



BIO GUARD 690

-86°C Freezer



Low power consumption

Our latest generation of VIP vacuum insulation, combined with an efficient foaming process and an optimized cooling circuit, reduces the overall power consumption.



Fast recovery time

With optimized cooling circuit management, the Bio Guard quickly restores its set temperature after the door is opened.



Intuitive interface

Easy set up, smart control, and secured access, for optimized sample storage.



The Bio Guard touchscreen

Affordable quality and performance.

ULT freezers play a crucial role in laboratories and production facilities by safeguarding your high-value samples.

Designed for reliability, our Bio Guard 690 combines exceptional performance, low energy consumption, and the durability needed for your most demanding workflows.



MODEL AVAILABLE

BMBG69086G	690 L
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WARRANTY

Parts	2 years
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Fan, compressors and condenser	5 years
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VIP insulation	10 years
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Technical Specifications

BIO GUARD -86°C FREEZERS	
MODEL	BMBG69086G
GENERAL SPECIFICATIONS	
Storage Capacity (2mL Cryotubes)	48 000 cryotubes 2mL
Raw Volumes / compartments	690 liters / 24.3 cu.ft. - 4 compartments
Ext Dimension (W x D x H)	875 x 970 x 1990 mm / 38.2 x 34.5 x 78.4 in
Int Dimension (W x D x H)	630 x 752 x 1436 mm / 29.6 x 24.8 x 56.6 in
Ext Construction	Electrogalvanised steel with epoxy paint
Int Construction	Stainless steel inner tank with rounded corners
Net Weight	320 kg / 705 lb
Standard Construction	• 4 swivel casters • 2 levelling feet • Key lock (2 keys supplied) • Cable port on the back of the device • 1 power cord, 3m long with IEC19 detachable connectors
No. of Internal Shelves (Max Weight: 75kg)	3 shelves
Ambient temperature	From +18°C (65°F) to +32°C (89°F)
Insulation	6 faces, new generation of Vacuum Insulation Panel (VIP) and high density polyurethane foam. Thermal conductivity < 0.005 W/m/K.
Noise level	56 dB
Environment	Not designed for use in explosive atmospheres (ATEX)
Warranty	2 years. 5 years : fan, compressors, condenser. 10 years : VIP insulation
CONTROL	
Display	7 inch Touch Screen, compatible with use of gloves
Software	Embedded and upgradable software: • Realtime temperature value, set temperature value, realtime temperature profile • Different user level access • Downloadable data, log files • Eco mode for power consumption savings, energy consumption follow up • Manual defrost mode • Sample management module
Languages	English, French, Spanish, Chinese, German, Romanian
Remote Access	Unit can be connected to a computer to allow a remote access
Data	Temperature profiles, alarms can be exported on USB stick (CSV file format)
Settings	Alarms • Date/Time • User profile login (user, admin and service access) • Language • Ethernet
Communication	USB port, Ethernet Port
REFRIGERATION SYSTEM	
Cooling Engine	2 stage compressors cascade system with intermediate plate heat exchanger. Cold production by 5 internal walls.
Expansion Device	Capillary tube
Defrosting Method	Manual with heated door-seal and heated valve pit
Heat rejection	<3500 BTU/h
Natural Gas Refrigerant Load	1st stage : R290 2nd stage :R170
ELECTRIC AND ELECTRONIC DATA	
Controller type	PLC module with HMI control
Temperature probe	1 x Pt100 3 wires probe
List of alarms	Configurable high and low temperature alarm Open door alarm, triggered time can be configured Alimentation 230 VAC, overpressure CP1, battery charge failure, engine failure, CO2 / LN2 injection in progress
Type of alarm	Visual and acoustic with automatic reactivation after predefined delay
Energy consumption	11.3 kWh/ day*
Remote alarm contact	NO - NC dry contact (optional)
Power	1500 W
Types of power supply	Voltage 230V ~ +/-10%, 50 Hz, automatic fuse 6A
PERFORMANCES (AMBIENT TEMPERATURE +22 °C)	
Temperature range	From -60°C to -86°C, 1/10th degree display
Pull down ambient to -80°C (+/-5°C)	~ 4 hours
Homogeneity at -80°C	+/-4°C
OPTIONS & CONFORMITIES	
Options	Cryo-accumulators (from 6h to 8h additional autonomy) CO2 / LN2 backup system (150 bar max electrical valve) Additional Pt 100 ohms 3 wires COFRAC 9 points temperature mapping IQ / OQ documentation BoSS system NO - NC dry contact Padlock closure
Supplied with	User manual Detachable washable filter Scraper
Certification / Conformities	EN61010-1 - Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements 2014/35/UE – Low voltage directive – EN IEC 61326-1 (2021) EMC directive
Shipping weight	350 kg / 772 lb
Shipping dimensions (W x D x H)	940 x 1170 x 2150 mm / 37 x 46.1 x 84.7 in

*According to energy star calculation, with an ambient room temperature of 20°C (+/-0.5oC), door closed.