



# BlueLine

## KFCE series

horizontal freezers at  $-20\text{ }^{\circ}\text{C}$   $-30\text{ }^{\circ}\text{C}$

Elite line



Green ICE



KW Antibacteria





**KFCE series**  
**horizontal freezers at -20 °C -30 °C Elite line**



**KFCE 600**



**KFCE 600  
aperto**

# KFCE series

## horizontal freezers at -20 °C -30 °C Elite line

KW offers this new series, featured by a wide range of volumes and a **well-type structure characterized** by an **exceptional 100-mm.** insulation thickness. This allows long preservation times in case of blackout. The fully sealed execution of the refrigerating circuit and the use of airtight compressors make these **freezers a very silent and reliable option, even in critical environmental conditions. The materials and the fluids being used are all environmentally friendly**, and particular attention is paid to problems dealing with the ozone layer and greenhouse effect. In this regard, power consumption is truly reduced: depending on the model, it can go from 0.40 to 0.67 kWh/24h, with the exception of model KFCE600.

**Standard instrumentation** is typical for a **high-end** professional scientific freezer, with an **electronic digital temperature monitoring system, SLC, including LED digital display, T min./max. alarms, and contacts for remote alarm signalling.**

**Doors closed with lock and key and refrigeration with evaporators outside the tank make for very secure laboratory equipment, both in terms of access and stability and uniformity of the conservation temperature** -thus there is no need for defrosting.

A broad range of accessories allow users to customize the freezers to suit their needs.

**The external STRUCTURE is made of white-enamelled** steel sheets treated with epoxy resin and a rounded profile, internal aluminium casing, with the exception of model KFCE600, which is in AISI 304.

**Super insulation with a thickness of 100 mm** (with the exception of model KFCE600) in CFC- and HCFC-free foamed polyurethane; this guarantees:

- long duration for the preservation of frozen biological material in case of power interruptions

- very reduced power consumption from 0.40 to 0.67 kWh/24h, with the exception of model KFCE600.

Airtight compressor and evaporator attached to the outside of the tank.

The series comes with key lock, internal lighting, and a device to send hot air outside to take out any humidity that may have gotten inside, which prevents the formation of frost and allows opening the door repeatedly without any effort.

**The SLC CONTROL PANEL** brings together a simple, modern design and great ease of use. Electronic devices keep the set value reliably and accurately; the digital LED display allows fast monitoring of T values inside the compartment. This monitoring also guarantees the total safety of the stored biological material, including sound (buzzer that can be muted) and visual alarms; they rapidly inform users about undesirable T variations, and with the remote alarm kit these signals can be sent to other sites.

It is also possible (optional) to have power failure alarms, with DC power supply through switching or a 12 VDC, 2.3 Ah battery. The control panel is already implemented for the (optional) installation of a T recorder.

The same series is available with the NIA control system.

The new control **GLC** (Golden Line Control) will take the place of **SLC** (see **GLC** release)

### KFCE horizontal freezers

Model	Capacity in litres	External measurements (WXDXH)	Baskets	Average power consumed in Kw	Weight (Kg.)
KFCE210	210	100x76x92	3	0,12	60
KFCE300	300	129x76x92	4	0,13	70
KFCE460	460	165x81x92	5	0,13	87
KFCE600 (*)	600	163x74x97	3	0,15	85

(\*) Internal tank in AISI 304 stainless steel

Internal T between -18 °C and -30 °C.

Power supply: Volt 220/50/1

T is guaranteed with room T up to +32 °C

Equipment complies with CEI 66-5 - UNI EN 61010-1 standards



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## horizontal freezers at -20 °C -30 °C Elite line

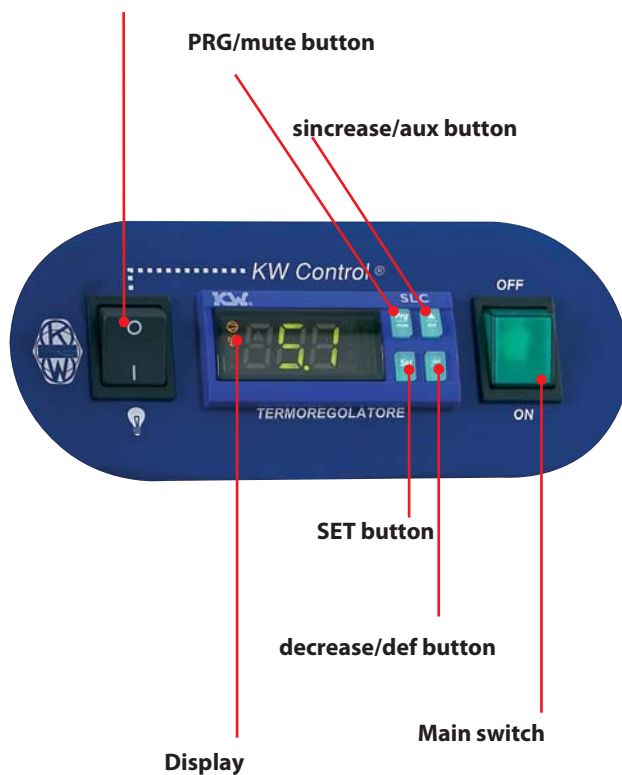
KW distributes the **KFCE** line with two possible control systems, known by the initials **SLC** (Silver Line Control) and **NIA** (New Ice Age).

The new control **GLC** (Golden Line Control) will take the place of **SLC** (see **GLC** release)

### • SLC (Silver Line Control) system

**Electronic digital thermoregulator specific for industrial and laboratory refrigeration: IP65 protection level**

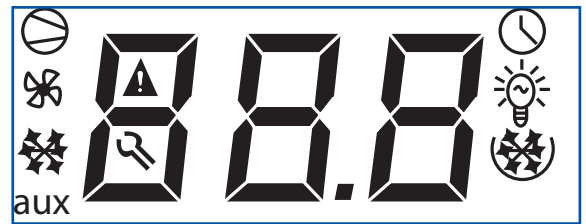
**ON button, internal lights in version V (glass door)**



- **PRG button**, to configure parameters, mute the buzzer, etc.
- **SET button**, to modify the set point and for configuration
- **▼ decrease/def button**, to modify parameters and manual defrost
- **▲ increase/aux button**, to modify parameters and for auxiliary functions

### Keyboard and display

4-key keyboard with menu structure and LED display, 2+1/2 digits with automatic digital point (between -19.9 °C and +19.9 °C), marked; perfectly visible with natural or artificial light from any angle.



### Input

- 2 analog for NTC sensors (thermostabilization sensor, evaporator sensor for defrost management)
- 2 digital, multi-function (power failure and door open alarms)

### Configuration

- keyboard, remote command, or PC

### Options

- serial remote command card

### Parameters

Parameters are organized into two levels:  
 First level: frequent parameters that can be accessed without the need for a PASSWORD (set point).  
 Second level: configuration parameters that can only be accessed with a PASSWORD allowing modifications to be made.

### Refrigeration

The control operates on the REFRIGERATION SYSTEM in order to maintain the set temperature.  
 The user can control its operation by means of the ICONS on the control panel.

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### Visual alarms:

#### SENSOR ALARMS

In case of temperature alarm breakdown or failure.

#### TEMPERATURE ALARM

If, for any reason, the temperature starts increasing or decreasing until it falls outside the allowed range (configured with respect to the defined set point), the internal timer is activated (configurable alarm delay, 30 minutes by default but the value can be modified upon customer request); after this period the TEMPERATURE ALARM activates both visual and sound (BUZZER) alerts, and at the same time activates the remote alarm contact to send, if connected, a warning to the user regarding the failure.

#### DOOR OPEN ALARM (optional)

2 minutes (standard time, but configurable upon user request) after the door is opened, the display shows the word "DOOR" and the BUZZER sounds; the internal fan starts, because if the door was "incompletely" closed restarting ventilation allows keeping the internal temperature at acceptable levels: in the meantime, under user supervision, the remote alarm contact is activated to warn the operator if the equipment has a remote connection.

#### POWER FAILURE ALARM (optional)

When the equipment is furnished with a backup battery, it is possible to visualize the temperature reading, even if there is no power supply to the laboratory, for several hours. The internal buzzer and remote alarm signalling also remain active. The letters "DA" appear on the display, and the BUZZER starts sounding.

Please bear in mind that the backup battery, 12V 2.3 Ah, has a life of 2-3 years.

KW recommends verifying battery power about every six months.

**Standard equipment includes a connector for remote alarm towards the user.**

[For all details about the new control **GLC** (Golden Line Control) please see pag. 166]

#### • NIA (New Ice Age Control) system

This is an evolution in terms of quality regarding the management of refrigerating machines.

**REGULATION, SUPERVISION AND RECORDING IN A SINGLE CONTROL**

*See detailed explanations in the chapter  
NEW ICE AGE COMPACT KW CONTROL.*

#### ACCESSORIES:

- **Pivoting/Fixed wheel kit**
- **Door open alarm**
- **Visual/Sound power failure alarm, 12-VDC** power supply with backup battery (estimated duration, 3 years)
- **Disk recorder with weekly cycle and 1.5 VDC battery power supply**
- **Electronic strip chart recorder, with RTD Pt 100  $\Omega$  input;** other video graphical recorders available upon specific request

- KW introduce the new Electronic Controller **TOUCH RECORDER KW** integrated in the KW panel, with battery power supply and Pt 100 probe.



With the option of independent high/low T alarms and Energy Fault alarm, which can be remote managed.



USB data logger with own compatible software and data storage on personal or main computer.

- **Additional RTD Pt 100  $\Omega$  sensor** to connect to an external system for the acquisition and recording of T values, such as KW SPY® or similar.
- **Additional RTD Pt 100  $\Omega$  sensor complete** with 4-20 mA converter mounted on a DIN bar to connect to an external recording system
- **Internal-external through-hole with rubber stopper**
- **Closure of the command panel in plastic material**
- **Remote alarm device**
- **Cryogenic gloves**
- **Voltage regulator**
- **Application of the NIA control system**











On this equipment series it is possible to carry out activities such as I. Q. (Installation Qualification) and O. Q. (Operational Qualification); please contact KW's Commercial Office for an assessment of the costs entailed by such activities.

KW is also available for ISO calibration certification services for the comparison of primary SIT samples.

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-  = min./max temperature alarm
-  = Internal light
-  = DATA LOGGER function
-  = energy failure alarm
-  = Alarm broken down probe
-  = Open door alarm
-  = Lock
-  = Disaster Recovery / Safety Control
-  = Temperature recorder
-  = Wheels



**Cold storage equipment**



**Incubation and microbiological test equipment**



**Ovens, drying and sterilizing equipment**



**Maintenance, IQ, OQ, PQ, hardware and software for equipment management**



**Medical devices for transfusion centres**



ISO 9001:2008



ISO 13485:2003



ISO 14001:2004



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