



**Datasheet**

Controller	
Defrost	Manual
High/Low Temp. Alarm	Yes
Open Door Alarm	Yes
Probe Failure Alarm	Yes
Power Failure Alarm	Yes
USB Connection	Yes
Datalogging	Yes

Features	
Lock	Yes
LED Light	Yes
Battery Backup for Controller, 48h	Yes
Porthole	Yes
Dry Contact	Yes
Door	Solid
Door Features	Automatic Closure >90° Hold
Door Reversibility	No

Construction	
Outer Dimensions, HxWxD	650x630x675
Inner Dimensions, HxWxD	433x439x271
Volume Gross/net, L	37 / 37
Weight Gross/Net, kg	70 / 59
Material Inner Cabinet	Stainless Steel
Material Outer Cabinet	Painted Steel
Insulation Thickness, mm	80
Insulation Type	Polyurethane with Cyclopentane
Vaccum Insulated Panels	Yes
Compressor	Variable Speed
Refrigerant	Nature R
Mobility	Front: Adjustable Feet Back: Castors



**Biomedical ULT Freezer**



LOW NOISE



ENVIRONMENT FRIENDLY



USER FRIENDLY

Operation	
Temperature Range, C°	-60 to -86
Noise, dB	50
Energy Consumption 24/h, kWh	3,2
Frequency, Hz	50
Power Supply, V	220 / 240
Instant Power Consumption	0,550
K-Value	0,19
Heat Rejection	306

Storage	
Cryoboxes "2	33
2ml Vials	3.300



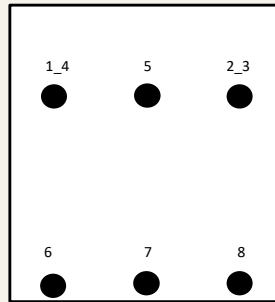
## Temperature Mapping

### Test overview

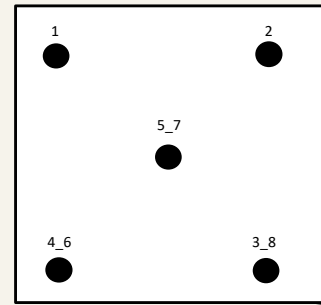
Test type	8-point test
Test environment	Controlled conditions, empty cabinet
Ambient temperature	20°C
Humidity	60%
Set-point	-82°C
Sensors used	25gr tinned brass formed as a cylinder with a diameter of 15,2mm
Installation	Appliance installed according to instruction manual conditions
Refrigerant	Nature R

### Sensor position

Front View



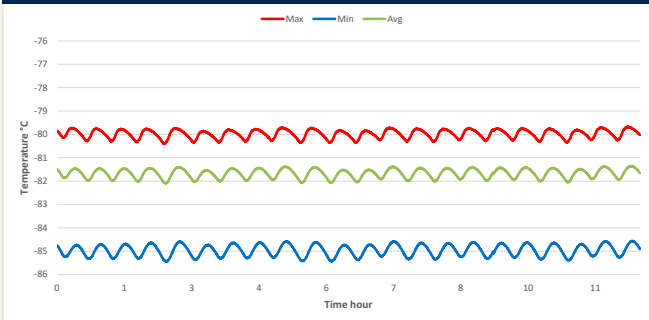
Top View



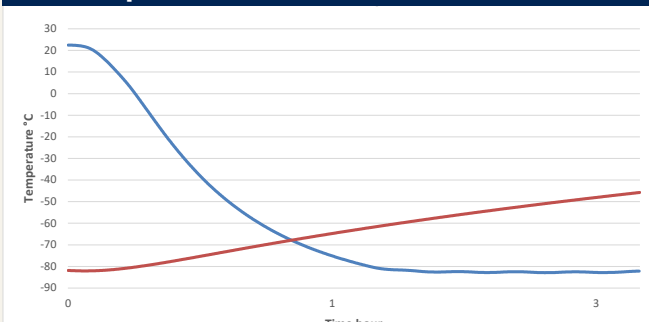
### Sensor temperature

Sensor position	P1	P2	P3	P4	P5	P6	P7	P8
Max.	-79,7	-80,2	-80,1	-79,9	-80	-83,1	-83,1	-84,6
Avg.	-80	-80,5	-80,4	-80,2	-80,3	-83,5	-83,6	-85
Min.	-80,4	-80,8	-80,8	-80,5	-80,7	-84,1	-84,1	-85,4

### Cyclic operation



### Warm up & Pull down

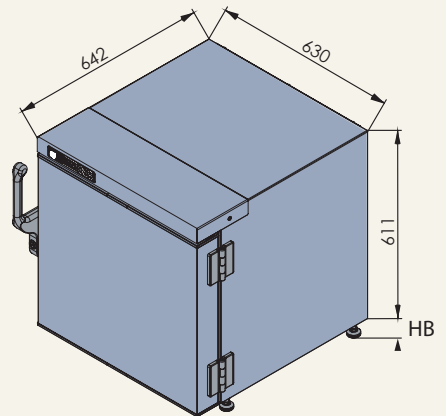
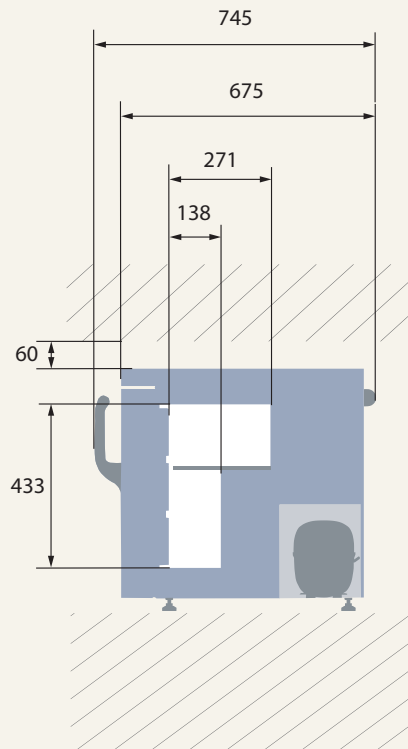
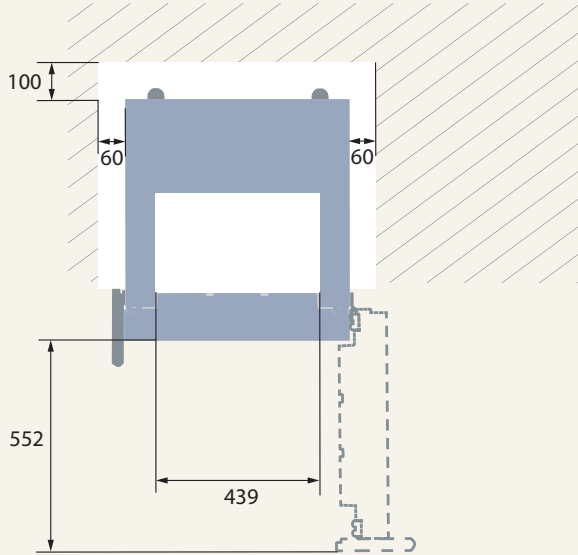


### Typical Performance data

Avg. cabinet temperature	-81,7°C
Peak variation from set-point	+2,0/-3,7°C
Stability in avg.	5°C
1 min. door open recovery to -75°C avg. temperature	30 min.
Cycle rate on/off	25,7/6,7 min.
Duty cycle	78,7%
Energy consumption	3,25 kWh/day
Pull down time to -75°C avg. temperature	84 min.
Hold over time from -82°C to -60°C	105 min.



## Dimensions



All dimensions in millimeters

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

