

Biomedical

ULTF-C74i



ULTF-C74i

-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	921x550x550 mm
Dimension inner	450x390x390 mm
Weight	73 / 50 gross/net
Package weight	24 kg
Material inner cabinet	Painted steel Kg. gross/net
Material outer cabinet	Painted steel Kg. gross/net
Insulation type	Polyurethane with cyclopentane
Insulation thickness	50 mm
Type of packaging	Wooden box with a wooden pallet
Mobility	4x casters with brakes

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Storage ULT	Value
Volume	74 / 71 Gross/net
Cryoboxes "2	28
2 ml vials	2.800

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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	0,9 °C
Pull down time (from test condition to fabric setpoint)	72 Minutes
Hold over time (from fabric SP to critical point)	64 Minutes
Noise	54 dB
Energy 24 hours	5,3 kWh/24h
Energy year	1943 kWh/anno
Instant Power Consumption	PD 0,540 - 0,320 / Stable 0,340 kW
Heat Rejection	370 W
K-Value	0,19 W/m ² k

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Cooling components	Value
Refrigerant/amount	Nature R 2 / 121 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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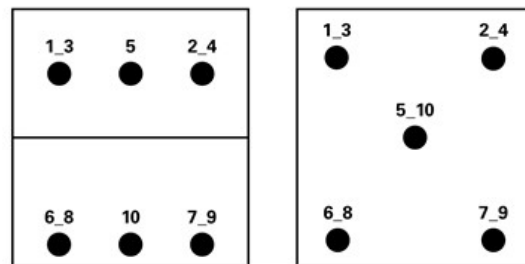
Controller	Value
Controller	i-CARE
USB Connection	Yes
Data connection	MODBUS
Controller abilities	Logging of data & alarms, touch screen
Controller languages	EN, DE, FR
Log numbers	More than a year
Temperature graph in controller	<input checked="" type="radio"/>

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

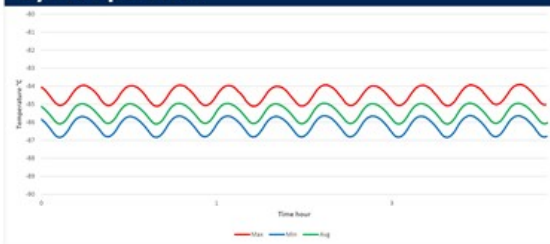
Sensor position



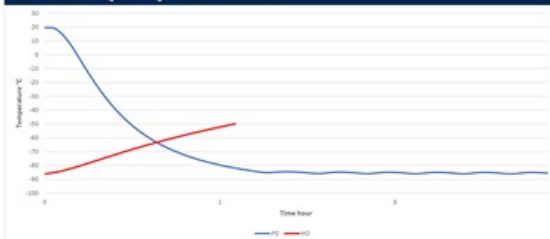
Sensor temperature

Sensor position	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Max.	-83,9	-85,3	-85,2	-84,9	-85,6	-85	-85	-84,5	-85	-84,6
Avg.	-84,5	-85,9	-85,8	-85,5	-86,2	-85,6	-85,5	-85	-85,6	-85,1
Min.	-85,1	-86,5	-86,2	-86,2	-86,9	-86,3	-86,3	-85,6	-86,3	-85,7

Cyclic operation



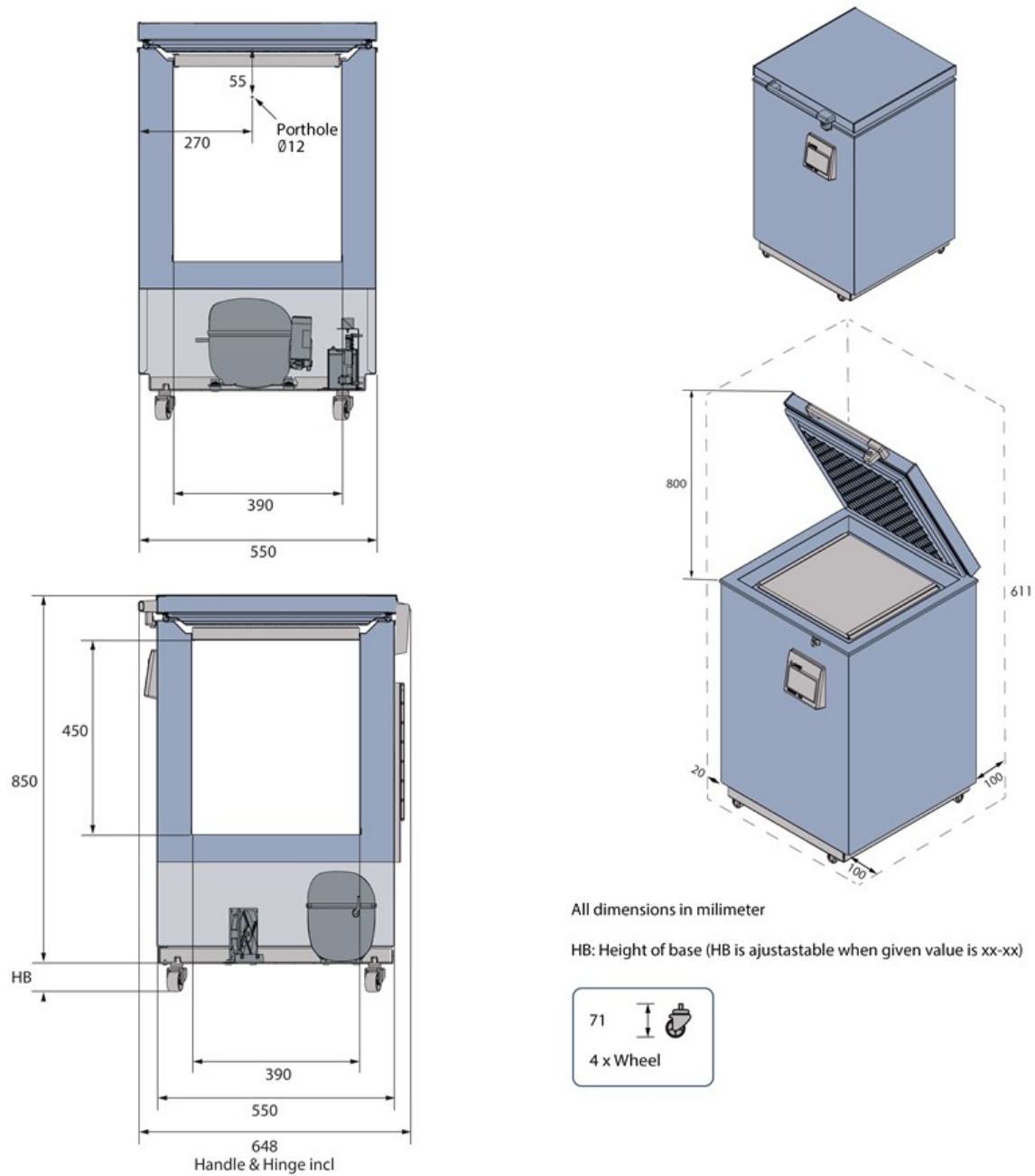
Warm up & pull down



Typical performance data


Avg. cabinet temperature	-85,5°C
Peak variation from set-point	+/- 0,9°C
Stability in avg.	1,0°C
1 min. door open recovery to -75°C avg. temperature	6 min.
Cycle rate on/off	16 / 7 min.
Duty cycle	68 %
Energy consumption - Normal mode	5,32 kWh/day
Energy consumption - Energy saving mode	4,01 kWh/day
Pull down time to -75°C avg. temperature	72 min.
Hold over time from -82°C to -60°C	64 min.
Heat rejection	370 W

Dimensions



All dimensions in millimeter

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

71 
4 x Wheel

