

EuroElone®
s@femate
eco

Microbiological
Safety
Cabinet



EuroElone®
serving science through innovation



Green Evolution

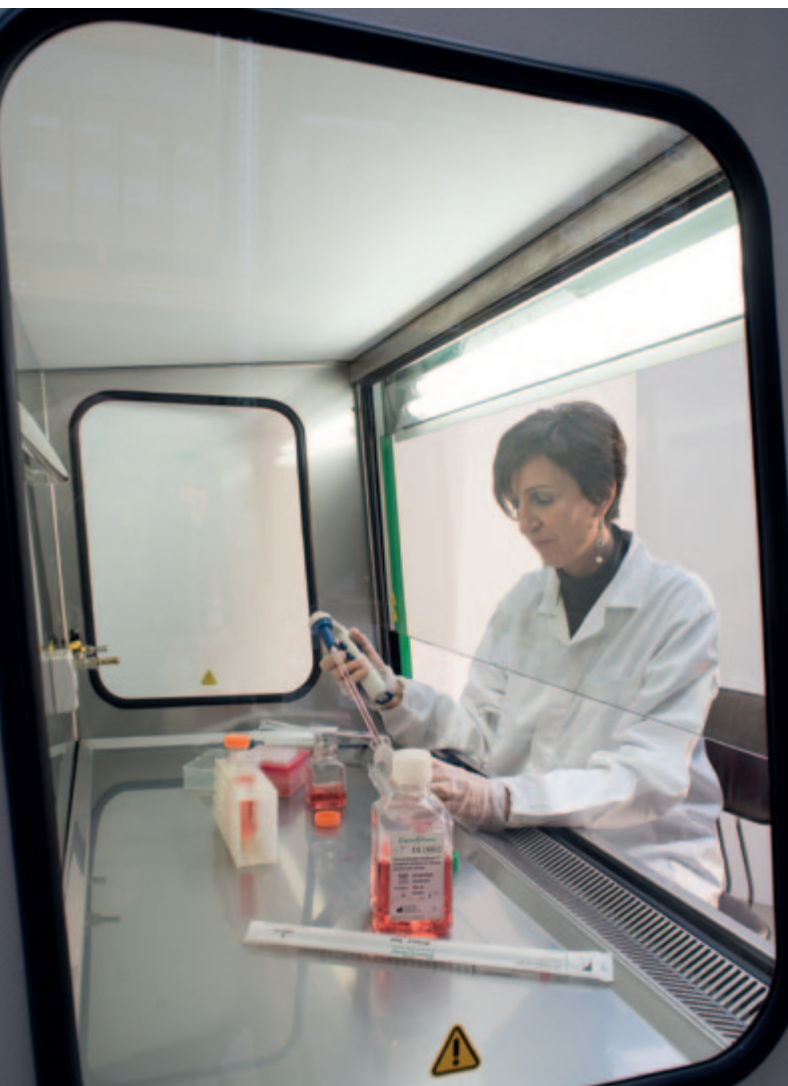
S@femate ECO Class II (Type A2) Microbiological Safety Cabinet Series evolves from our bestseller S@femate Series adding an eco-friendly approach: the new EC Motorblowers enhance significantly the efficiency of the Cabinet reducing operating costs and improving building energy balance thanks to the lower heat output.

As always at EuroClone-BioAir:

Your Safety is our Commitment

No compromise for Operator, Product and Environment.

Protection guaranteed as required by EN12469:2000 standard.





What is EC technology?

EC stands for Electronically Commutated, and it takes advantage of the most modern technologies in order to improve efficiency reducing overall power requirements!

Here are the Facts!

The New S@femate ECO Series requires 25% less Energy compared to a conventional AC Motor Cabinet.

This implies that CO₂ emission is reduced by 250 Kg/year (average).

How does EC technology benefits you?

- It reduces your Energy Bill! Lower Power Consumption and Better Efficiency means money saving!
- It guarantees a lower Heat Emission compared to the conventional AC motor. This reduces running costs as well thanks to lowered building cooling load.
- It saves the Planet! Lower Energy Consumption and Highest Efficiency means less CO₂ Emission and sustainable work flow.

Italian Quality and German Certification for a better World!

Silent operation: <49dB(A)

Tempered glass side windows to provide higher luminosity



Air/Aerosol tight electrical sliding sash with exclusive "zyzy" movement



Sloped front for the most comfortable access

Solid liquid retaining work surface



Italian Quality

Our cabinet are completely made in Italy using components of italian or european origins! We use only the best for our cabinets!





Utilities connection from the top



An elegantly crafted standard control panel and display, for your convenience



Integrated UV Lamp and Utilities



Anti obstruction "V" shaped front grille



German Certification

Our quality has been certified by the most prestigious body in Europe! All of our cabinets have been tested according to the most rigorous requirements to provide the best performance possible!



A better world

As a manufacturer we feel that is our responsibility to reduce our ecological footprint to grant for a sustainable working place both economically and ecologically!

Main Specifications:

Microprocessor controlled EC motorblower enhances energy efficiency, reducing operating costs.

- Fully compliant with the EN 12469 safety standard as independently tested and certified by TUV Nord – the leading testing agency in Europe.
- Air and aerosol tight electrical sliding sash with unique “YZY” movement.
- Available in 0.9m, 1.2m 1.5m & 1.8m cabinet widths.
- Highest air flow stability both in terms of transitional disturbances and of progressive filter clogging.
- Sloping front aperture to maximise user comfort.
- CE certification according to Machinery Directive 89/392/ EEC, 91/368/EEC, 93/44/EEC 93/68/EEC.
- Semi-automatic fumigation cycle (EN12297 tested and certified).



Features for Unbeaten Safety, Quality & Usability:

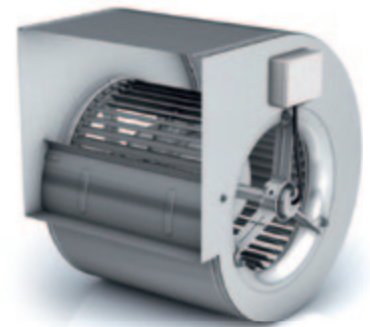
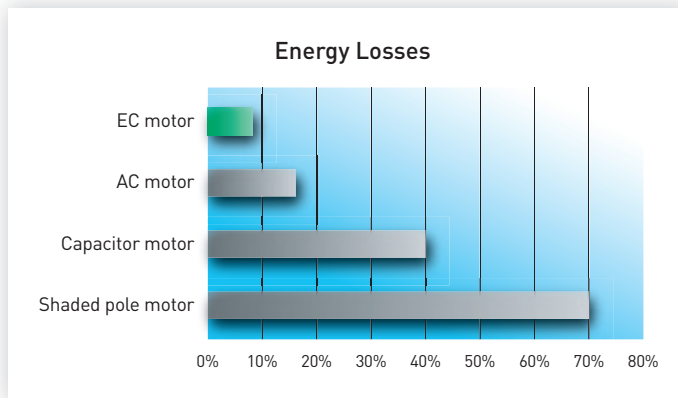
- Air and aerosol tight electrical sliding sash system with unique “YZY” movement ensures the containment of aerosol within the chamber when the front window is fully closed. The sash can be rapidly closed in an emergency situation.
- Continuous monitoring of the front barrier airflow for the highest operator safety.
- Permanent monitoring of HEPA filters life span.
- Multilevel alarm system.
- Control panel featuring a large digital high resolution display and soft touch keys
- Steel with a perforated work surface as a no cost option.
- Front aperture inlet grille is a recessed V profile in the work surface to prevent flow restriction from the user’s arms / clothing.
- Stainless steel internal surfaces with full access to exposed surfaces for ease of cleaning.
- Cleanability Index C grade (EN12296 tested and certified).
- Sloping front aperture and rear chamber lining for optimal downflow air distribution across the work surface.
- Self calibration cycle performed each time the cabinet is switched on.
- Removable stainless steel three part work surface for easy steam sterilisation in an autoclave.
- Interconnected UV and fluorescent lights.
- C Shaped support stand for one man installation.
- Side windows for maximum illumination of the working area.



Green Technology

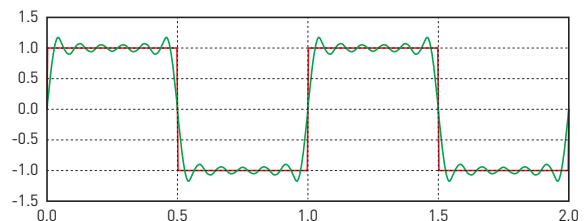
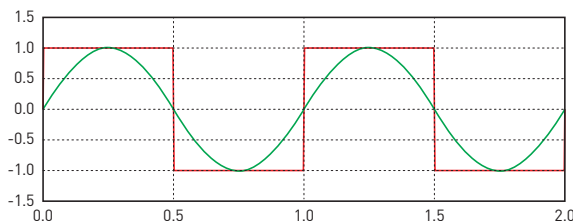
The new S@femate ECO uses a 3-Phase AC asynchronous motorblowers driven by a programmable electronic inverter with the most advanced 16khz technology: this allows direct control of the motorblower's speed obtaining higher overall efficiency and reduced noise and heat emissions.

Asynchronous 3-Phase AC induction motors with electronic control play a key role in reducing the use of Biological Safety Cabinet costs, offering a modern solution to the problem posed by the requirement of good energy efficiency with low noise level and competitive price.



Advantages of ECM motors

- **Reduced running costs:** energy consumption is reduced by about 30% with comparison to standard single-phase triac-controlled motors
- **Reduced heat output:** helps reducing the overall air conditioning costs
- **Stepless speed regulation:** extremely efficient and precise regulation of airflows
- **Reduced sound level:** thanks to the sinusoidal waveform, ECM motors are more silent than conventional single-phase AC motors



- **External electronics:** the inverter is not in the contaminated area allowing for easier maintenance than with DC motors
- **Long life:** reduce maintenance costs!



Why “ECO”?

By providing both economical and ecological advantages, the new S@femate ECO is a logical step forward in the evolution of the S@femate Series of cabinets.

	S@femate 1.2	S@femate ECO 1.2	Difference
Cabinet power requirement	465 W	365 W	-100 W (-24%)
Motorblower only power requirement	339 W	239 W	-100 W (-29%)
Power consumption per year	1305 kWh	1024 kWh	-280 kWh
Annual Operating Costs	221 €	174 €	-47 €
Heat output per year	4455.3 kBTU	3497.17 kBTU	-958.13 kBTU
CO ₂ Emission	656 Kg	515 Kg	-141 Kg

Comparison Settings

- The needed power was measured for the motorblower only and for the whole cabinet in operational status (fluorescent lights on, Mode 1). No additional loads were connected to the cabinet power outlets.
- Running costs have been calculated considering a usage profile of 9hrs/day for 6 days/week (tot 2808 hrs/year).
- Average European electricity costs have been used to estimate the economic impact (0.17€/kWh).
- Thermal output in British Thermal Units (BTU) has been calculated multiplying the energy consumption in kilowatt hours by 3412.141.
- CO₂ emissions were calculated considering 0.5 Kg/kWh.

Standard utilities

STANDARD ELECTRICAL EQUIPMENT	SIZE 0.9	SIZE 1.2	SIZE 1.5	SIZE 1.8	STANDARD UTILITIES	SIZE 0.9	SIZE 1.2	SIZE 1.5	SIZE 1.8
Main switch with all position removable key	•	•	•	•	Tap for combustible gas line	•	•	•	•
Automatic electronic airflow velocity control PCB	•	•	•	•	Tap for inert fluids/vacuum line	•	•	•	•
Motorblower (fan)	•	•	•	•	Auxiliary electrical service socket	•	•	•	•
2 nd motorblower (fan)	NO	NO	NO	•	2 nd auxiliary electrical service socket	optional	optional	optional	•
Inverter	•	•	•	•	UVC lamp socket	•	•	•	•
Fluorescent lamps	•	•	•	•	Voltage-free contact (VFC) outlet	•	•	•	•
UVC Lamp (backwall mounted)	•	•	•	•	Alarm mute connector (for service personnel only)	•	•	•	•
Sliding window electric motor	•	•	•	•					
Combustible gas solenoid valve	•	•	•	•					

Options & Accessories

CODE	DESCRIPTION	NOTES	SIZE 0.9	SIZE 1.2	SIZE 1.5	SIZE 1.8
AC10000	CHEST DRAWER	2 drawers – with castors	•	•	•	•
AS1A000	SUPPORT STAND 1.2	h= 730 mm		•		
AS1B000	SUPPORT STAND 1.5				•	
AS1C000	SUPPORT STAND 1.8					•
AS1D000	SUPPORT STAND 0.9		•			
AKC0001	KIT UVC 30W (mobile)	230V-50Hz only		•	•	•
AKD0001	KIT UVC 15W (mobile)		•			
AKC0061	KIT UVC 30W (mobile)	220V-60Hz only		•	•	•
AKD0061	KIT UVC 15W (mobile)		•			
AZ1E601	ARMRESTS		•	•	•	•
DT00003	DATA OUTPUT PORT	RS232	•	•	•	•

Technical Data

DESCRIPTION	SIZE 0.9	SIZE 1.2	SIZE 1.5	SIZE 1.8
Part No. (solid work surface)	LDD2200	LDE2200	LDF2200	LDG2200
Part No. (perforated work surface)	LDD2201	LDE2201	LDF2201	LDG2201
SPECIFICATIONS				
Reference Standards:	IEC 61010-1:2010 / EN 61010-1:2010 IEC 61326-1:2012 / EN 61236-1:2013 EN 12469:2000			
Electrical insulating/protection class [IEC 61140]:	I			
Mains supply voltage:	220-240 V~ 50/60 Hz			
Required power line (W): (700 W service socket included)	1200	1200	1350	1750
* Absorbed power (W): (fan and light on only)	270	375	430	650
Window glass UVC radiations retention (%):	98			
Combustible gas fixture max pressure (mbar):	20			
Inert fluids/vacuum fixture max pressure (bar):	4			
Electrical service socket max current (A):	3			
WEIGHT AND SIZE				
Weight (kg):	230	260	300	360
Overall size L x D x H (mm): (without support stand)	1075 x 840 x 1450	1380 x 840 x 1450	1685 x 840 x 1450	1990 x 840 x 1450
Front aperture size L x H (mm):	860 x 195	1165 x 195	1470 x 195	1775 x 195
Working space size L x D x H (mm):	925 x 580 x 700	1230 x 580 x 700	1530 x 580 x 700	1840 x 580 x 700
MATERIALS				
Main structure:	cold rolled steel, stove enamel coated RAL 7035			
Working space surface:	stainless steel AISI 304 - 2B finishing			
Front and side walls windows:	laminated safety glass			
PERFORMANCES				
Laminar Air Flow mean velocity [EN 12469](m/s):	0,35 ÷ 0,40			
Inflow Air Barrier mean velocity [EN 12469](m/s):	0,53 ±10%			
Exhaust Air flow rate (m ³ /h):	330 ±10%	450 ±10%	500 ±10%	600 ±10%
Exhaust Air flow ratio (%):	30 ±10			
Apf - Aperture Protection Factor [EN 12469]: (Retention efficiency at front aperture)	≥1,0 x 10 ⁵			
Working space air cleanliness class [EN 14644-1]:	ISO 5			
Illuminance [EN 12469] (lux):	>750			
** Sound level [EN ISO 3744] [dB[A]]:	<49	<50	<54	<58
Vibration [EN 12469] (mm RMS):	<0,005			
Max increase inside cabinet in temperature from the ambient [EN 12469] (°C):	<5			
FILTERS				
Filters efficiency class [EN 1822-1]:	H14 ***			
Filters global MPPS efficiency [EN 1822-1](%):	99,995			
MPPS diameter [EN1822-1](µm):	0,1 ÷ 0,3			

* Measured in operating conditions.
Power requirements with lights off at minimum
airflow speeds (as per EN12469:2000),
are about 35% less than those shown in table.

** Measured in operating conditions.
Actual values at customer site may be
different due to room structure.

*** Efficiency higher than ULPA (Class F)
as per IESP-RP-CC001.

Every Lab Every Day

EuroClone® is virtually able to **meet all needs**, in terms of *reagents, equipment and know-how*, which may arise in any of the following *markets*:

BIOTECHNOLOGY (Research and Production) *offering products for:*

Cell Biology; Molecular Biology; Proteomics; Contamination Control Equipment for Research & Industrial Application

DIAGNOSTICS (Human, Agro-Food and Veterinary) *featuring:* Cytogenetics; Food Control; Animal and Plant Infectious Diseases

MEDICAL DEVICES (both for General and Specialistic application) *to be used in:* General Surgery; Laparoscopy; Gynaecology; ENT Neurosurgery

The **Corporate Headquarters**, located in Pero (nearby Milan), coordinate the activities of *2 satellite sites* as well as the sales efforts of more than

70 Distributors worldwide, covering the most significant countries throughout 5 continents.



EuroClone® headquarters
Pero (MI)



Production site
Sizzano (PV)

More than 40 years of experience

The experience of **EuroClone®** in manufacturing **Biohazard** and **Laminar Air Flow** cabinets goes back to the early 70s', when the brand *Gelaire®* became the "gold standard" for airborne contamination control in many laboratories throughout the world.

A family of **Recirculating Fume Hoods**, based on the adsorption of toxic vapors by means of charcoal filters, was successfully introduced a few years later, thus characterizing the Company as the only one really focused on the protection of the operators and inspired by its motto.

This unique know-how was cherished and brought to an even higher level of quality twenty-five years later, when under the name of **BioAir®**, the entire range was completely re-designed to meet the growing requirements of the laboratory staff and the most stringent regulations.

At the top of the range, particularly noteworthy are the **Biohazard** (or Microbiological Safety) **Cabinets**, representing the sum of the Company's know-how certified to European standards (EN12469:2000) and complying with the Australian regulations; in other words, they are designed to provide the technicians with the maximum level of safety, when they are used according to GLP/GMP in their respective environments.

Today, in a plant occupying more than 2.800 square meters, **EuroClone®** manufactures a *complete range of microbiological safety cabinets, laminar flow cabinets and fume cupboards*, encompassing more than 15 models, with many of them available in different sizes; customized models and/or designed for specific applications can be produced thanks to the competence of a team of skilled engineers and dedicated workers.

The experience deriving from decades of sales and support to Cell Biologists, allowed **EuroClone®** to bring into the market an *extremely innovative CO₂ Incubator*, the **S@fegrow 188**, which is the result of a deep knowledge of the best conditions required by the most critical tissue culture methods, supported by the suggestions received from the scientists involved in growing cells *in vitro*.

The core business of the recently established **BioAir® Industrial** Team is the design, manufacturing and validation of customized equipment for the protection of the operator and of the product within *pharmaceutical and healthcare production facilities*.

This dedicated team will take advantage of the long experience and the production capacity acquired through laboratory LAF applications, to offer dedicated and complex equipment, ranging from **dispensing/sampling Downflow Booths** and **Clean Rooms**, to **RABS** and **Isolators** for Regenerative Medicine and Advanced Cell Therapy.





EuroClone®
serving science through innovation



EuroClone S.p.A.

Via Figino, 20/22 - 20016 Pero (MI) Italy

☎ +39 02 38195.1 - 📠 +39 02 38101465

✉ info@euroclone.it - www.euroclone.it

Quality Management Systems certified according to ISO 9001 and ISO 13485 international standards