



F-138i

BIOMEDICAL 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

Outer Dimensions HxWxD, mm	825x595x642
Inner Dimensions HxWxD, mm	676x475x495
Weight Gross/Net, kg	60 / 49
Material inner cabinet	ABS
Material outer cabinet	Painted Steel
Packaging weight, kg	11
Packaging dimensions HxWxD, mm	1037x710x650
Insulation thickness	50
Insulation type	Polyurethane with Cyclopentane
Air distribution	Dynamic
Mobility	Standard: Adjustable Feet - Option: Castors
Refrigerant, Type / gram	R600a / 43
Variable Speed Compressor	Yes - Adaptive Cooling Technology
Number of probes	2

CONTROLLER

Controller	i-Care, Touch screen
Controller language	EN, DE, FR
USB Connection	Yes
Logging	Data, Alarms & Events
Temperature graph	Yes
High/Low temp. Alarm	Yes
Open door alarm	Yes
Probe failure alarm	Yes
Power failure alarm	Yes

STORAGE

Volume, Gross/Net, L	138 / 117
Shelves, Full/Half	2 / 1
Shelf material	Perforated stainless steel

FEATURES

Lock	Yes
LED light	Yes
Battery Backup for Controller, 24h	Yes
No-Frost System™	Yes
Door frame heater	Hot gas
Porthole	Yes - Ø 20 mm
Dry Contact	Yes
Door	Standard: Solid
Door Features	Automatic: Closure < 90° - Hold Closure > 90°
Door Reversibility	Yes



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SPECIFICATIONS		
Voltage/Frequency	Voltage/Hz	230V/50-60Hz
Max Ambient	°C	35°C
Max Humidity	% rh	65%
PERFORMANCE		
All data in RT20°C		
Temperature Range	°C	-5 to -25
Uniformity in performance - difference between top and bottom	°C	+/- 1.4
Pull down time	Minutes	70 min to -20°C
Hold over time	Minutes	61 min to -10°C
Noise	dB	45
Energy Saving Mode	kWh/24h	1,147 kWh/24h Set -20
Energy Consumption, kWh / 24h	kWh/24h	1,419 kWh/24h Set -25
Energy year	kWh/year	518 kWh/y Set -25°
Instant Power Consumption	kW	PD 0,120/Stable 0,052
Heat Rejection*	W	100
U-Value	W/m^2 K	0.59
COOLING COMPONENTS		
Refrigerant/Amount (gram)		R600a/43gr
Number of compressors	pcs	1
Variable speed compressor	Yes/No	Yes
Internal air distribution (type of)		Dual Air Stream
Evaporator Fan	Yes/No/Variable	Yes
Condenser Fan	Yes/No/Variable	No
Number of probes	pcs	2
Defrost	Yes/No	Yes - automatic
FEATURES		
Safety thermostat	y/n/optional	No
Lock	y/n	Yes
LED light	y/n	Yes
Battery Back Up For Controller	y/n/optional	Yes - 24h
Porthole	y/n - Ømm	Yes - Ø 20mm
Dry contact	y/n	Yes
Castors	y/n/optional	Optional
Door	glass/solid	Solid
Door closure	y/n/optional	Yes
Door reversibility	y/n	Yes
Automatic Hold 90°C	y/n	Yes
Vacuum valve	y/n	Yes
VIP (Vacum panel)	y/n	No
Perimeter heater		Hot gas loop

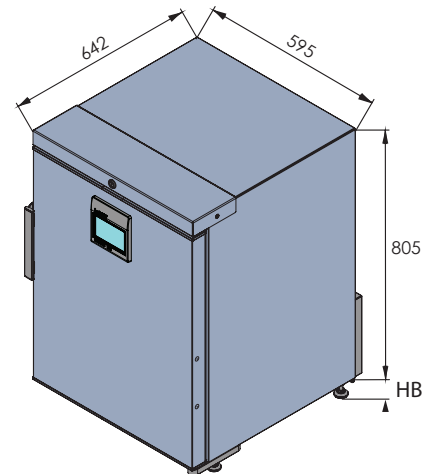
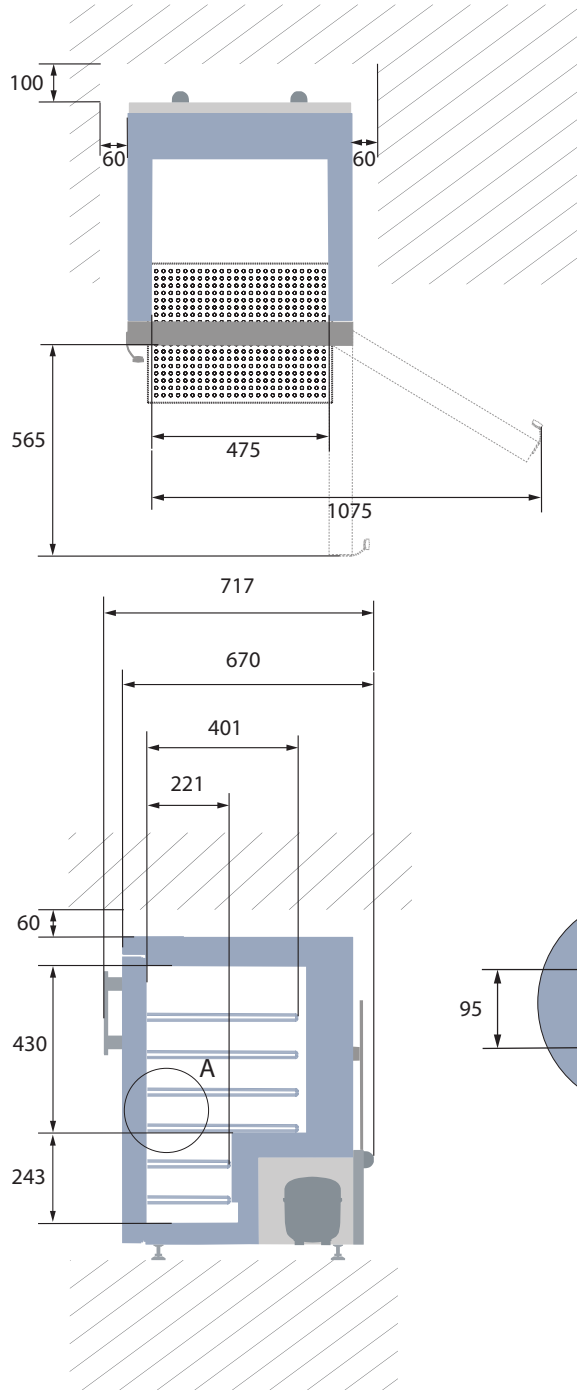
* Heat Rejection is defined as average power based on energy consumption, rounded up to nearest 50W.



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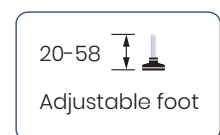
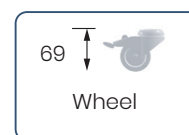
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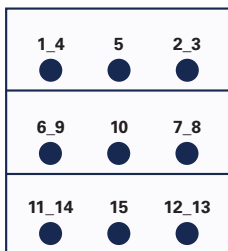
All measurements in mm.

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

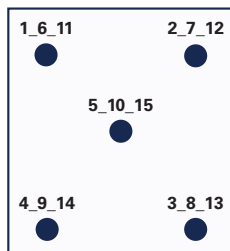


SENSOR POSITION

FRONT VIEW



TOP VIEW



MODEL

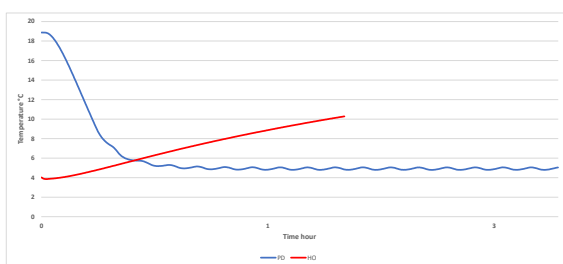
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Test type	15-point test
Test environment	Controlled conditions, empty cabinet
Ambient temperature	20°C
Humidity	60%
Set-point	-25°C
Sensor used	25gr tinned brass formed as a cylinder with a diameter of 15,2 mm
Installation	Appliance installed according to instruction manual conditions
Refrigerant	R600a

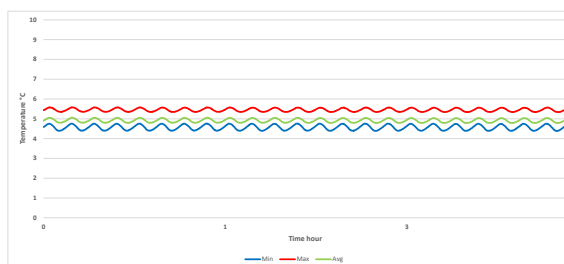
SENSOR TEMPERATURE

Sensor position	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
Max	-22,9	-22,9	-23,1	-22,5	-23,1	-24	-24,7	-24,4	-23,4	-24,4	-23,7	-25,4	-24,7	-24	-25,2
Avg.	-23,5	-23,4	-23,7	-23	-23,6	-24,5	-25,2	-24,8	-23,9	-24,9	-24,1	-25,9	-25,2	-24,4	-25,7
Min.	-24,1	-24	-24,2	-23,5	-24,1	-24,9	-25,6	-25,3	-24,3	-25,3	-24,5	-26,4	-25,7	-24,9	-26,2

WARM UP & PULL DOWN



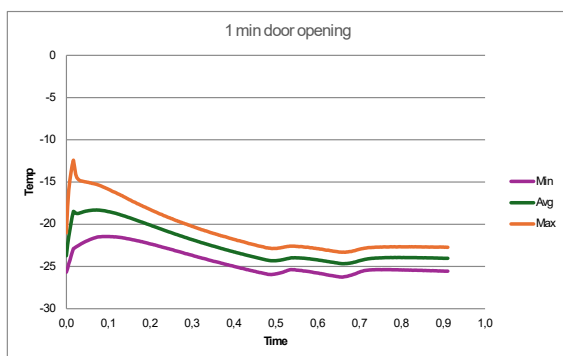
CYCLIC OPERATION



TYPICAL PERFORMANCE IN AMBIENT 20°C - EMPTY CABINET

Avg. cabinet temperature	-24,4°C
Uniformity	+/- 1,4°C
Stability in avg.	0,3°C
1 min. door open recovery to -20°C avg. temperature	11 min.
Cycle rate on/off	29 / 2 min.
Duty cycle	92,6%
Energy consumption - Normal mode	1,419 kWh/day
Energy consumption - Energy saving mode (-20)	1,147 kWh/day
Pull down time to -20°C avg. temperature	70 min.
Hold over time from -25°C to -10°C	61 min.
Sample temperature does not exceed	-15°C
Heat rejection	120

1 MIN DOOR OPENING



24 H STEADY WITH DEFROST SP -25°C

