

BLUE
line

KFS - KRFS



Laboratory Freezers -10°C / -30°C

A new standard for the modern laboratory



**APPARECCHI
SCIENTIFICI**

Technologies for life sciences

the Company

KW is one of the most dynamic and innovative companies, leader in the design and production of controlled temperature devices down to -90°C , which stands out for its high reliability, wide range and customization capabilities. The company has a strong experience in the scientific equipment segment, also with "medical devices" certification, and a large network of sales and after-sales service centers. Thanks to the continuous investments in organization and technologies, KW has achieved a significant improvement in positioning as a leader in the sector.



Industry 4.0

The company adopts the principles of interconnection of resources to offer the highest quality of processes and products. The devices are equipped with monitoring and connection systems that allow remote support and maintenance. The "KW total assistance" service (thanks to our worldwide service network, where present) allows to delegate the management of the machines to ensure maximum safety of storage.

mission

The Company aims at a continuous improvement of products and process performances to offer the best technological solutions to the medical field, technical-scientific research and industry sectors.

KFS – KRFS

Laboratory freezers



The KFS-KRFS line is a new standard in low temperature refrigeration (down to -30°C) for laboratory: very advanced refrigeration technology with internal ventilation and without defrost problems, low energy consumption, digital electronic instrumentation with numerous alarms for use in maximum safety, designed for very demanding users and for a quality certified laboratory. The line consists of a series of medical vertical freezers and a fridge-freezer for the conservation of biological samples.

structure and system

Reversible door (even after installation), magnetic gasket, automatic closing and safety lock (optional electric lock with access via PIN or RFID tag). Equipped with an ergonomic handle that is easy to open with one hand. The refrigerator-freezer can be equipped with two solid doors or with one glass door (refrigerator) and one solid door (freezer).

Insulation obtained on single body foamed cabinet, free of thermal bridges and joints. Insulation with high density polyurethane foam ($\lambda=18\text{mW/m}^2\text{K}$) and totally ecological. Average thickness 90mm, uniform on all sides to ensure an optimal temperature for a better preservation of the product, less dispersion and greater energy savings.

Ventilated refrigeration with uniform temperature thanks to a hermetic compressor, very silent, with high efficiency and low energy consumption. Ecological refrigerants, natural and environmentally friendly with ODP=0 and GWP=0, refrigerant system compliant with the F-GAS regulation to reduce the environmental footprint.

Shelves and drawers in AISI 304 stainless steel, anti-tipping and removable for maximum comfort.

External structure and door in pre-painted steel sheet or in AISI 304 stainless steel (Optional), for better hygiene and cleaning of the device. Internal structure in AISI 304 stainless steel.

Several special functions are available to maximize device performance and reliability

Safety control

The system keeps working even in case of temperature probe's fault

Disaster recovery

The system keeps working even in case of a CPU fault

Info test

The functional test of the refrigeration equipment is performed at the end of the production process and/or after important maintenance activities

Environmental adaptability

Condenser fan speed modulation within a range of temperatures or pressures

Energy saving

Economic management of power consumption (Night & Day) with the possibility of raising the set point temperature during the night by a predefined value. This function guarantees an average energy saving of 15% compared to standard use

alarms and special functions

The system is equipped with several alarms to maximize the safety of the stored material.

All alarms include an acoustic and visual signal on the controller display. The temperature alarm system is independent from the regulation and control system and the temperature reading, recorded with a dedicated probe, is managed by a second dedicated processor.

Following alarms are available:

- Min/max temperature
- Open door with customizable activation delay
- Power fault with backup battery
- High condensation pressure
- Low charge of backup battery
- Faulty probe
- Faulty compressor
- High condensation temperature and dirty condenser



KFS

- Capacity from 100 to 600 liters
- Excellent insulation with 90mm of PUR foam
- Solid door
- Internal/External pass-through hole for additional data logger
- Use of two independent probes (PT100), one for temperature recording and alarms, one for temperature on/off regulation
- Weekly cycle chart disk recorder (Optional)
- Remote contacts to be connected to control systems
- Four pivoting wheels, two with brake
- Maximum daily power consumption 7kWh/24h (-20°C) or 9kWh/24h (-30°C)

KRFS

- Capacity 235 liters (refrigerator) and 140 liters (freezer)
- Excellent insulation with 90mm of PUR foam
- Two solid doors or one solid door (freezer) and one tempered double layer anti-fog glass door (refrigerator)
- Internal LED light
- Two internal/external pass-through holes for additional data logger
- Automatic air defrost with condensation water evaporation (refrigerator)
- Use of two independent probes (PT100), one for temperature recording and alarms, one for temperature on/off regulation
- Weekly cycle chart disk recorder (Optional)
- Remote contacts to be connected to control systems
- Four pivoting wheels, two with brake
- Maximum daily power consumption 4,2kWh/24h

controller

Thanks to the integration capabilities of our controllers and Cloud management is possible to control and assist remotely the complete network of systems. Safety is granted by email/notification alerts in case of any fault or problem.

HTS

- 5" or 7" TFT touch screen display
- Data Logger capabilities for temperature and alarms
- Internet connectivity
- Wi-Fi capabilities
- Cloud management
- USB port



optional

- LAN connection
- Electric lock for door opening with PIN/badge
- Wi-Fi router
- GSM module

Cloud management
of systems equipped
with HTS controller





technical specifications

		KFS 100	KFS 250	KFS 400	KFS 600
TECHNICAL CHARACTERISTICS					
CAPACITY		127lt	254lt	402lt	600lt
TEMPERATURE RANGE		-10°C/-30°C	-10°C/-30°C	-10°C/-30°C	-10°C/-30°C
REFRIGERANT		R290	R290	R290	R290
POWER SUPPLY		230V/50Hz	230V/50Hz	230V/50Hz	230V/50Hz
ELECTRICAL POWER (TAMB 25°C)		135W	230W	480W	600W
		3,12kWh/24h	4,5kWh/24h	6,2kWh/24h	9kWh/24h
NOISE LEVEL (SOUND PRESSURE LEVEL, 1M)		<45dB(A)	<45dB(A)	<45dB(A)	<45dB(A)
STRUCTURE					
INTERNAL SURFACE	AISI 304 Stainless Steel	X	X	X	X
EXTERNAL SURFACE	Antibacterial White Pre-painted Steel Sheet	X	X	X	X
	AISI 304 Stainless Steel	Optional	Optional	Optional	Optional
EXTERNAL SIZES LXPXH MM		710 x 790 x 832	730 x 800 x 1448	730 x 800 x 1938	730 x 934 x 1985
INTERNAL SIZES LXPXH MM		550 x 550 x 420	550 x 550 x 840	550 x 550 x 1330	550 x 744 x 1425
WEIGHT		45Kg	70Kg	130Kg	195Kg
INSULATION (PUR FOAM)		90mm	90mm	90mm	90mm
DEFROST		-	-	-	-
DOOR	TYPE	Solid	Solid	Solid	Solid
INTERNAL CHARACTERISTICS	SHELVES/DRAWERS	3	5	8	5
CONTROLLER	HTS	X	X	X	X
CONNECTIVITY	WI-FI	Optional	Optional	Optional	Optional
	TCP/IP (MODBUS PROTOCOL)	Optional	Optional	Optional	Optional

		KRFS 2515CC	KRFS 2515VC
TECHNICAL CHARACTERISTICS			
CAPACITY		R 235lt	R 235lt
		F 140lt	F 140lt
TEMPERATURE RANGE		R 0°C/+10°C	R 0°C/+10°C
		F -10°C/-30°C	F -10°C/-30°C
REFRIGERANT		R600/R290	R600/R290
POWER SUPPLY		230V/50Hz	230V/50Hz
ELECTRICAL POWER (TAMB 25°C)		365W	365W
		4,2kWh/24h	4,2kWh/24h
NOISE LEVEL (SOUND PRESSURE LEVEL, 1M)		<45dB(A)	<45dB(A)
STRUCTURE			
INTERNAL SURFACE	AISI 304 Stainless Steel	X	X
EXTERNAL SURFACE	Antibacterial White Pre-painted Steel Sheet	X	X
	AISI 304 Stainless Steel	-	-
EXTERNAL SIZES LXPXH MM		730 x 766,5 x 2105	730 x 766,5 x 2105
INTERNAL SIZES LXPXH MM		R 550x550x775	R 550x550x775
		F 550x550x465	F 550x550x465
WEIGHT		115Kg	115Kg
INSULATION (PUR FOAM)		90mm	90mm
DEFROST		-	-
DOORS	TYPE	R Solid	R Glass
		F Solid	F Solid
	NUMBER	2	2
INTERNAL CHARACTERISTICS	SHELVES/DRAWERS	3 + 2	3 + 2
CONTROLLER	HTS	X	X
CONNECTIVITY	WI-FI	Optional	Optional
	TCP/IP (MODBUS PROTOCOL)	Optional	Optional

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KW Apparecchi Scientifici S.r.l.
Via della Resistenza, 117-119
53035 Monteriggioni, Siena, Italy
Email sales@kwkw.it
Tel +39-0577-309143/5
Fax +39-0577-309142

Made in Italy