



BIOMEDICAL



Protection for storage  
CE II 3G nA IIB T6

# VTS 098

## BIOMEDICAL ULT FREEZER

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



DIMENSIONS		VALUE
Outer Dimensions HxWxD		672x595x642
Depth incl. door handle		695
Inner Dimensions HxWxD		481x475x495
Weight Gross/Net, kg		87 / 61
Material inner cabinet		Stainless Steel
Material outer cabinet		Painted Steel
Insulation thickness		80
Insulation type		Polyurethane with Cyclopentane
Mobility		4 x adjustable feet
Refrigerant, Type / gram		Nature R 2/109gr
CONTROLLER		VALUE
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		VALUE
Volume, Gross/Net, L		92 / 92
Shelves		3
Cryoboxes "2		63
FEATURES		VALUE
Lock		Yes
LED light		Yes
Battery Back Up For Controller		Yes - 24h
Porthole		Yes - Ø 14,5mm
Dry contact		Yes
Castors		Optional
Door		Solid
Door reversibility		No
Vacuum valve		Yes
VIP (Vacum panel)		Yes
Perimeter heater		Hot gas loop



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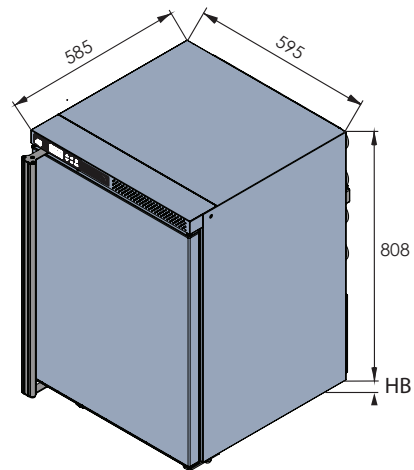
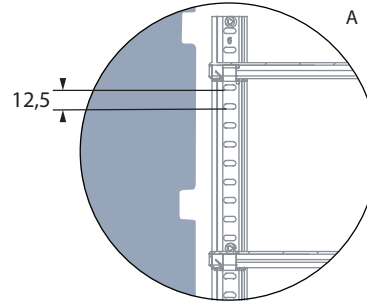
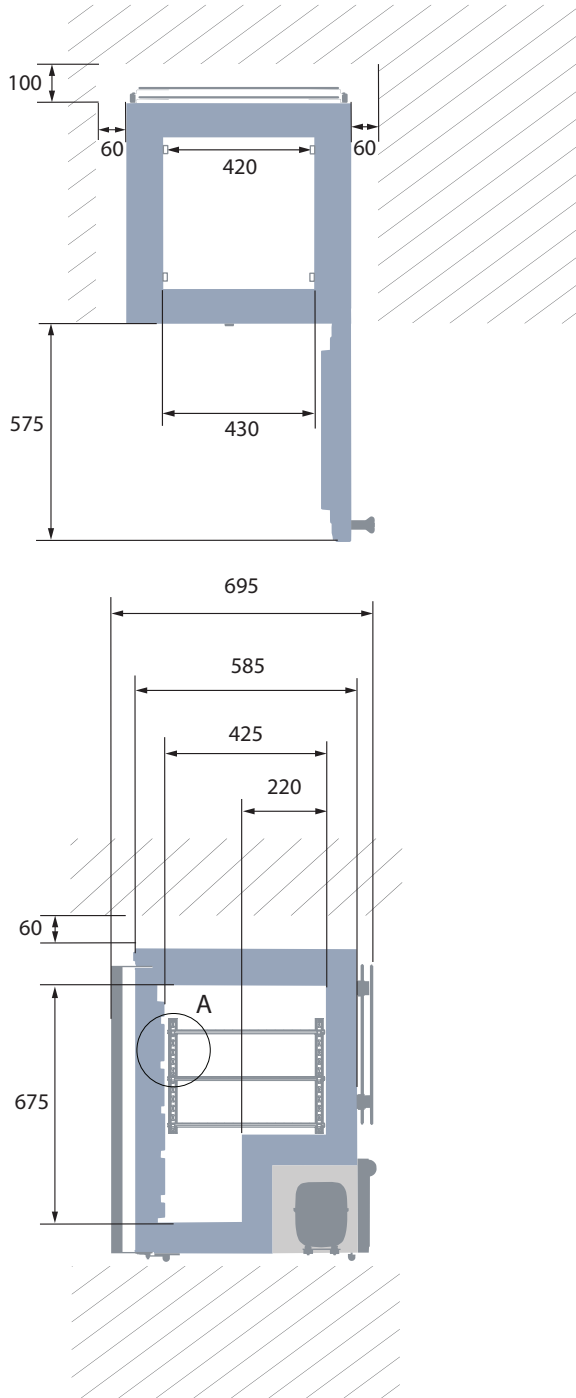
PERFORMANCE	UNIT	VALUE
<b>All data in RT20°C</b>		
Temperature Range	°C	-20 to -86
Uniformity in performance - difference between top and bottom	°C	+/- 2,0
Pull down time	Minutes	168 min to -75°C
Hold over time	Minutes	102 min to -60°C
Noise	dB	
Energy Saving Mode	kWh/24h	NA
Energy Consumption, kWh / 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 <sup>2</sup> K	0,18
COOLING COMPONENTS		VALUE
Refrigerant/Amount (gram)		Nature R 2/109gr
Number of compressors	pcs	1
Varibel 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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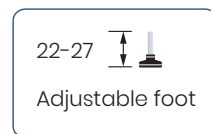
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All measurements in mm.

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



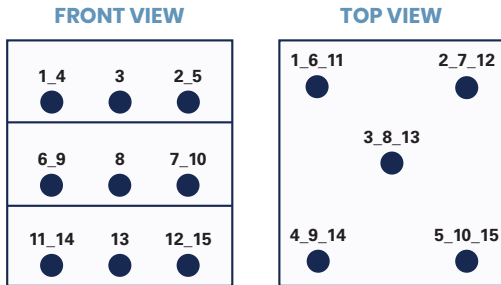


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### SENSOR POSITION



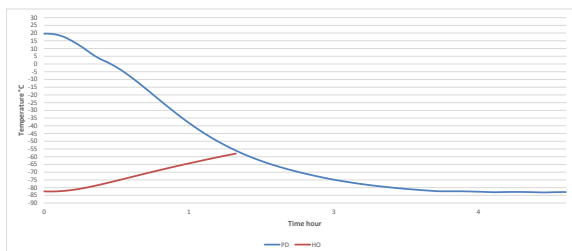
### MODEL VTS 098

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

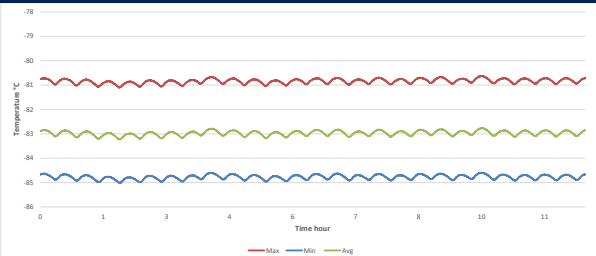
### SENSOR TEMPERATURE

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

<b>Avg. cabinet temperature</b>	-83°C
<b>Peak variation from set-point</b>	+1,7/-2,6°C
<b>Stability in avg.</b>	±0,2°C
<b>1 min. door open recovery to -75°C avg. temperature</b>	32 min.
<b>Cycle rate on/off</b>	22,7/4,7 min.
<b>Duty cycle</b>	82,4%
<b>Energy consumption</b>	6,56 kWh/day
<b>Pull down time to -75°C avg. temperature</b>	168 min.
<b>Hold over time from -82°C to -60°C</b>	102 min.
<b>Sample temperature does not exceed</b>	-70°C