



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>MEASURES</b>	
Product Type	ULT (230V)
Color code handle / Color code housing	RAL 9003 / RAL 9003
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
<b>INTERNAL DIMENSIONS</b>	
Interior width, mm	606
Interior height, mm	1300
Interior depth, mm	605
<b>DOORS</b>	
Inner doors	2
Unit doors	1
<b>HOUSING DIMENSIONS NOT INCL. FITTINGS AND CONNECTIONS</b>	
Width net, mm	826
Height net, mm	1966
Depth net, mm	938
<b>PERFORMANCE DATA TEMPERATURE</b>	
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
<b>ELECTRICAL DATA</b>	
Rated Voltage, V	230 / 120
Power frequency, Hz	50 / 60
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, 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)

