



BIOMEDICAL

VTS 098

BIOMEDICAL ULT FREEZER

With a compact design, this undercounter fits perfectly beneath your workbench, providing a storage solution that is ideal for places where space is limited.



Protection for storage
CE II 3G nA IIB T6



DIMENSIONS

Outer Dimensions HxWxD, mm	808x595x585
Depth incl. door handle	695
Height + feet/castors	808 + 22-27
Inner Dimensions HxWxD, mm	675x430x425
Weight Gross/Net, kg	87 / 61
Material inner cabinet	Stainless Steel
Material outer cabinet	Painted Steel
Packaging weight, kg	26
Packaging dimensions HxWxD, mm	1100x800x750
Insulation thickness	80
Insulation type	Polyurethane with Cyclopentane
Mobility	4 x adjustable feet
Refrigerant, Type / gram	Nature R 2/109gr

CONTROLLER

Controller language	No Language - only 3 digits
USB Connection	Yes
Datalogging	Yes
High/Low temp. Alarm	Yes
Open door alarm	Yes
Probe failure alarm	Yes
Power failure alarm	Yes

STORAGE

Volume, Gross/Net, L	92 / 92
Shelves	3
Cryoboxes "2	63

FEATURES

Lock	Yes
LED light	Yes
Battery Backup For Controller	Yes - 24h
Porthole	Yes - Ø 14,5mm
Dry contact	Yes
Castors	Optional
Door	Solid
Door reversibility	No
Vacuum valve	Yes
VIP (vacuum panel)	Yes
Door frame heater	Hot gas loop



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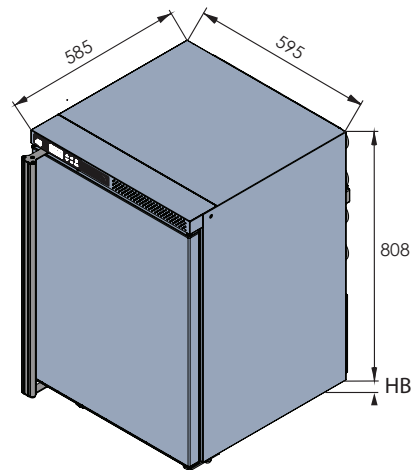
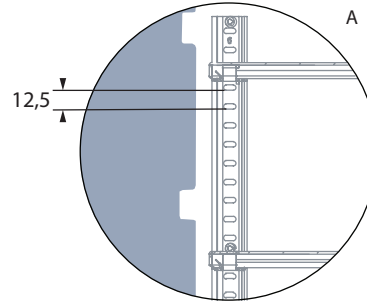
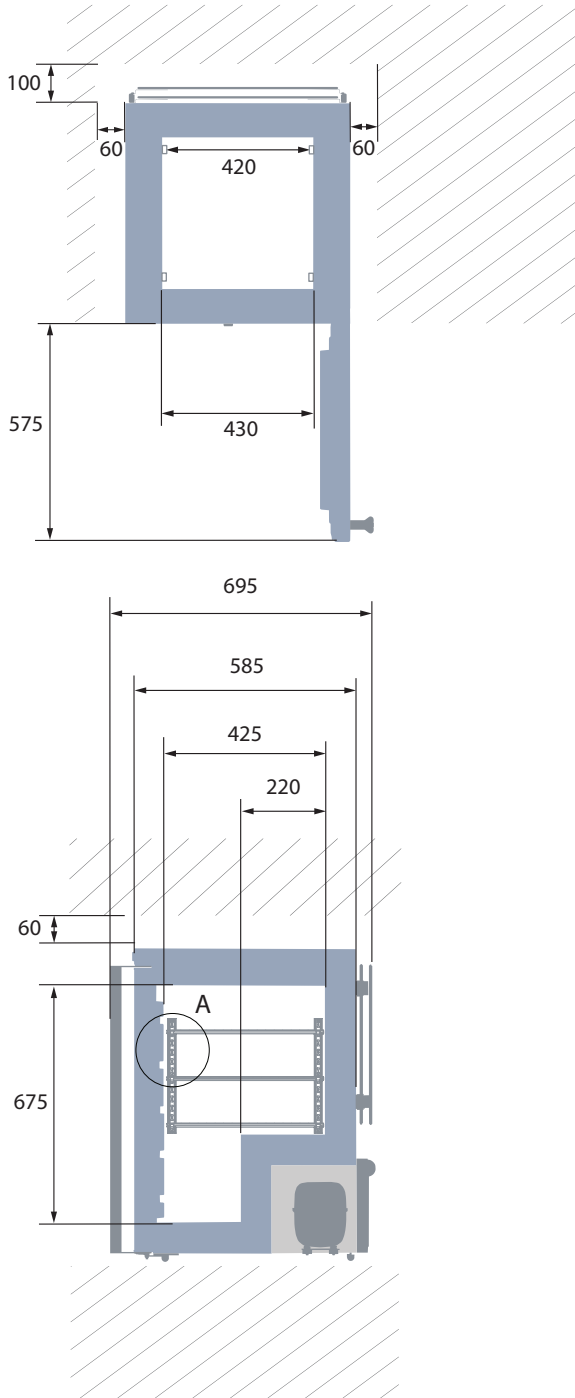
Voltage/Frequency	Voltage/Hz	230V/50Hz
Max Ambient	°C	25°C
Max Humidity	% rh	65%
PERFORMANCE		
All data in RT20°C		
Temperature Range	°C	-20 to -86
Uniformity in performance - difference between top and bottom	°C	+/- 2,0
Pull down time	Minutes	168 min to -75°C
Hold over time	Minutes	102 min to -60°C
Noise	dB	57
Energy Saving Mode	kWh/24h	NA
Energy Consumption, kWh / 24h	kWh/24h	6,562 kWh/24h Set -82
Energy year	kWh/year	2395,13kWh/y Set -82°C
Instant Power Consumption	kW	PD 0,750-0,4/Stable 0,330
Heat Rejection	W	393
U-Value	W/m ² K	0,18
COOLING COMPONENTS		
Refrigerant/Amount (gram)		Nature R 2/109gr
Number of compressors	pcs	1
Variable speed compressor	Yes/No	No
Internal air distribution (type of)		Static
Evaporator Fan	Yes/No/Variable	No
Condenser Fan	Yes/No/Variable	Yes
Number of probes	pcs	1
Defrost	Yes/No	No



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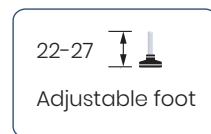
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All measurements in mm.

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



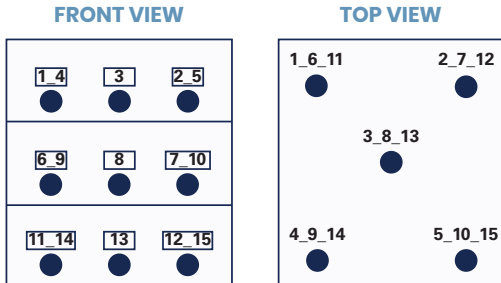


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SENSOR POSITION



MODEL

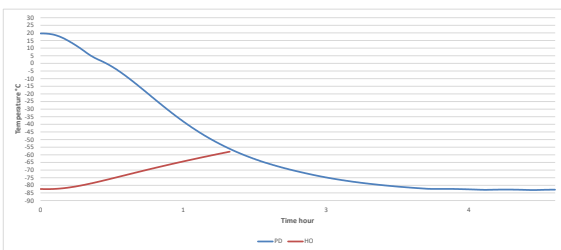
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Test type	8-point test
Test environment	Controlled conditions, empty cabinet
Ambient temperature	20°C
Humidity	60%
Set-point	-82°C
Sensor used	25gr tinned brass formed as a cylinder with a diameter of 15,2 mm
Installation	Appliance installed according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

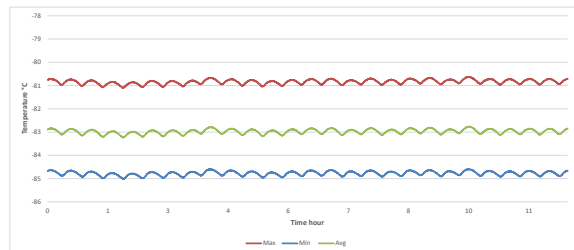
SENSOR TEMPERATURE

Sensor position	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
Max	-80,9	-81,2	-81,1	-80,9	-80,6	-84,6	-84,2	-83,5	-83,4	-83,2	-83,6	-83,4	-83,8	-83,8	-83,6
Avg.	-81,1	-81,4	-81,3	-81,2	-80,8	-84,8	-84,4	-83,7	-83,6	-83,4	-83,8	-83,6	-84,1	-84,1	-83,9
Min.	-81,3	-81,6	-81,6	-81,4	-81,1	-85	-84,6	-83,9	-83,9	-83,6	-84,1	-83,8	-84,4	-84,4	-84,1

WARM UP & PULL DOWN



CYCLIC OPERATION



TYPICAL PERFORMANCE IN AMBIENT 20°C – EMPTY CABINET

Avg. cabinet temperature	-83°C
Peak variation from set-point	+1,7/-2,6°C
Stability in avg.	?°C
1 min. door open recovery to -75°C avg. temperature	32 min.
Cycle rate on/off	22,7/4,7 min.
Duty cycle	82,4%
Energy consumption	6,56 kWh/day
Pull down time to -75°C avg. temperature	168 min.
Hold over time from -82°C to -60°C	102 min.
Sample temperature does not exceed	-70°C