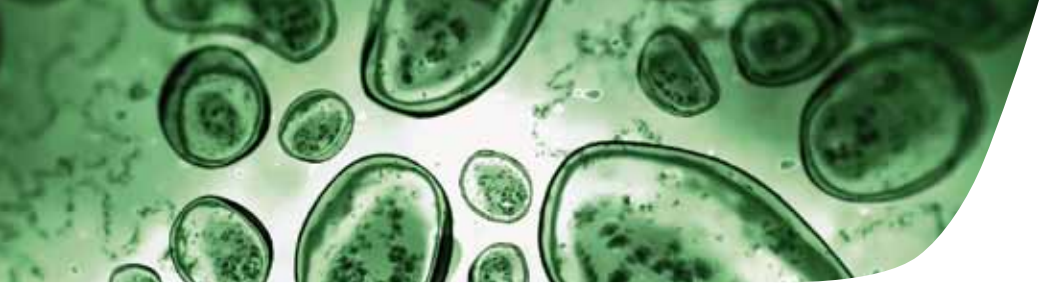
INCUBATORS

Froilabo
Precision for life



INCUBATORS

FROILABO offers a full range of incubators with natural convection, air forced or forced cooling to cover most laboratory applications.

Component standardization and adaptation of heating power offer excellent price performance ratio without compromising quality, security and accuracy. Incubators meet the needs of biology, research, medical testing, environmental, food, pharmaceutical and cosmetic labs... whose requirements exceed the current standards.

FROILABO also provides care for different user's requirements, specifically with regard to cleaning and disinfection and more generally : security. The thermal disinfection cycle at +160°C (+320°F) for 2.5 hours, in accordance with the Pharmacopiea, brings an additional level of bacteriological safety.

FROILABO is the **only manufacturer** to offer this feature on refrigerated incubators.
All our equipments have a very low heat emission and are tested to meet electrical safety standard **IEC EN 60335-1**, this standard is a public pledge to provide additional security for laboratories.

All the incubators have a stainless steel tank with flat walls to enable easy cleaning. Our equipment does not generate any conduction.

Froilabo

The pioneer of the temperature control

1918 – Creation of the Couprie Company, the origin of our current activity

1920 – First centrifuge

1925 – First baby warmer for premature baby

1926 – First poupinel (sterilizer)

1927 – First bacteriological incubator

1948 – First low temperature equipment

1970 – First -86°C (-123°F) deep freezer

1979 – First Component Thermal Conditioner -80°C/+250°C (-112°F/+482°F)

2008 – First vented incubator with a disinfection cycle

2009 – Introduction of the predictive Intellidiag© system on -45°C/-86°C (-49°F/-123°F) deep freezers

2010 – First refrigerated vented incubator with a 160°C/2h30 disinfection cycle (320°F/2.50h)

Since 2009, **FROILABO** is a member of the Techcomp Group alongside other scientific manufacturers such as Precisa Gravimetrics in Switzerland. With more than 100 years of experience in temperature and humidity control, **FROILABO** offers a product range from -86°C to 250°C (-123°F to -148°F) with precision and homogeneity rarely achieved by other manufacturers and in accordance to the only European norm in force: **EN60068-3-11**.

By using a **FROILABO** product, the end-user ensures its own security, protects its samples and takes care of the environment at the same time.

Our commitment to the environment is daily and is expressed by the selective use of "noble" material (stainless steel inner chamber), the use of recycled material (electroplated external case) and the recycling of all waste.

All **FROILABO** equipment is created and developed in France.

Precision for life

BSP

NATURAL CONVECTION

Natural convection is suitable for long term incubation, incubation to protect potentially sensitive samples to desiccation, and also for powder and other applications.

PERFORMANCE NATURAL CONVECTION RANGE (BSP)

- Temperature range: ambient +5 °C to 65 °C (9°F to 149°F)
- Volume 65 to 245L
- Control probe Pt100 ohm
- Combined PID / Fuzzy logic regulation
- Dual digital display of the set-point and actual temperature to 0.1 of a degree
- Timer: 99h 59min
- Simplified control panel
- Pre-heated chamber (accurate temperature control preventing sample desiccation)
- Safety over-temperature according to **NF EN61010-2-010** (equivalent to DIN 3.1)
- High and low temperature alarm
- Visible alarm
- 2 anti-tip stainless steel shelves included (BSP65: 1)
- Multiple adjustable shelf positions
- "Real" hands free easy closing door design
- Stackable units (up to 125L)
- Inner safety glass door
- **EASYCLEANING** inner stainless steel chamber (flat surface, removable shelf holders)
- Conform to **EN60068-3-11** and therefore to **NFX15-140**
- Individual quality control certificate
- **24 month warranty**

To order

220-230V / 50Hz	65L	125L	245L
«BIO STATIC PERFORMANCE» Plain door	BSP65	BSP125	BSP245
«BIO STATIC PERFORMANCE» Viewing door	BSP65PV	BSP125PV	BSP245PV

110V and 50-60Hz version available.

BP

FORCED CONVECTION

Forced convection incubators offer high temperature precision and better homogeneity and stability. Forced convection significantly reduces the warm-up, stabilization and recovery time. Forced convection is recommended for full loads or frequent door opening.

PERFORMANCE RANGE (BP)

To the BSP general specifications, the following additional features are included:

- **Excellent temperature uniformity (< 0.5°C at 37°C/ < 1°F at 99°F)**
- Rapid temperature setpoint and homogeneity achieved with internal fan
- Heating of the chamber by forced convection, no risk of conduction and radiation: the air is introduced into the chamber at the set temperature
- Adjustable air control (0% to 100%), 35 mm rear exhaust

BP Specifications:

- Temperature range: ambient +5°C to 100°C/ 9°F to 212°F
- Volume 60 to 240L
- 2 anti-tip stainless steel wire shelves included (BP 60: 1)
- Individual quality control certificate
- **24 month warranty**

To order

220-230V / 50Hz	60L	120L	240L
«BIO PERFORMANCE» Plain door	BP60	BP120	BP240
«BIO PERFORMANCE» Viewing door	BP60PV	BP120PV	BP240PV

110V and 50-60Hz version available.

BE

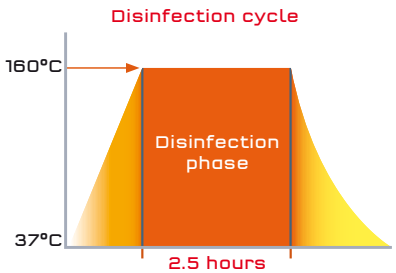
EXPERT RANGE BE (Bio Expert)

In addition to the Performance features, the Expert range includes the following benefits:

- **Thermal disinfection cycle 160°C (320°F) for 2.5 hours**
- Cable entry port to enable validation and calibration with additional probes
- Programmable controller with 8 settings to enable temperature cycle up to 4 temperatures
- Ramp (°C/min) and temperature setup
- RS485 port for data transfer (optional software and cable to be ordered separatly)
- **Adjustable fan speed**
- Audible and visible alarm
- 2 anti-tip stainless steel shelves included (all sizes)
- Individual quality control certificate
- **24 month warranty**

The Expert range is based on the Performance model and includes a set of functions that enables users to perform more demanding applications without compromising functionalities and budget constraints.

Standard features will allow control of the different parameters: temperature, ventilation, temperature cycles… and also independent metrological calibration and qualification.
Dry heat disinfection cycle will ensure optimum decontamination of the equipment.



To order

220-230V / 50Hz	60L	120L	240L
«BIO EXPERT» Plain door	BE60	BE120	BE240
«BIO EXPERT» Viewing door	BE60PV	BE120PV	BE240PV

110V and 50-60Hz version available.

BRE

160°C UNIQUE FROILABO 2.5 hours DISINFECTION ROUTINE

FORCED CONVECTION REFRIGERATED

Ideal for micro-organisms, fungus, microbiological cultures at temperatures close to or below ambient, these incubators are suitable for wider application ranges. Once incubation is terminated, samples can be kept at +4°C after long term operation, overnight or weekend.They are perfect if used in variable environmental conditions.

EXPERT REFRIGERATED RANGE (BRE)

In addition to the Expert features, the refrigerated version offers the following benefits:

- **Powerful refrigerating unit delivering effective, fast and precise cooling**
- RS485 port for data transfer. Software, cable, adapter and USB protocol included

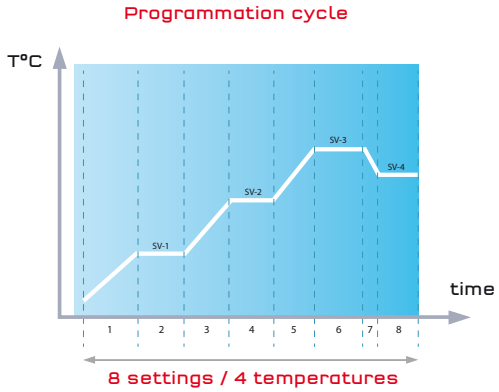
UNIQUE FROILABO

- **Thermal disinfection routine 160°C (320°F) for 2.5 hours**

BRE Specifications:

- Temperature range: 0°C to 100°C* (32°F to 212°F)
- 2 anti-tip stainless steel shelves included (all sizes)
- Individual quality control certificate
- **24 month warranty**

* Set at 4°C (39°F) at the factory.



To order

220-230V / 50Hz	60L	120L	240L
«BIO EXPERT REFRIGERATED» Plain door	BRE60	BRE120	BRE240
«BIO EXPERT REFRIGERATED» Viewing door	BRE60PV	BRE120PV	BRE240PV

110V and 50-60Hz version available.

Technical Data

SPECIFICATIONS PERFORMANCE/EXPERT		Natural Convection BSP			Forced Convection BP/BE			Forced Convection Refrigerated BRE		
		65	125	245	60	120	240	60	120	240
Temperature Range		Amb +7°C at +65°C			Amb +5°C at +100°C			0°C at 100°C***		
Temperature Uniformity +/- (°C)*	at 4°C	-	-	-	-	-	-	0,7	0,7	0,7
	at 37°C	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5
	at 44°C	-	-	-	0.7	0.7	0.7	-	-	-
	at 60°C	1.5	1.5	2	1	1	1	1	1	1
Temperature stability (°C)	at 37°C	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2
	at 44°C	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2
Time for temperature elevation (min)**	at 37°C	-	-	-	4.5	6	6	4.5	6	6
	at 44°C	-	-	-	6	7	7	6	7	7
	at 60°C	-	-	-	6	8	7.5	6	8	7.5
Recovery time after door opening of 30 secs (min)**	at 37°C	4 to 6	4 to 6	4 to 6	1	1	1	1	1	1
	at 44°C	-	-	-	1	1	1	1	1	1
ELECTRICAL SPECIFICATIONS										
IP rating		Front panel IP55			Front panel IP55			Front panel IP55		
Power supply		220-230V 50/60Hz 10A			220-230V 50/60Hz 10A			220-230V 50/60Hz 10A		
Power (W)		300	500	500	750	750	1500	1650	1650	2400
EXTERNAL DIMENSIONS										
Length (mm)		526	626	626	526	626	626	526	626	626
Height (mm)		640	750	1230	640	750	1230	910	1020	1500
Depth (mm)		579,5	679,5	679,5	579,5	679,5	679,5	579,5	679,5	679,5
Exterior depth (mm)		26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
Side clearance (mm)		100	100	100	100	100	100	100	100	100
INTERIOR DIMENSIONS										
Actual volume (l)		61	124	242	56	114	223	56	114	223
Length (mm)		400	500	500	400	500	500	400	500	500
Height (mm)		390	500	980	390	500	980	390	500	980
Depth (mm)		394	494	494	356	456	456	356	456	456
Shelves (standard/max) BE		1/6	2/10	2/18	1/6 2/6	2/10	2/18	2/6	2/10	2/18
Weight per shelf/total (kg)		20/50	20/70	20/90	20/50	20/70	20/90	20/50	20/70	20/90
Shelf dimensions L X P (mm)		380x320	480x430	480x430	380x320	480x430	480x430	380x320	480x430	480x430
Empty weight/Gross weight (kg)		39/54	53/71	79/100	40/54	55/71	82/100	71/85	88/94	114/132

* Not including measure uncertainties, FROILABO procedure : 9 points caracterisation according to NFX15-140 norm
** 98% of the value
*** Set at 4°C (39°F) at the factory
Testing at an ambient temperature of 25°C and a variation in the supply Voltage of +/- 10%

OPTIONS

Pt 100 Ohm for data collection.
Disc recorder.
Electronic recorder.
Locking door.
Characterization 9 points according to EN60068-3-11.
Stainless steel perforated shelf.

ACCESSORIES

Lowenstein trays.
Wheels wraps.
Basement with or without castors.

These equipments are produced on an ISO9001 certified site.

DISTRIBUTOR:

Froilabo
Precision for life

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