



BIOMEDICAL

# F-90i

## BIOMEDICAL FREEZER

With the smallest footprint, this unit is perfect for storing biomedical content in a room with limited space. The unit can be placed on a table for easy access in your work environment.

-5°C  
-25°C



### DIMENSIONS

Outer Dimensions HxWxD, mm	672x595x642
Inner Dimensions HxWxD, mm	481x475x495
Weight Gross/Net, kg	54 / 44
Material inner cabinet	ABS
Material outer cabinet	Painted Steel
Packaging weight, kg	10
Packaging dimensions HxWxD, mm	840x740x650
Insulation thickness	50
Insulation type	Polyurethane with Cyclopentane
Air distribution	Dynamic
Mobility	Standard: Adjustable Feet - Option: Castors
Refrigerant, Type / gram	R600a / 38
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	90 / 76
Shelves, Full/Half	1 / 1
Shelf material	Perforated Alu

### 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

Updated 01/2025



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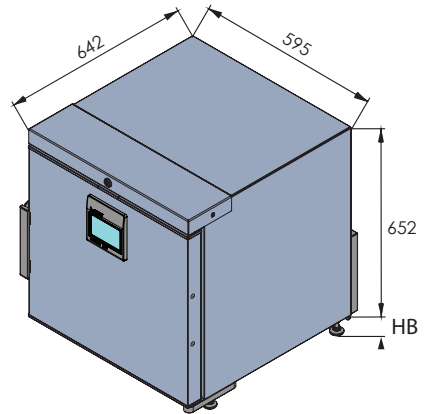
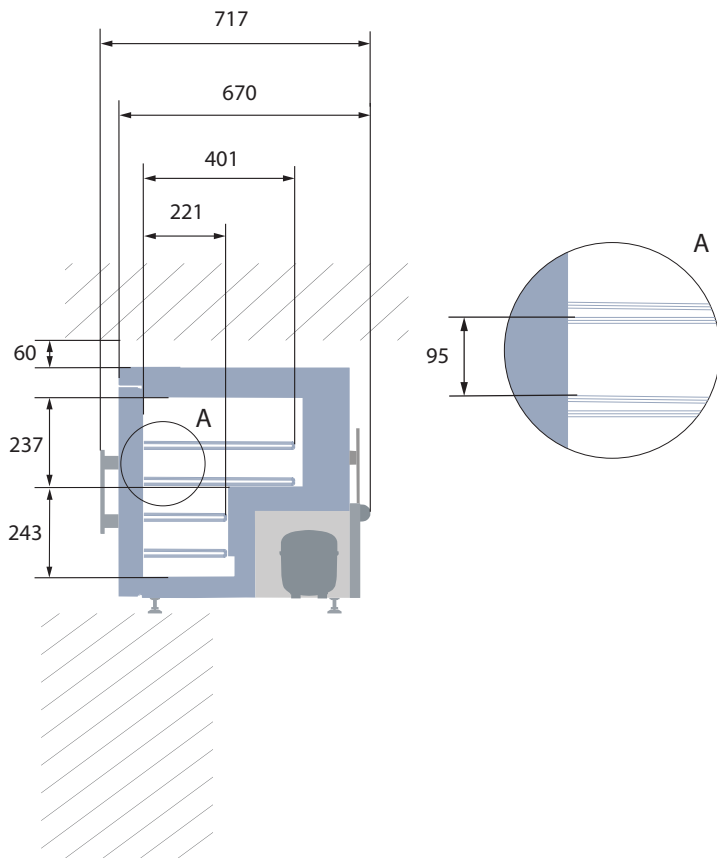
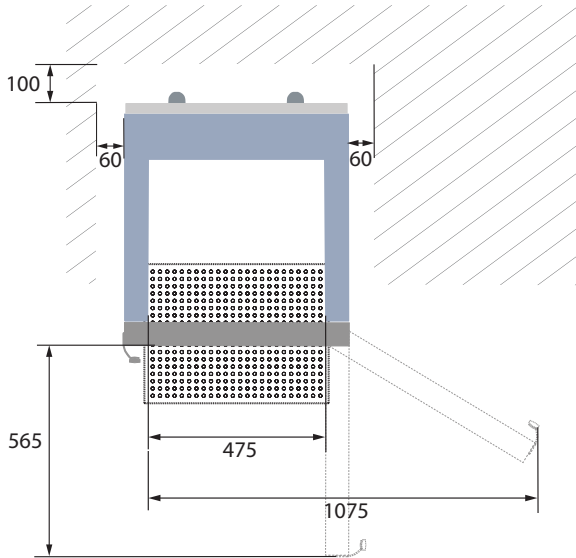
<b>Voltage/Frequency</b>	Voltage/Hz	230V/50-60Hz
<b>Max Ambient</b>	°C	35°C
<b>Max Humidity</b>	% rh	65%
<b>PERFORMANCE</b>		
All data in RT20°C		
<b>Temperature Range</b>	°C	-5 to -25
<b>Uniformity in performance - difference between top and bottom</b>	°C	+/- 1.9
<b>Pull down time</b>	Minutes	69 min to -20°C
<b>Hold over time</b>	Minutes	54 min to -10°C
<b>Noise</b>	dB	40
<b>Energy Saving Mode</b>	kWh/24h	0,94kWh/24h Set -20
<b>Energy Consumption, kWh / 24h</b>	kWh/24h	1,1kWh/24h Set -25
<b>Energy year</b>	kWh/year	40kWh/y Set -25°
<b>Instant Power Consumption</b>	kW	PD 0,120/Stable 0,046
<b>Heat Rejection</b>	W	110
<b>U-Value</b>	W/m <sup>2</sup> K	0.59
<b>COOLING COMPONENTS</b>		
<b>Refrigerant/Amount (gram)</b>		R600a/38gr
<b>Number of compressors</b>	pcs	1
<b>Variable speed compressor</b>	Yes/No	Yes
<b>Internal air distribution (type of)</b>		Dual Air Stream
<b>Evaporator Fan</b>	Yes/No/Variable	Yes
<b>Condenser Fan</b>	Yes/No/Variable	No
<b>Number of probes</b>	pcs	2
<b>Defrost</b>	Yes/No	Yes - automatic
<b>FEATURES</b>		
<b>Safety thermostat</b>	y/n/optional	No
<b>Lock</b>	y/n	Yes
<b>LED light</b>	y/n	Yes
<b>Battery Back Up For Controller</b>	y/n/optional	Yes - 24h
<b>Porthole</b>	y/n - Ømm	Yes - Ø 20mm
<b>Dry contact</b>	y/n	Yes
<b>Castors</b>	y/n/optional	Optional
<b>Door</b>	glass/solid	Solid
<b>Door closure</b>	y/n/optional	Yes
<b>Door reversibility</b>	y/n	Yes
<b>Automatic Hold 90°C</b>	y/n	Yes
<b>Vacuum valve</b>	y/n	Yes
<b>VIP (Vacum panel)</b>	y/n	No
<b>Perimeter heater</b>		Hot gas loop



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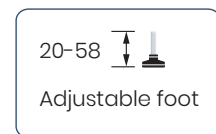
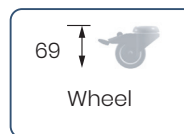
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All measurements in mm.

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





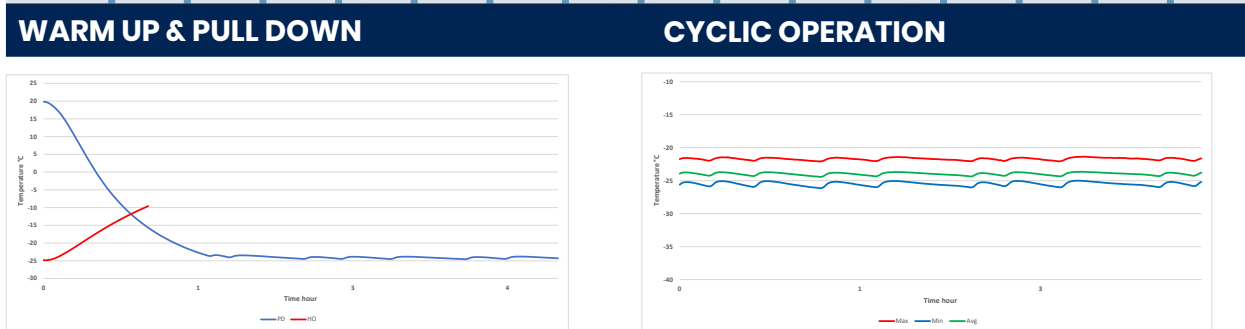
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SENSOR POSITION		MODEL	F-90i
<p><b>FRONT VIEW</b></p> <p><b>TOP VIEW</b></p>		<p><b>Test type</b></p> <p>15-point test</p> <p><b>Test environment</b></p> <p>Controlled conditions, empty cabinet</p> <p><b>Ambient temperature</b></p> <p>20°C</p> <p><b>Humidity</b></p> <p>60%</p> <p><b>Set-point</b></p> <p>-25°C</p> <p><b>Sensor used</b></p> <p>25gr tinned brass formed as a cylinder with a diameter of 15,2 mm</p> <p><b>Installation</b></p> <p>Appliance installed according to instruction manual conditions</p> <p><b>Refrigerant</b></p> <p>R600a</p>	

SENSOR TEMPERATURE															
Sensor position	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
Max	-22	-22,4	-22,9	-21,5	-22,6	-22,4	-23,5	-23,5	-22,4	-23,4	-22,6	-23,5	-23,6	-22,5	-23,5
Avg.	-22,9	-23,3	-24,1	-22,2	-23,2	-23,4	-24,3	-24,3	-23,5	-24,4	-23,6	-24,6	-24,7	-23,3	-24,6
Min.	-24	-24,6	-25,3	-23,1	-24	-24,6	-25,2	-25,3	-24,8	-25,5	-24,8	-25,9	-25,9	-24,4	-26



TYPICAL PERFORMANCE IN AMBIENT 20°C – EMPTY CABINET	
Avg. cabinet temperature	-24°C
Uniformity	+/- 1,9°C
Stability in avg.	0,3°C
1 min. door open recovery to -20°C avg. temperature	9 min.
Cycle rate on/off	5,1 / 13,9 min.
Duty cycle	25,2%
Energy consumption - Normal mode	1,1 kWh/day
Energy consumption - Energy saving mode (-20)	0,94 kWh/day
Pull down time to -20°C avg. temperature	69 min.
Hold over time from -25°C to -10°C	54 min.
Sample temperature does not exceed	-15°C
Heat rejection	100