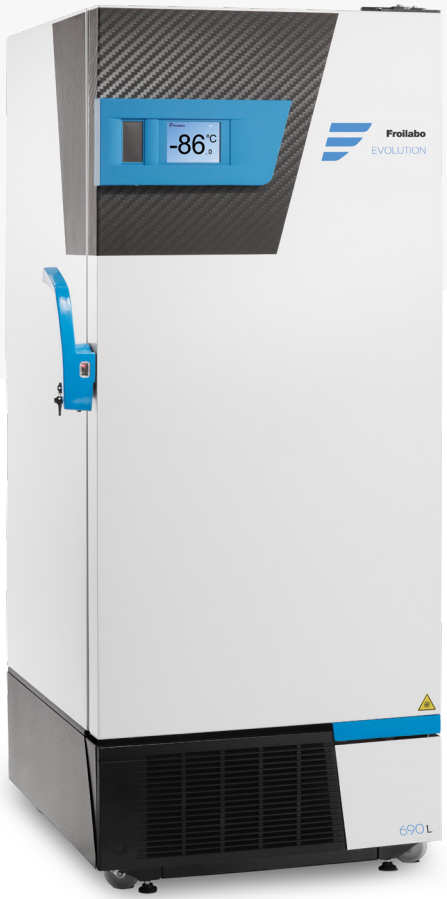
Data Sheet

Froilabo
Precision for life

Evolution

-86ºC Freezer / 690L



Ultra-efficient, for long-term storage.

The Evolution range has been designed and optimized for daily use within the laboratory. Priority has been given to fast temperature without compromising the power consumption. Our fully customizable Eco mode has been developed to help reduce energy consumption. The freezer interface provides key information, with real time monitoring of freezer status, and contains a USB port for data collection.

The Evolution range consists of 3 volumes: 340L, 515L and 690L, with a minimum footprint for when space is limited. Our freezers are all designed and manufactured in Europe.

PERFORMANCE	
Temperature range	-60°C to -86°C
Pull down from ambient to -86ºc	~ 4 hours

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

Minimum temperature of -86°C

Available in 3 volumes

Technical Specifications

EVOLUTION -86°C FREEZERS	
MODEL	**BMEVO69086G**
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	330 kg / 728 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 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
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	4777 BTU/h
Refrigerant Load Natural Gas Refrigerant Load	1st stage : R290 2nd stage : R170
ELECTRIC AND ELECTRONIC DATA	
Controller type	Plug & play electronic regulator
Temperature probe	1 x Pt100 3 wires probe
List of alarms	Configurable high and low temperature alarm Open door alarm, triggered after 2 minutes opening Alimentation 230 VAC, overpressure CP1, battery charge failure, engine failure, CO2 / LN2 injection in progress
Type of alarm	Visual (OK et pictograms) and acoustic with automatic reactivation after predefined delay
Energy consumption	13.9kWh/ day*
Remote alarm contact	NO - NC dry contact (optional)
Power	1500 W
Types of power supply	Voltage 230V ~ +/-10%, 50 Hz, fuse protection «aM 12A» Voltage 110V ~ +/-10%, 50/60Hz, fuse protection «aM 20A» Voltage 208V ~ +/-10%, 60Hz, fuse protection «aM 12A»
PERFORMANCES (AMBIENT TEMPERATURE +22 °C)	
Temperature range	From -60°C to -86°C, 1/10th degree display
Pull down from abient to -86°C	~ 4 hours
Homogeneity at -80°C	+/-5°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 Thermocouple K probe Circular chart recorder 4-20mA output 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 **2014/30/UE** – EMC directive, Class A device **2014/68/UE** – Under pressure devices
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 (+/-0.5°C), door closed.

STG02 / 05.24