

Biomedical

ULTF-C383i



ULTF-C383i

-20°C to -86°C Ultra Low temperature freezer

The chest design is an economical choice, that preserves cold well due to the horizontal lid.

Featuring the ETR-System™ (*Extended Temperature Range*) the unit can operate within -20°C to -86°C, giving you flexibility to adjust the cooling to your specific needs, or to save energy reducing both operation costs & carbon emission. Our biomedical appliances offer a reliable solution for users seeking industry leading cooling performance and high operation stability.

 **Complexity made simple**

 **Info center**



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Construction	Value
Dimension	831x1650x608 mm
Dimension inner	624x1400x440 mm
Weight	112 / 86 gross/net
Package weight	26 kg
Material inner cabinet	Painted steel Kg. gross/net
Material outer cabinet	Painted steel Kg. gross/net
Insulation type	Polyurethane with cyclopentane
Insulation thickness	80 mm
Type of packaging	Wooden box with a wooden pallet
Mobility	4x casters with brakes

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Storage ULT	Value
Volume	383 / 368 Gross/net
Cryoboxes "2	282
2 ml vials	28.200

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Features	Value
Lock	<input checked="" type="checkbox"/>
LED light	<input type="checkbox"/>
Battery backup	<input checked="" type="checkbox"/>
Porthole	<input checked="" type="checkbox"/>
Porthole size	12,5 mm
Dry contact	<input checked="" type="checkbox"/>
Vacuum valve	<input type="checkbox"/>
VIP (Vacuum Insulated Panel)	<input type="checkbox"/>

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Alarms	Value
High / Low temperature	✓
Open door	✓
Power failure	✓
Probe failure	✓

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Test	Value
Voltage	220 V
Frequence	50 Hz
Max ambient	30 °C
Max Humidity	65 %
Test condition	20

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Operation	Value
Temperature range	-20 to -86 °C
Unifromity in performance	1,1 °C
Pull down time (from test condition to fabric setpoint)	138 Minutes
Hold over time (from fabric SP to critical point)	69 Minutes
Noise	55 dB
Energy 24 hours	9,9 kWh/24h
Energy year	3634 kWh/anno
Instant Power Consumption	PD 0,810 - 0,600 / Stable 0,532 kW
Heat Rejection	670 W
K-Value	0,2 W/m ² k

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Cooling components	Value
Refrigerant/amount	Nature R 2 / 16l Type & gram
Number of compressors	1
Variable speed compressor	<input type="radio"/>
Internal air distribution (Type)	Static
Evaporator fan	<input type="radio"/>
Condensor fan	<input checked="" type="radio"/>
Number of probes	1
Defrost	<input type="radio"/>

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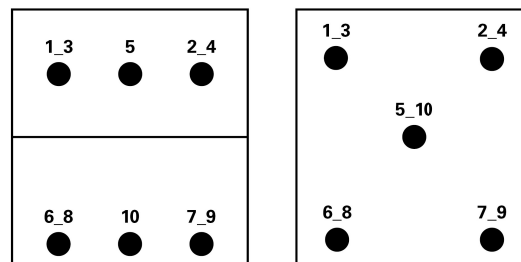
Controller	Value
USB Connection	Yes
Data connection	MODBUS
Controller abilities	Logging of data & alarms, touch screen
Controller languages	EN, DE, FR
Log numbers	More than a year
Temperature graph in controller	<input checked="" type="radio"/>

Temperature mapping

Test overview

Test type	10-point test
Test environment	Controlled conditions, empty cabinet
Ambient temperature	20°C
Humidity	60%
Set-point	-82°C
Sensors used	25gr tinned brass formed as a cylinder with a diameter of 15,2mm
Installation	Appliance installed according to instruction manual conditions
Refrigerant	Nature R 2

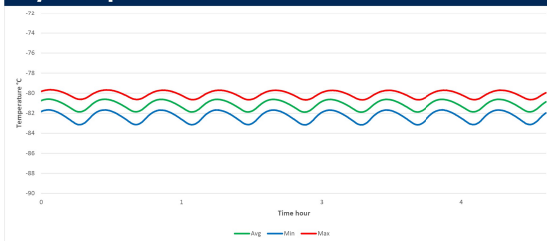
Sensor position



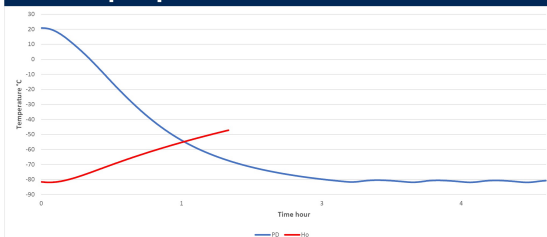
Sensor temperature

Sensor position	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Max.	-80,9	-81,5	-81,7	-80	-80,3	-79,9	-79,7	-80,7	-81,7	-80,8
Avg.	-81,5	-82,2	-82,3	-80,8	-80,8	-80,4	-80,1	-81,2	-81,7	-80,8
Min.	-82,3	-83	-83,2	-81,6	-81,5	-81	-80,7	-81,8	-82,5	-81,6

Cyclic operation



Warm up & pull down



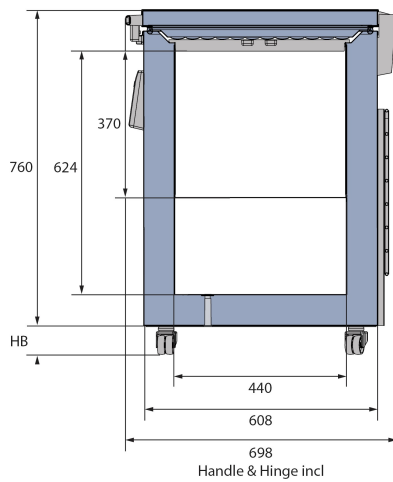
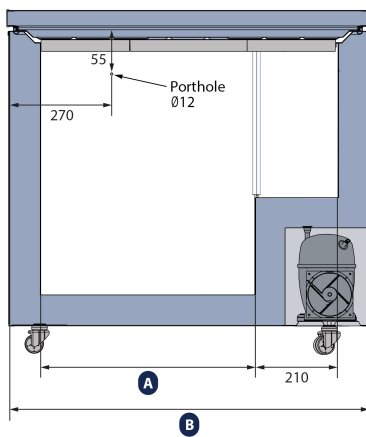
Typical performance data

Avg. cabinet temperature	-81,2°C
Peak variation from set-point	+/- 1,1°C
Stability in avg.	0,6°C
1 min. door open recovery to -75°C avg. temperature	<1 min.
Cycle rate on/off	25 / 7 min.
Duty cycle	75 %
Energy consumption - Normal mode	9,95 kWh/day
Energy consumption - Energy saving mode	7,42 kWh/day
Pull down time to -75°C avg. temperature	138 min.
Hold over time from -82°C to -60°C	69 min.
Heat rejection	670W

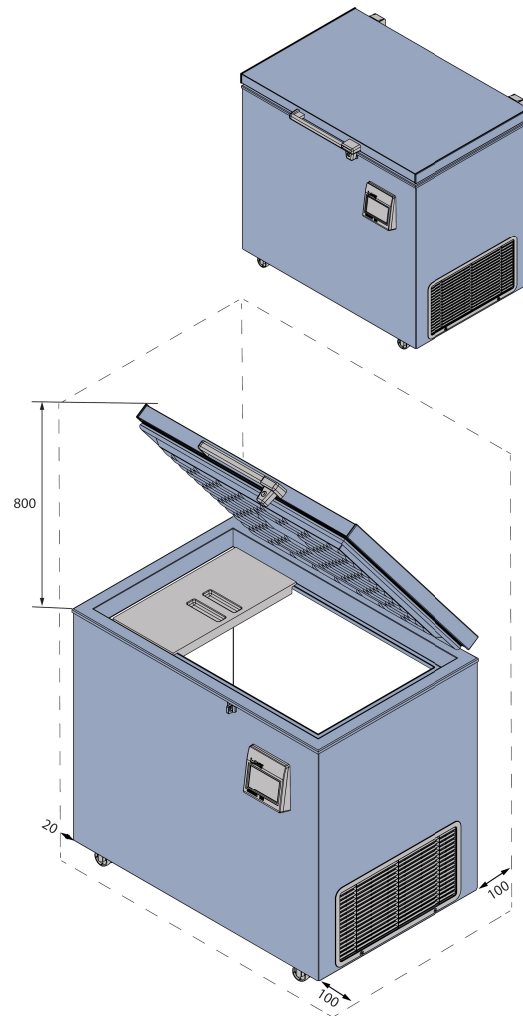
Dimensions

Model	A	B
ULTF-C198i	550	920
ULTF-C296i	890	1260
ULTF-C383i	1190	1560

All dimensions in millimeters



Handle & Hinge incl



HB: Height of base (HB is adjustable when given value is xx-xxx)

