



BIOMEDICAL

ULTF 500

ULT TECHNICAL SPECIFICATIONS

The ultra low temperature long term freezer guarantees secure preservation of samples at -90°C. It offers low energy consumption and user-friendly operation.



Product Type		ULT (230V)
Color code handle / Color code housing		RAL 9003 / RAL 9003
MEASURES		
Interior volume [L]		477
Net weight of the unit (empty) [kg]		247
Permitted load [kg]		200
Permitted load of individual compartment (kg)		50
Wall clearance back [mm]		100
Wall clearance sidewise [mm]		250
Mobility		4 wheels, 2 w. lock
INTERNAL DIMENSIONS		
Interior width [mm]		606
Interior height [mm]		1300
Interior depth [mm]		605
DOORS		
Inner doors		2
Unit doors		1
HOUSING DIMENSIONS NOT INCL. FITTINGS AND CONNECTIONS		
Width net [mm]		826
Height net [mm]		1966
Depth net [mm]		938
PERFORMANCE DATA TEMPERATURE		
Temperature range [°C]		-90...-40
Temperature variation at -80 °C [± K]		2.5
Temperature fluctuation at -80 °C [± K]		1.5
Cooling down time (min) from 22 °C to -80 °C		360
Warm-up time during power failure from -80 °C / -122 °F to -60 °C / -76 °F [min]		230
ELECTRICAL DATA		
Rated Voltage [V]		230
Power frequency [Hz]		50
Nominal power [kW]		1.6
Unit fuse [A]		10
Power plug standard		2m C13 CEE 7/7
Phase (Nominal voltage)		1~



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ENVIRONMENT SPECIFIC DATA	
Energy consumption at set-point -80 °C (kWh/24h)	7,9
Average heat dissipation at set-point (-80°C, Amb. 20°C)(W)	330
Sound-pressure level [dB(A)]	47
LOAD-VARIANTS	
Freezer racks per compartment	4
Cryoboxes, 50 mm	352
FEATURES	
Alarm system, batterybacked	standard
Foam filled compartmen door	standard
Battery back-up system CO2 (fully independent system)	option
Shipping pallet (extra specified pallet)	option(no additional article numbers; only on request)
FIXTURES	
Shelves included/max. no. of shelves	3/13
ACCESSORIES	
5m power cable	C 13 BS 1363 British plug – 5023-0285
	C 13 CEE 7/7 European plug – 5023-0283
	C 13 type 13 Swiss plug – 5023-0284
Deicing kit consisting of de-icing tray, wiper and scraper	8012-1900
Grid shelf - For temperature range -40 °C to -60 °C, 3 provided in set, including shelf supports	8012-1903
Shelf, Incl. shelf supports, stainless steel	8012-1901
WLAN kit, wireless connection between ULT units and APT-COM4, LIMS or customer solution.	8012-2262
STANDARDS & APPROVALS	
Energy Star certified (3rd part)	yes
Machinery directive (EN ISO 12100, EN ISO 13732-3, EN60204-1)	yes
Applied voluntarily: EN61010-1, EN61010-2-11 (if wished, this could also be listed in the CE DoC)	
Electromagnetic Compability Directive 2014/30/EU (EN 61326-1)	yes
RoHS Directive (EN IEC 63000:2018)	
Compliant with DIN 13277	Only partly. ULTs are validated referring to DIN DIN 12880; 2007-05
LABORATORY TEST MEASUREMENTS	
Pull down	360 min
Noise level	47dBA
Warm-up time by power failure	250 min
Temperature variation	2,5 K
Temperaturre flucturation	1,5 K
Energy consumption	7,9 kW/24h



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SELLING POINTS

Lowest energy consumption in its class	7,9
Environmentally-friendly refrigerants	R290/R170
Thermal insulation with unique long-life VIPs	vacuum insulation panels
Rust proof interior	Stainless steel 1.4016 grade
Individual safety concept	option
Temperature range [°C]	-90 °C to -40 °C
Compressor cooling	cascade
Innovative door gasket	reduce ice built-up
Detachable inner doors	stainless steel
Zero-voltage alarm contact	in-house alarm system
Internal data logger	USB read out
Ethernet interface	yes
Access ports	2x Ø28mm rear
Shipping pallet	without forklift
Packaging	Recyclable
Powder-coating	Solvent free
Recovery time after 1 min door opening (to -80°C)	~ 18 minutes (empty)

