



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.



<b>Product Type</b>		ULT (230V)
<b>Color code handle / Color code housing</b>		RAL 9003 / RAL 9003
<b>MEASURES</b>		
<b>Interior volume, L</b>		477
<b>Net weight of the unit (empty), kg</b>		247
<b>Permitted load, kg</b>		200
<b>Permitted load of individual compartment, kg</b>		50
<b>Wall clearance back, mm</b>		100
<b>Wall clearance sidewise, mm</b>		250
<b>Mobility</b>		4 wheels, 2 w. lock
<b>INTERNAL DIMENSIONS</b>		
<b>Interior width, mm</b>		606
<b>Interior height, mm</b>		1300
<b>Interior depth, mm</b>		605
<b>DOORS</b>		
<b>Inner doors</b>		2
<b>Unit doors</b>		1
<b>HOUSING DIMENSIONS NOT INCL. FITTINGS AND CONNECTIONS</b>		
<b>Width net, mm</b>		826
<b>Height net, mm</b>		1966
<b>Depth net, mm</b>		938
<b>PERFORMANCE DATA TEMPERATURE</b>		
<b>Temperature range, °C</b>		-90...-40
<b>Temperature variation at -80 °C, ± K</b>		2.5
<b>Temperature fluctuation at -80 °C, ± K</b>		1.5
<b>Cooling down time (min) from 22 °C to -80 °C</b>		360
<b>Warm-up time during power failure from -80 °C / -122 °F to -60 °C / -76 °F (min)</b>		230
<b>ELECTRICAL DATA</b>		
<b>Rated Voltage, V</b>		230
<b>Power frequency, Hz</b>		50
<b>Nominal power, kW</b>		1.6
<b>Unit fuse, A</b>		10
<b>Power plug standard</b>		2m C13 CEE 7/7
<b>Phase (Nominal voltage)</b>		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, battery backed	Standard
Foam filled compartment door	Standard
Battery backup 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 Compatability 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
Temperature fluctuation	1,5 K
Energy consumption	7,9 kW/24h



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### SELLING POINTS

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

