawers (only for SPEZIAL-282)
- Glass door
- Lock for glass door
- Optical and acoustic warning system incl. power failure alarm and interface RS 485
- GSM-Module
- Castors

Appliances for temperature documentation:

- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



Pictured is Model Spezial-282

	SPEZIAL-282	SPEZIAL-432
Capacity	280 liters	430 litres
Temperature setting	app. 0 °C to +10 °C	app. 0 °C to +10 °C
Shelves	3	4
Voltage	220 – 240 V, 50/60 Hz	220 – 240 V, 50 Hz
Power draft	150 Watts	135 Watts
Average consumption	1,0 kWh/24 h	0,9 kWh/24 h
Overall dimensions (incl. distance from wall and door handle)	w x d x h = 67 x 70 x 115 cm	w x d x h = 74 x 70 x 144 cm
Interior dimensions	w x d x h = 53 x 50 x 100 cm (usable depth above 5 cm, below less 14 cm)	w x d x h = 60 x 50 x 130 cm (usable depth above 5 cm, below less 14 cm)
Overall dim. with door open at 90°	w x d = 67 x 130 cm	w x d = 74 x 137 cm
Shelf dimensions	55,3 cm x 45 cm	62,3 cm x 45 cm
Max. load for drawer/shelf	16 kg/40 kg	-/40 kg
Weight	net 59 kg, gross 70 kg	net 73 kg, gross 85 kg

SPEZIAL-340/-468

- 1 Drawer and 3 Shelves (SPEZIAL-340)
- 4 Shelves (SPEZIAL-468)
- Recirculating air-cooling
- Automatic defrosting
- Melt water evaporation
- Digital temperature display
- Minimum/Maximum temperature memory
- Potential free contact
- Interface RS 485
- Safety control device prevents freezing
- Optical and acoustic warning in case of temperature deviation and door open alarm

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in front in case of uneven floor.

Interior of smooth aluminium sheet with colourless protective coating. Light metal strip with 15 mm raster. 1 drawer on pull out rails with stop, vertical adjustment in 15 mm steps. 2 adjustable length dividers and 9 adjustable cross dividers per drawer. Storage capacity per drawer = 0,16 m². Loading capacity per drawer = max. 16 kg, per shelf = max 40 kg.

Insulating, 55 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Recirculating air-cooling by means of a cross flow blower which keeps the temperature constant and reduces the natural temperature stratification. The cross flow blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Defrosting automatically with thermal and time limit functions.

Melt water evaporation in the compressor area.

Safety control device prevents freezing.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation with potential free contact for remote monitoring. Defrost control light and red warning light. Standard equipped with interface RS 485.

Temperature gear by electronic thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, model SPEZIAL-468 dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains, model SPEZIAL-468 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Glass door
- Lock for glass door
- Additional drawers or shelves
- Additional length and cross dividers
- Aluminium trays with support rails 60 x 40 x 2,5 cm (SPEZIAL-468)
- Baskets with rails 60 x 45 x 10 cm (SPEZIAL-468)
- Water tray for manual emptying
- GSM-Module
- Castors

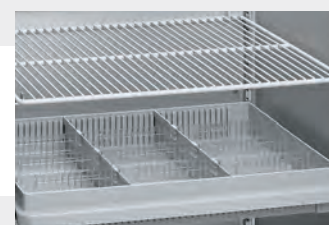
Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version)
incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system

The longitudinal and cross dividers within the drawers are individually adjustable.



The distance between drawers/shelves is adjustable within a 15 mm raster



330 l

460 l

+2 to +20 °C



RS485



	SPEZIAL-340	SPEZIAL-468
Capacity	330 litres	460 litres
Temperature setting	app. +2 °C to +20 °C	app. +2 °C to +20 °C
Drawers/shelves	1/3	-/4
Voltage	220 – 240 V, 50 Hz	220 – 240 V, 50/60 Hz
Power draft	150 Watts	180 Watts
Average consumption	1,2 kWh/24 h	1,4 kWh/24 h
Overall dimensions (incl. distance from wall and door handle)	w x d x h = 67 x 64 x 171,5 cm	w x d x h = 74 x 74 x 171,5 cm
Interior dimensions	w x d x h = 53 x 45 x 128 cm (usable depth 6 cm less)	w x d x h = 60 x 57 x 128 cm (usable depth 6 cm less)
Overall dim. with door open at 90°	w x d = 67 x 122 cm	w x d = 74 x 142 cm
Drawer inner dimensions	w x d x h = 50,4 x 32 x 5,6 cm	-
Shelf dimensions	53 cm x 39 cm	60 cm x 52 cm
Max. load per drawer/shelf	16 kg/40 kg	24 kg/40 kg
Weight	net 90 kg, gross 97 kg	net 88 kg, gross 100 kg

SUPER-520/-720

- 5 Shelves
- Recirculating air-cooling
- Automatic defrosting
- Melt water evaporation
- Digital temperature display
- Minimum/Maximum temperature memory

- Potential free contact
- Interface RS 485
- Safety control device prevents freezing
- Optical and acoustic warning in case of temperature deviation and door alarm

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in front in case of uneven floor.

Interior of smooth aluminium sheet with colourless protective coating. Light metal strip with 15 mm raster.

Insulating, 70 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Self-closing lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Recirculating air-cooling by means of a cross flow blower which keeps the temperature constant and reduces the natural temperature stratification. The cross flow blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Rapid defrosting by time limited, automatic reverse of the refrigerant circuit.

Melt water evaporation in heated tray made of stainless steel.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Safety control device prevents freezing.

Temperature gear by electronic thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 3 m.

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Additional shelves with brackets or rails
- Baskets with rails
60 x 45 x 10 cm (SUPER-520),
60 x 65 x 10 cm (SUPER-720)
- Aluminium trays with rails
60 x 40 x 2,5 cm (SUPER-520),
60 x 65 x 2,5 cm (SUPER-720)
- Drawers with pull-out rails
57,4 x 40 x 5,6 cm (SUPER-520)
- Water tray for manual emptying
- GSM-Module
- Castors
- Cooling machine with natural refrigerant
- Outer panels in stainless steel 4301
- Glass door with lock

Appliances for temp. documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version)
incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- Disc-type pen-recording thermometer with 7-day measuring cycle on top, with 100 recording discs and 5 felt tip pens.
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



The picture shows model SUPER-V-520 with interior light and glass door. Disc-type pen-recording thermometer at extra charge.

500 l

700 l

0 to +20 °C



RS485



	SUPER-520	SUPER-720
Capacity	500 litres	700 litres
Temperature setting	app. 0 °C to +20 °C	app. 0 °C to +20 °C
Shelves	5	5
Voltage	220 – 240 V, 50/60 Hz	220 – 240 V, 50/60 Hz
Power draft	370 Watts	370 Watts
Average consumption	2,9 kWh/24 h	3,0 kWh/24 h
Overall dimensions (incl. door handle)	w x d x h = 77 x 76 x 193 - 196 cm	w x d x h = 77 x 97 x 193 - 196 cm
Interior dimensions	w x d x h = 60 x 57 x 140 cm (usable depth 12 cm less)	w x d x h = 60 x 78 x 140 cm (usable depth 13 cm less)
Overall dim. with door open at 90°	w x d = 77 x 144 cm	w x d = 77 x 165 cm
Shelf dimensions	59,7 cm x 45 cm	59,7 cm x 65 cm
Max. load per drawer/shelf	24 kg/40 kg	-/40 kg
Weight	net 120 kg, gross 150 kg	net 145 kg, gross 180 kg

FROSTER-320/-520/-720

- 4 Shelves (FROSTER-320)
- 5 Shelves (FROSTER-520/-720)
- Recirculating air-cooling
- Automatic rapid defrosting
- Rapid freezing cycle
- Digital temperature display

- Minimum/Maximum temperature memory
- Potential free contact
- Interface RS 485
- Optical and acoustic warning in case of temperature deviation and door open alarm

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in front in case of uneven floor.

Interior of smooth aluminium sheet with clear protective coating. Light metal strip with 15 mm raster.

Insulating, 70 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Self-closing lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Recirculating air-cooling by means of a cross flow blower which keeps the temperature constant and reduces the natural temperature stratification. The cross flow blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Rapid defrosting by automatic reverse of the refrigerant circuit with thermal control and time function. **During defrosting period the necessary low temperature is kept.**

Melt water evaporation in headed tray made of stainless steel.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Temperature gear by electronic thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m (FROSTER-320), approx. 3 m (FROSTER-520/-720).

Equipment features at extra charge:

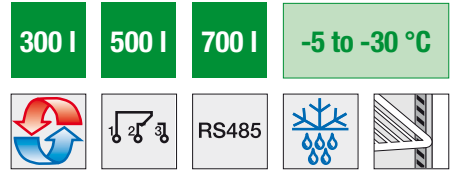
- Power failure alarm (optical and acoustic up to 72 hours)
- Additional shelves or baskets
- Drawers with pull out rails 57,4 x 40 x 5,6 cm (FROSTER-520)
- Aluminium trays with rails 60 x 40 x 2,5 cm (FROSTER-520), 60 x 65 x 2,5 cm (FROSTER-720).
- Basket on rails 56,8 x 40 x 10 cm (FROSTER-320), 60 x 45 x 10 cm (FROSTER-520), 60 x 65 x 10 cm (FROSTER-720).
- GSM-Module
- Castors
- Outer panels in stainless steel 4301, (FROSTER-520/-720)
- Cooling machine water-cooled (Froster-520/-720)

Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version) incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- Disc-type pen recording thermometer with 7-day measuring cycle on top, with 100 recording discs and 5 felt tip pens.
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



Capacity
Temperature setting
Shelves
Voltage
Power draft
Average consumption
Overall dimensions (incl. door handle)
Interior dimensions
Overall dim. with door open at 90°
Shelf dimensions
Max. load per drawer/shelf
Weight



FROSTER-320	FROSTER-520	FROSTER-720
300 litres	500 litres	700 litres
app. -5 °C to -30 °C	app. -5 °C to -30 °C	app. -5 °C to -30 °C
4	5	5
220 – 240 V, 50 Hz	220 – 240 V, 50 Hz	220 – 240 V, 50 Hz
540 Watts	640 Watts	640 Watts
4,58 kWh/24 h	7,6 kWh/24 h	8,7 kWh/24 h
w x d x h = 74 x 77 x 149 cm	w x d x h = 77 x 76 x 193 - 196 cm	w x d x h = 77 x 97 x 193 - 196 cm
w x d x h = 59,5 x 53 x 95 cm (usable depth 12 cm less)	w x d x h = 60 x 57 x 140 cm (usable depth 12 cm less)	w x d x h = 60 x 78 x 140 cm (usable depth 13 cm less)
w x d = 74 x 141 cm	w x d = 77 x 144 cm	w x d = 77 x 165 cm
57 x 42 cm	59,7 x 45 cm	59,7 x 65 cm
-/40 kg	24 kg/40 kg	-/40 kg
net 120 kg, gross 135 kg	net 140 kg, gross 170 kg	net 165 kg, gross 200 kg

SUPER-720-CHROMAT

700 l

+4 to +20 °C



- 5 Shelves
- Recirculating air-cooling
- Glass door
- Interior light
- Built-in 3-way-socket
- Access port for cables and probes Ø app. 7 cm

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in front in case of uneven floor.

Interior of smooth aluminium sheet with clear protective coating. Light metal strip with 15 mm raster.

Insulating, 70 mm thick, of highgrade pressure foamed and pro environmental material. Extra thick for energy saving effect.

Self-closing lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Recirculating air-cooling by means of a cross flow blower which keeps the temperature constant and reduces the natural temperature stratification. The cross flow blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Interior light vertical, illuminating complete interior, with door contact switch and switch for permanent lighting.

Rapid defrosting by time limited, automatic reverse of the refrigerant circuit.

Melt water evaporation in headed tray made of stainless steel.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Safety control device prevents freezing.

Temperature gear by electronic thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 3 m.

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Additional shelves with brackets on rails
- Baskets with rails 60 x 65 x 10 cm
- Aluminium trays with rails 60 x 65 x 2,5 cm
- Water tray for manual emptying
- GSM-Module
- Castors
- Cooling machine water-cooled
- Cooling machine with natural refrigerant

Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net
(Network capable version)
incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- Disc-type pen recording thermometer with 7-day measuring cycle on top, with 100 recording discs and 5 felt tip pens.
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system

- Automatic rapid defrosting with melt water evaporation
- Digital temperature display
- Minimum/Maximum temperature memory
- Potential free contact/Interface RS 485
- Safety control device prevents freezing
- Optical and acoustic warning in case of temperature deviation and door open alarm





	SUPER-720-CHROMAT
Capacity	700 litres
Temperature setting	app. +2 °C to +20 °C
Shelves	5
Voltage	220 – 240 V, 50/60 Hz
Power draft	390 Watts
Average consumption	3,5 kWh/24 h
Overall dimensions (incl. door handle)	w x d x h = 77 x 97 x 193 - 196 cm
Interior dimensions	w x d x h = 60 x 78 x 140 cm (usable depth 10 cm less)
Overall dim. with door open at 90°	w x d = 77 x 165 cm
Shelf dimensions	59,7 cm x 65 cm
Max. load per shelf	40 kg
Weight	net 165 kg, gross 200 kg

ATEX-Description, TÜV-Certificate

The interior with marking:  II 3 G Ex c ic IIB T6 or  II 3 G T6

Kirsch Refrigerators and Freezers with explosion-proof interior are TÜV-tested to the safety requirements of the directive 94/9/EC (ATEX 95) EN 1127-1:1997 and BGR 120, section 3.8, as well as to the EC Low Voltage Directive 2006/95/EC and for electromagnetic compatibility (EMC) 2004/108/EC.

The refrigerators and freezers on pages 20, 21, 26 and 27 bear the mark  II 3 G T6.

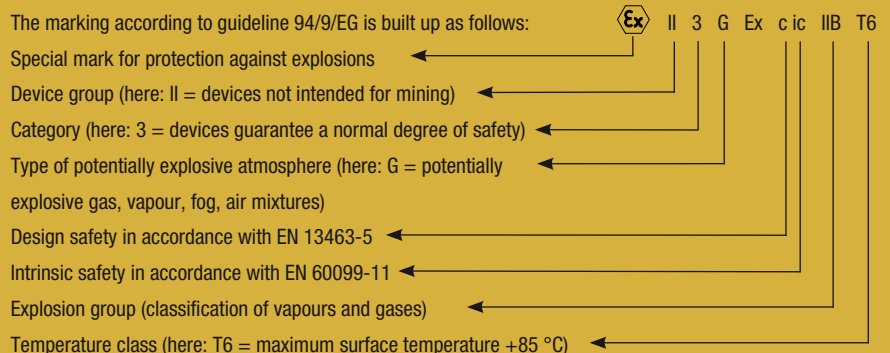
The refrigerators and freezers on pages 22, 23, 24, 25, 28 and 29 have increased safety levels, are intrinsically safe on the interior according to APEX 95, and bear the mark  II 3 G Ex c ic IIB T6.



Special features of the refrigerators or freezers according to directive 94/9/EG (ATEX 95):

- Analysis of ignition hazard according to EN 1127-1:1997, carried out by TÜV SÜD Product Service GmbH
- Design safety has been tested by TÜV Süd Product Service GmbH for all non-electrical parts. (depending on model)
- Intrinsic safety tested by TÜV Süd Product Service GmbH for all electrical components on the interior (depending on model)
- Energy restriction of the power circuits on the cooled interior:
 - Temperature sensor protected by safety barrier
 - Recirculating blower protected by an energy-restricting safety power pack
 - The door frame heating of the freezers meets requirements of temperature class T6.
- Ground protection for the complete interior (potential equality)
- Cooled interior is not opened to the outside (manual removal of melt water)
- Vacuum compensation of the cooled interior of freezers with recirculating air-cooling through controlled ventilation valve.
- Conductive material combinations on the inside are non-combustible
- Examination of the interiors to ensure they are free of ignition sources according to directive 94/9/EG (ATEX 95) by TÜV SÜD Product Service GmbH with certificate
- Guaranteed set-up according to design specification
- Production facilities are inspected by an independent accredited company

Explanations of the marking according to directive 94/9/EG (ATEX 95)



The temperature and defrosting sensors of the models with electronic control are specially protected by safety barriers.

The laboratory refrigerator models LABEX-288, LABEX-340 and LABEX-468 are equipped with recirculating cooling, which reduces the drop in temperature caused by physical reasons and ensures an almost homogenous temperature. The axial blower used for recirculating cooling is specially fuse-protected through a mains adapter.

The laboratory freezer models FROSTER-LABEX-320, FROSTER-LABEX-520 and FROSTER-LABEX-720 are equipped with recirculating cooling and automatic rapid defrosting. The electronic temperature sensors and axial fan for recirculating cooling are protected by separate fuses. Thanks to hot-gas defrosting with reversal refrigerant circuit, defrosting is fast and efficient.

LABEX-105

95 l

+2 to +20 °C



RS485



- 1 Drawer and 2 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Automatic defrosting
- Digital temperature display
- Minimum/Maximum temperature memory

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 50 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting automatically with thermal control and time limit function.

Melt water tray for manual emptying.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.


Safety control device prevents freezing.

Temperature gear by electronic thermostat (sensor protected by safety barrier). The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Glass door with lock
- Work surface
- Additional shelves or drawers
- GSM-Module
- Castors

- Potential free contact
- Interface RS 485
- Safety control device prevents freezing
- Optical and acoustic warning in case of temperature deviation and door open alarm
- The interior with marking:  II 3 G T6

Appliances for temperature documentation:

- PC-Kit-Net (network capable version), incl. documentation software or PC-Kit with data logger, RS 485 / USB-gateway (converter) 10m. Data cable and temperature documentation software (CD-ROM, windows compatible).
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor (incl. safety barriers) for temperature recording and monitoring via EDP system



	LABEX-105
Capacity	95 litres
Temperature setting	app. +2 °C to +20 °C
Drawers/shelves	1/2
Voltage	220 – 240 V, 50/60 Hz
Power draft	150 Watts
Average consumption	0,42 kWh/24 h
Overall dimensions (incl. distance from wall)	w x d x h = 54 x 53,5 x 82 cm
Interior dimensions	w x d x h = 44 x 43 x 47 cm (usable depth 5 cm, usable width 2 cm less)
Overall dim. with door open at 90°	w x d = 54 x 105,5 cm
Shelf dimensions	43,8 x 36 cm
Drawer inner dimensions	w x d x h = 40,8 x 32 x 5,6 cm
Max. load per drawer/shelf	13 kg/25 kg
Weight	net 42 kg, gross 50 kg

LABEX-125

120 l

+2 to +12 °C



- 1 Drawer and 2 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Stepless temperature selection
- The interior with marking: **Ex II 3 G T6**

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 50 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting manually.

Melt water tray for manual emptying.

Temperature gear by room thermostat. The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Safety control device prevents freezing.

Compressor, static ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Work surface
- Additional shelves (43,8 x 33 cm) or drawers
- Additional length or cross dividers
- Glass door
- Castors

Appliances for temperature documentation:


- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor (incl. safety barriers) for temperature recording and monitoring via EDP system

The longitudinal and cross dividers within the drawers are individually adjustable.



	LABEX-125
Capacity	120 litres
Temperature setting	app. +2 °C to +12 °C
Drawers/shelves	1/2
Voltage	220 – 240 V, 50 Hz
Power draft	135 Watts
Average consumption	0,68 kWh/24 h
Overall dimensions (incl. distance from wall)	w x d x h = 54 x 53,5 x 81 cm
Interior dimensions	w x d x h = 44 x 42 x 67 cm (usable depth above 7 cm, below 15 cm less, usable width 2 cm less)
Overall dim. with door open at 90°	w x d = 54 x 105,5 cm
Shelf dimensions	43,8 x 24 cm resp. 43,8 x 33 cm
Drawer inner dimensions	w x d x h = 40,8 x 32 x 5,6 cm
Max. load per drawer/shelf	13 kg/25 kg
Weight	net 42 kg, gross 50 kg

LABEX-285/-335/-465

- 1 Drawer und 3 Shelves (LABEX-285)
- 2 Drawers und 4 Shelves (LABEX-335)
- 6 Shelves (LABEX-465)
- Automatic defrosting
- Digital temperature display
- Minimum/Maximum temperature memory
- Potential free contact
- Interface RS 485
- Safety control prevents freezing
- Optical and acoustic warning in case of temperature deviation and door open alarm
- The interior with marking:  II 3 G Ex cII B T6

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in front in case of uneven floor.

Interior of smooth aluminium sheet with clear protective coating. Light metal strip with 15 mm raster.

Insulating, 55 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting automatically with thermal control and time limit function.

Melt water tray for manual emptying.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Safety control device prevents freezing.

Temperature gear by electronic thermostat (sensor protected by safety barrier). The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, model LABEX-465 dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains, model LABEX-335 50 Hz only. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

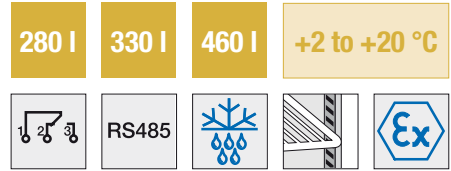
- Power failure alarm (optical and acoustic up to 72 hours)
- Glass door with lock
- Additional shelves or drawers
- Additional length or cross dividers
- Aluminium trays with rails 60 x 40 x 2,5 cm (LABEX-465)
- GSM-Module
- Castors

Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version)
incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



Capacity
Temperature setting
Drawers/shelves
Voltage
Power draft
Average consumption
Overall dimensions (incl. distance from wall and door handle)
Interior dimensions
Overall dim. with door open at 90°
Shelf dimensions
Drawer inner dimensions
Max. load per drawer/shelf
Weight



LABEX-285	LABEX-335	LABEX-465
280 litres	330 litres	460 litres
app. +2 °C to +20 °C	app. +2 °C to +20 °C	app. +2 °C to +20 °C
1/3	2/4	-/6
220 – 240 V, 50/60 Hz	220 – 240 V, 50 Hz	220 – 240 V, 50/60 Hz
120 Watts	120 Watts	160 Watts
0,6 kWh/24 h	0,9 kWh/24 h	1,0 kWh/24 h
w x d x h = 67 x 70 x 124 cm	w x d x h = 67 x 64 x 171,5 cm	w x d x h = 74 x 74 x 171,5 cm
w x d x h = 53 x 50 x 100 cm (usable depth above 9 cm, below 14 cm less)	w x d x h = 53 x 45 x 128 cm (usable depth 6 cm less)	w x d x h = 60 x 57 x 128 cm (usable depth 6 cm less)
w x d = 67 x 130 cm	w x d = 67 x 122 cm	w x d = 74 x 142 cm
52,7 x 39 cm	52,7 x 39 cm	59,7 x 50 cm
w x d x h = 50,4 x 32 x 5,6 cm	w x d x h = 50,4 x 32 x 5,6 cm	w x d x h = 57 x 43 x 5,6 cm
16 kg/40 kg	16 kg/40 kg	24 kg/40 kg
net 68 kg, gross 80 kg	net 76 kg, gross 88 kg	net 92 kg, gross 107 kg

LABEX-288/-340/-468

- 1 Drawer und 3 Shelves (LABEX-288)
- 2 Drawers und 4 Shelves (LABEX-340)
- 6 Shelves (LABEX-468)
- Recirculating air-cooling (protected via mains supply unit)
- Automatic defrosting
- Digital temperature display
- Minimum/Maximum temperature memory
- Potential free contact
- Interface RS 485
- Safety control prevents freezing
- Optical and acoustic warning in case of temperature deviation and door open alarm
- The interior with marking:  II 3 G Ex cII B T6

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in case of uneven floor (LABEX-288 only in front).

Interior of smooth aluminium sheet with clear protective coating. Light metal strip with 15 mm raster.

Insulating, 55 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting automatically with thermal control and time limit function (defrost sensor protected by safety barrier).

Melt water tray for manual emptying.

Recirculating air-cooling by means of an axial blower which keeps the temperature constant and reduces the natural temperature stratification. The axial blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Safety control device prevents freezing.

Temperature gear by electronic thermostat (sensor protected by safety barrier). The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, static ventilated, model LABEX-468 dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains, model LABEX-340 50 Hz only. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Glass door with lock
- Additional shelves or drawers
- Aluminium trays with rails 60 x 40 x 2,5 cm (LABEX-468)
- GSM-Module
- Castors

Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version) incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



Capacity
Temperature setting
Drawers/shelves
Voltage
Power draft
Average consumption
Overall dimensions (incl. distance from wall and door handle)
Interior dimensions
Overall dim. with door open at 90°
Shelf dimensions
Drawer inner dimensions
Max. load per drawer/shelf
Weight

280 l

330 l

460 l

+2 to +20 °C

**LABEX-288**

280 litres
app. +2 °C to +20 °C
1/3
220 – 240 V, 50/60 Hz
140 Watts
0,9 kWh/24 h

w x d x h = 67 x 70 x 124 cm

w x d x h = 53 x 50 x 100 cm
(usable depth above 9 cm, below 14 cm less)

w x d = 67 x 130 cm

52,7 x 39 cm

w x d x h = 50,4 x 32 x 5,6 cm

16 kg/40 kg

net 72 kg, gross 85 kg

LABEX-340

330 litres
app. +2 °C to +20 °C
2/4
220 – 240 V, 50 Hz
130 Watts
1,0 kWh/24 h

w x d x h = 67 x 64 x 171,5 cm

w x d x h = 53 x 45 x 128 cm
(usable depth 6 cm less)

w x d = 67 x 122 cm

52,7 x 39 cm

w x d x h = 50,4 x 32 x 5,6 cm

16 kg/40 kg

net 88 kg, gross 98 kg

LABEX-468

460 litres
app. +2 °C to +20 °C
-/6
220 – 240 V, 50/60 Hz
170 Watts
1,1 kWh/24 h

w x d x h = 74 x 74 x 171,5 cm

w x d x h = 60 x 57 x 128 cm
(usable depth 6 cm less)

w x d = 74 x 142 cm

59,7 x 50 cm

w x d x h = 57 x 43 x 5,6 cm

24 kg/40 kg


net 115 kg, gross 125 kg

FROSTER-LABEX-70

70 l

-15 to -22 °C



- 1 Drawer und 3 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Stepless temperature selection
- Actual value thermometer
- The interior with marking:  II 3 G T6

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 55 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting manual.

Melt water tray for manual emptying.

Temperature gear by interior thermostat. The temperature is kept automatically, independent of changes in ambient temperature.

Compressor, static ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Cooling machine ventilator when the static ventilation is not sufficient where appliances are integrated in cupboards
- Optical and acoustic warning system incl. power failure alarm and interface RS 485

Appliances for temperature documentation:

- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



	FROSTER-LABEX-70
Capacity	70 litres
Temperature setting	app. -15 °C to -22 °C
Voltage	220 - 240 V, 50/60 Hz
Power draft	100 Watts
Average consumption	1,6 kWh/24 h
Overall dimensions (incl. distance from wall)	w x d x h = 47 x 51 x 74 cm
Interior dimensions	w x d x h = 35 x 38 x 55 cm (usable depth above 5 cm, below 16 cm less)
Overall dim. with door open at 90°	w x d = 47 x 96 cm
Shelf dimensions	20,5 x 35,2 cm resp. 31,5 x 35,3 cm
Drawer inner dimensions	w x d x h = 29 x 26 x 5 cm
Max. load per drawer/shelf	9,5 kg/25 kg
Weight	net 34 kg, gross 42 kg

FROSTER-LABEX-96


95 l

-5 to -25 °C



RS485



- 2 Shelves
- Suitable for integration into built-in units or fitting beneath a worktop
- Rapid freezing cycle
- Digital temperature display
- Minimum/Maximum temperature memory
- Potential free contact
- Interface RS 485
- Optical and acoustic warning in case of temperature deviation
- The interior with marking:  II 3 G T6

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Interior of impact-resistant white plastic with moulded in shelf guides.

Insulating, 50 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Defrosting manual.

Melt water tray for manual emptying.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Temperature gear by electronic thermostat (sensor protected by safety barrier). The temperature is kept automatically, independent of changes in ambient temperatures.

Compressor, dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50/60 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m.

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Work surface
- Additional shelf or drawer
- GSM-Module
- Castors


Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version)
incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- PT 100 or PT 1000 sensor for temperature recording and monitoring via EDP system



	FROSTER-LABEX-96
Capacity	95 litres
Temperature setting	app. -5 °C to -25 °C
Voltage	220 - 240 V, 50/60 Hz
Power draft	160 Watts
Average consumption	2,6 kWh/24 h
Overall dimensions (incl. distance from wall)	w x d x h = 54 x 53,5 x 82 cm
Interior dimensions	w x d x h = 44 x 42 x 47 cm (usable depth 5 cm, usable width 2 cm less)
Overall dim. with door open at 90°	w x d = 54 x 105,5 cm
Shelf dimensions	43,8 x 36 cm
Max. load per drawer/shelf	13 kg/25 kg
Weight	net 42 kg, gross 50 kg

FROSTER-LABEX-320/-520/-720

- 4 Shelves (FROSTER-LABEX-320)
- 5 Shelves (FROSTER-LABEX-520/-720)
- Recirculating air-cooling (protected via mains supply unit)
- Automatic defrosting
- Rapid freezing cycle
- Digital temperature display
- Minimum/Maximum temperature memory
- Potential free contact
- Interface RS 485
- Optical and acoustic warning in case of temperature deviation and door open alarm
- The interior with marking:  II 3 G Ex cII B T6

Outer panels of galvanised sheet steel (protection against sub surface rusting), white powder coated.

Adjustable feet in case of uneven floor.

Interior of smooth aluminium sheet with clear protective coating. Light metal strip with 15 mm raster.

Insulating, 70 mm thick, of highgrade pressure foamed and pro-environmental material. Extra thick for energy saving effect.

Lockable self closing door with plastic magnetic sealing, easy to exchange. Door does not protect at side when opened.

Door hinge changeable (also subsequently), standard version with hinges on right (as illustrated), deliverable also with door hinge on left at no extra charge.

Pressure balance by temporally steered single solenoid valve.

Defrosting automatically with thermal control and time limit function (defrost sensor protected by safety barrier).

During the defrosting period the necessary low temperature is kept.

Melt water tray for manual emptying.

Recirculating air-cooling by means of a axial blower (protected through mains supply unit) which keeps the temperature constant and reduces the natural temperature stratification. The axial blower cuts out automatically when the door is opened, for a minimum loss of cold air.

Key switch protected control panel with digital temperature display, minimum/maximum temperature memory, optical and acoustic warning signal in case of temperature deviation and door ajar alarm with potential free contact for remote monitoring. Switch for air-humidity selection, defrost control light and red warning light. Standard equipped with interface RS 485.

Temperature gear by electronic thermostat (sensor protected by safety barrier). The temperature is kept automatically, independent of changing outside temperatures, provided the ambient temperature is approx. 3 °C above the selected interior temperature.

Compressor, dynamic ventilated, hermetically enclosed, energy saving, low noise, easy to service, for 220-240 V AC, 50 Hz mains. Other voltages on request. Length of mains cable approx. 1,8 m (FROSTER-LABEX-320), approx. 3 m (FROSTER-LABEX-520/-720).

Equipment features at extra charge:

- Power failure alarm (optical and acoustic up to 72 hours)
- Additional drawers or shelves (drawers only for FROSTER-LABEX-520)
- Baskets with rails
56,8 x 40 x 10 cm (FROSTER-LABEX-320),
60 x 45 x 10 cm (FROSTER-LABEX-520),
60 x 65 x 10 cm (FROSTER-LABEX-720).
- Aluminium trays with rails
60 x 40 x 2,5 cm (FROSTER-LABEX-520),
60 x 65 x 2,5 cm (FROSTER-LABEX-720).
- GSM-Module
- Castors
- Cooling machine water-cooled (FROSTER-LABEX-520/-720)

Appliances for temperature documentation:

- PC-Kit (USB-Version)
PC-Kit-Net (Network capable version) incl. documentation software
- Pen-recording thermometer for placing loosely inside appliance with waxed paper strips
- Disc-type pen recording thermometer with 7-day measuring cycle on top, with 100 recording discs and 5 felt tip pens.
- PT 100 or PT 1000 sensor (incl. safety barrier) for temperature recording and monitoring via EDP system



Capacity
Temperature setting
Shelves
Voltage
Power draft
Average consumption
Overall dimensions (incl. door handle)
Interior dimensions
Overall dim. with door open at 90°
Shelf dimensions
Drawer inner dimensions
Max. load per drawer/shelf
Weight

300 l

500 l

700 l

-5 to -30 °C

**FROSTER-LABEX-320**

330 litres
 app. -5 °C to -30 °C
 4
 220 – 240 V, 50 Hz
 540 Watts
 4,58 kWh/24 h
 w x d x h = 74 x 77 x 149 cm
 w x d x h = 59,5 x 53 x 95 cm
 (usable depth 12 cm less)
 w x d = 74 x 141 cm
 57 x 42 cm
 –
 –/40 kg
 net 120 kg, gross 135 kg

FROSTER-LABEX-520

500 litres
 app. -5 °C to -30 °C
 5
 220 – 240 V, 50 Hz
 610 Watts
 7,6 kWh/24 h
 w x d x h = 77 x 76 x 193-196 cm
 w x d x h = 60 x 57 x 140 cm
 (usable depth 12 cm less)
 w x d = 77 x 144 cm
 59,7 x 45 cm
 w x d x h = 57,4 x 40 x 5,6 cm
 24 kg/40 kg
 net 140 kg, gross 170 kg

FROSTER-LABEX-720

700 litres
 app. -5 °C to -30 °C
 5
 220 – 240 V, 50 Hz
 640 Watts
 8,7 kWh/24 h
 w x d x h = 77 x 97 x 193-196 cm
 w x d x h = 60 x 78 x 140 cm
 (usable depth 13 cm less)
 w x d = 77 x 165 cm
 59,7 x 65 cm
 –
 –/40 kg
 net 165 kg, gross 200 kg

Equipment

PC-KIT

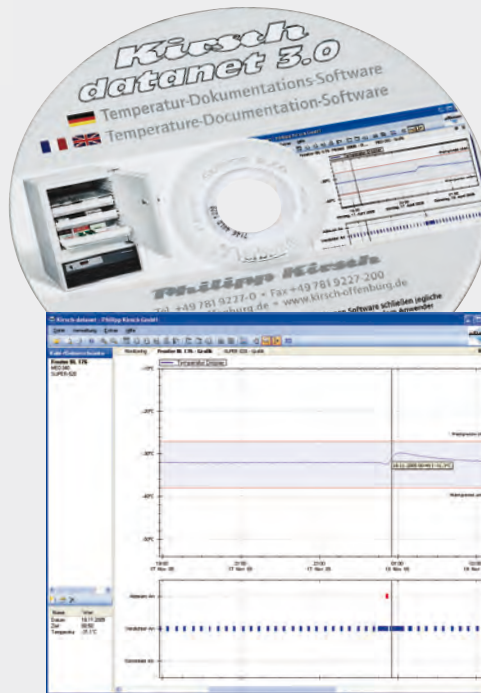
For temperature documentation

- Analysis / Monitoring
- With the single-user version, the gateway is connected to the PC through a USB interface. The network version is connected to the existing network port using Ethernet cable.
- Interface RS 485
- An integrated rechargeable battery guarantees that the data continues to be recorded for up to 72 hours in the case of a power-outage.

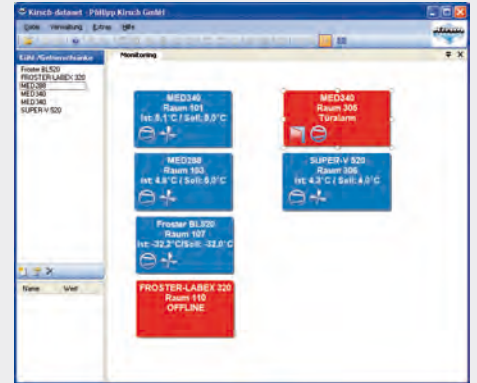
Temperature evaluation, monitoring and documentation as a single-user version or for integration in an existing network: simple, fast and Windows-compatible

the Kirsch-datanet captures, evaluates and documents recorded data – a program for capturing and visualising analogue and digital measurement data. The recorded data can be exported to other programs and send by e-mail.

You will find an overview of the most important program parts inside the brochure or on our website www.kirsch-offenburg.de. Full instructions are included on the CD.



Program window overview



Monitoring

DISC-TYPE PEN-RECORDING THERMOMETER

Disc-type pen-recording thermometer

- Installed permanently in the refrigerator or freezer
- Independent of mains supply
- Measuring range: -35 °C to +15 °C or -60 °C to +25 °C
- 7-day-period



PEN-RECORDING THERMOMETER

Pen-recording thermometer

- Placing loosely inside appliance
- No installation work necessary
- Independent of mains supply
- Measuring range: -40 °C to +25 °C
- Maximum range of recording period per strip: 32 days



TEMPERATURE DOCUMENTATION

Preparation for recording temperatures externally

A 4-wire PT-sensor that complies with DIN IEC 751, class 1/3 B is used here. Via appropriate interfaces on site, e.g. RS 232, the sensor can be connected to a computer system or another local temperature analysis unit.



GSM-MODULE

Transmission of alarm messages by SMS

- An optical and acoustic alarm is triggered and an SMS alarm message is sent.
- Freely definable SMS text messages
- Buffer of 72 hours in case of power-failure
- An activated SIM card is needed.

The GSM module enables the transmission of alarm messages by mobile phone or fixed network, using SMS. An activated SIM card is needed for this. There must be sufficient reception strength at the installation location.

The connection to the GSM module is done via potential-free contact in a refrigerator or freezer. The GSM module has two digital inputs allowing two refrigerators or freezers to be connected at the same time.

Minimum and maximum temperature limits between $-50\text{ }^{\circ}\text{C}$ and $+50\text{ }^{\circ}\text{C}$ can be assigned to the analogue input and an alarm is triggered if the temperature goes below or above the limit respectively. The alarm profiles and SMS message texts are assigned in the same way as digital inputs. One of three profiles is assigned to the two digital inputs. Each SMS message text can be considered with a maximum length of 100 characters.

The module is equipped with an exchangeable li-ion battery to buffer the unit in the case of a power-failure.

You will find an elaborated description on our GSM module flyer or on our following website: www.kirsch-offenburg.de.



COOLING MACHINES

Cooling machines with cold water connection

There are cooling machines with heat exchanger for cold water connection available for some models for special cases.



CASTORS

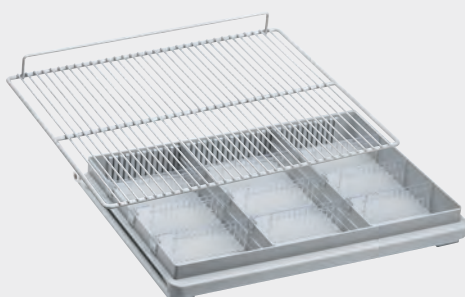
Castors



INTERIOR EQUIPMENT

Shelves / Drawers

The sturdy PE-coated wire shelves have a loading-bearing capacity of approx. 40 Kg. The height of some of the model-specific optimized drawers can be adjusted, and they have adjustable depth and width spacers. Thus ensuring tidy, clearly arranged storage.



SPECIAL ACCESSORIES

Special accessories

The special accessories are numerous and cannot all be listed here. Just let us know what you need and we will try to accommodate your request.

Phone: 0049-781-9227-0

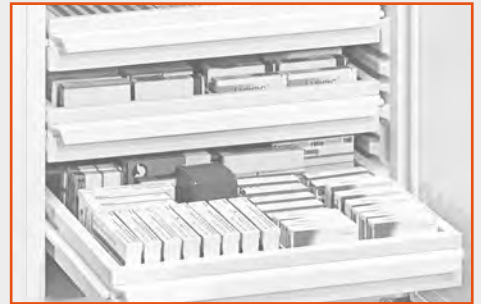




- Laboratory Refrigerators/
Freezers
- Refrigerators and Freezers
with explosion-proof interior



- Blood Bank Refrigerators
- Blood Plasma Freezers



- Pharmaceutical Refrigerators /
Freezers

Philipp Kirsch

FOUNDED 1865
MANUFACTURER OF REFRIGERATION
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We have made every effort to describe the appliances in this catalogue in an understandable manner. We appreciate the fact that despite the accuracy and care taken in compiling the catalogue – further questions may arise in practice in connection with these top-quality technical products. Please call us if you have any further queries; we are confident that we will be able to help you. In addition, we work constantly on the further development of all our types and models and we are therefore sure you will appreciate that our product descriptions are subject to design, equipment and technical changes.