KW APPARECCHI SCIENTIFICI

Technical Data Sheet
ULT Freezer -86°C

MANUFACTURER
KW Apparecchi Scientifici S.r.l.
Via della Resistenza 119 - 53035 Monteriggioni (SI) - Italy
MODEL
K54ES HPL IN
Chest Type Ultra-low Temperature Freezer

TECHNICAL CHARACTERISTICS	
Storage Volume	334 lt
Boxes (h=2") Capacity	192 (with full load of 24 racks)
Temperature Range	-40°C / -86°C
Climate Class	N
Power Supply	220V-230V / 1 / 50-60Hz
Power Consumption	0,6 kW (1,2 kW with booster function)
Noise Level	< 52 dB

STRUCTURE			
Internal Surface	Stainless Steel AISI 304	Door Lock	Closing hooks with key lock
External Surface	White pre-painted steel sheet	Insulation	140 mm (High density PUR foam)
External Dimensions	150 W x 87 D x 127 H cm	Inner Doors	2
Internal Dimensions	124 W x 49 D x 55 H cm	Door Type	One wing, solid type
Weight	280 kg	Door Sealing	Heated triple silicone gasket
Shipping Size (with wooden crate)	200 W x 110 D x 170 H cm	Standard Equipment	4 pivoting wheels (front wheels w/brake)
	380 kg		Int/Ext pass-through hole
Int/Ext Edges	Rounded for easy cleaning		Pressure compensation valve

REFRIGERATION SYSTEM				
Cooling System	Double independent refrig. systems (4 compressors + 2 evaporators) arranged in cascade			
	Alternate operation with fully automatic management			
	The life span of the engines has almost doubled, with mechanical wear being halved			
	If one system fails, the control system signals the event and excludes the system in failure			
Refrigerant Gases	1° Stage	R1270	2° Stage	R170
Evaporating System	Copper tube coil thermally connected to the outer peripheral surface of the inner case			
Condensing System	Air-type high-surface condenser, for forced air circulation			
Defrost	Manual			

DIGITAL CONTROL SYSTEM		
HPL (High Performance Line)		
Display	Display touch-screen TFT 7" - Microprocessor ARM9 technology (n°2 indipendent motherboards)	
T Regulation Accuracy	± 0.1°C	
Thermal Probes	n.2 thermal probes RTD Pt100 class A (n.1 for thermoregulation - n.1 for T alarm)	
Available Languages	Italian / English / French / Spanish / German	
Data Recording Format	SQLite (Tracer® software included for data reading)	
Access Control	Access to controller functions via safety password	
Maintenance	Possibility to connect remotely via IP address	
Special Functions	Real-time temperature graph on display	
	Disaster recovery (the freezer continues to run even in the event of a CPU failure)	
	Safety control (the freezer continues to operate even if the control probe breaks)	
	Data logger function (Automatic recording of temperatures and alarms)	
	Key test (the user can simulate alarm conditions with a simple key pressure)	
	Info test (The functional test performed in the factory can be repeated by the user)	
Connectivity	USB port	Ethernet port
	SD Card port	Dry contacts for remote alarms
Alarms List (Audio/Visual)	High/Low temperature	Faulty probes
	Power failure alarm with back-up battery	Compressor timing failure
	Door open	High temperature condenser
	High condenser pressure	Dirty condenser
	Battery failure	Communication failure with motherboards
	Pressure switch intervention failure	Pressure transducer intervention failure

OPTIONAL ACCESSORIES AVAILABLE ON REQUEST	
24V CO2 backup system for mechanical failure	Additional RTD Pt 100 probe
24V LN2 backup system for mechanical failure	Additional RTD Pt 100 probe with 4-20mA converter
12V CO2 backup system for mechanical/electric failure	Weekly cycle chart disk recorder (n°52 spare disks included)
12V LN2 backup system for mechanical/electric failure	Strip-chart electronic recorder
Water condensing device with automatic barostatic valve	GSM Module and SIM Card port activation
4000VA power voltage stabilizer	Electric lock for door opening through PIN/Transponder/Finger print
Additional shelf in AISI 304 stainless steel	Wi-Fi router
Transparent panel for display cover	