

*EuroElone®*  
s@femate  
eco 

Microbiological  
Safety  
Cabinet



*EuroElone®*  
serving science through innovation



## Green Evolution

S@femate ECO ABC Class II (Type A2) Microbiological Safety Cabinet Series evolves from our bestseller S@femate ABC 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 AS 2252.2 standard.





## What is ECM technology?

ECM stands for Electronically Controlled Motor, 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.

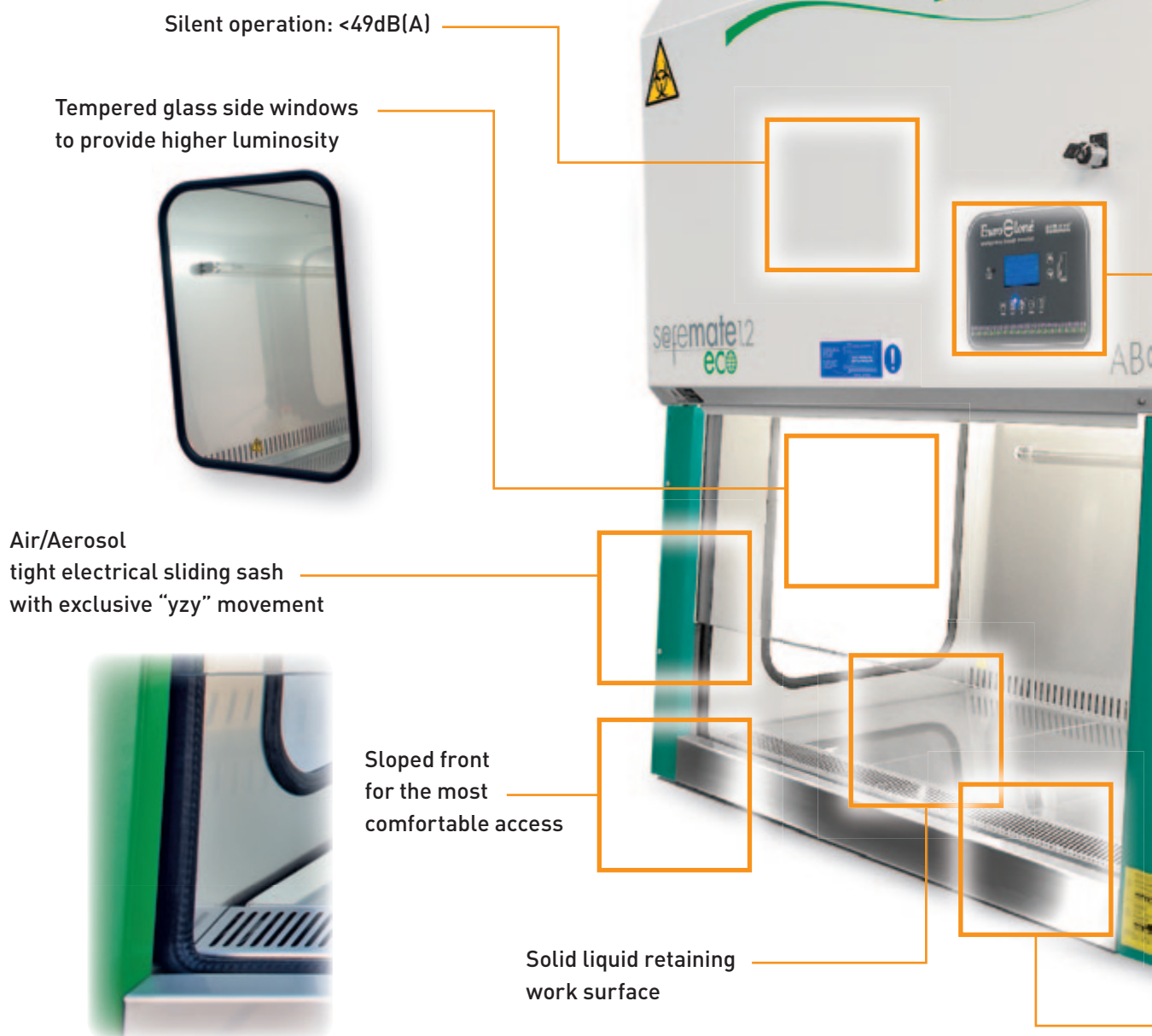
This implies that CO<sub>2</sub> emission is reduced by 250 Kg/year (average).

## How does ECM 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 CO<sub>2</sub> Emission and sustainable work flow.



# Italian Quality and Australian Standard for a better World!



## 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



#### Australian Standard

Our cabinets are designed  
and manufactured  
according to AS2252.2 standard!



#### 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 AS2252.2 safety standard.
- Air and aerosol tight electrical sliding sash with unique “YZY” movement.
- Available in 0.9 m, 1.2 m 1.5 m & 1.8 m cabinet widths.
- Highest air flow stability both in terms of transitional disturbances and of progressive filter clogging.
- Sloping front aperture to maximise user comfort.
- Solid liquid retaining work surface in stainless steel AISI304.
- Semi-automatic fumigation cycle (EN12297 tested and certified).



## Features for Unbeaten Safety, Quality & Usability:

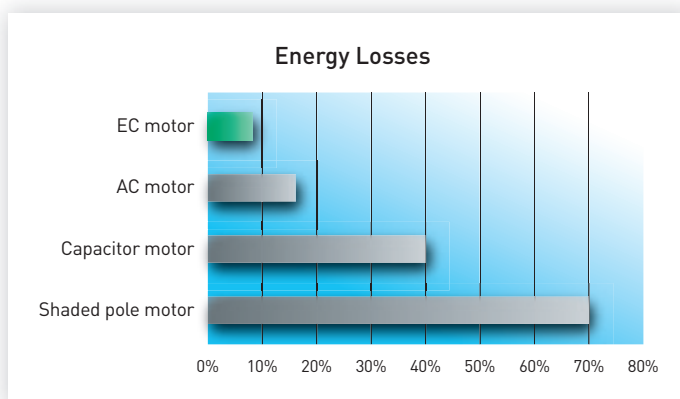
- Air and aerosol tight electrical sliding sash system with unique “YZY” movement ensures the containment of aerosol within the chamber when the sash is fully down. The sash can be rapidly closed in an emergency situation.
- Continuous monitoring of the front barrier airflow for the highest operator 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.
- Clean ability 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.
- Interconnected UV and fluorescent lights.
- C Shaped support stand for one man installation.
- Side windows for maximum illumination of the working area.



## Green Technology

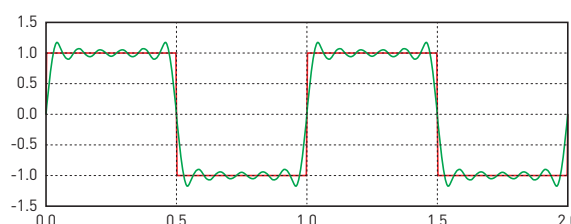
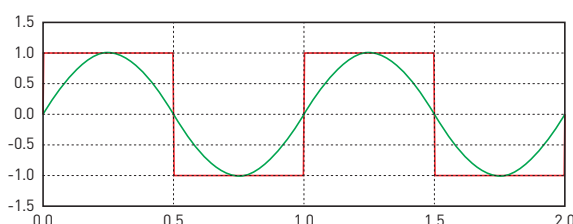
The new S@femate ECO uses a 3-Phase AC asynchronous motorblowers driven by a programmable electronic inverter with the most advanced 16khz technology: this allows direct control of the motorblower's speed obtaining higher overall efficiency and reduced noise and heat emissions.

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 ABC is a logical step forward in the evolution of the S@femate ABC 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 <sub>2</sub> 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.
- CO<sub>2</sub> 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 |
|---|----------|----------|----------|----------|
| Main switch with all position removable key       | •        | •        | •        | •        |
| Automatic electronic airflow velocity control PCB | •        | •        | •        | •        |
| Motorblower (fan)                                 | •        | •        | •        | •        |
| 2 <sup>nd</sup> motorblower (fan)                 | NO       | NO       | NO       | •        |
| Inverter  | •        | •        | •        | •        |
| Fluorescent lamps                                 | •        | •        | •        | •        |
| UVC Lamp (backwall mounted)                       | •        | •        | •        | •        |
| Sliding window electric motor                     | •        | •        | •        | •        |
| Combustible gas solenoid valve                    | •        | •        | •        | •        |

| STANDARD UTILITIES                                  | SIZE 0.9 | SIZE 1.2 | SIZE 1.5 | SIZE 1.8 |
|---|----------|----------|----------|----------|
| Tap for combustible gas line                        | •        | •        | •        | •        |
| Tap for inert fluids/vacuum line                    | •        | •        | •        | •        |
| Auxiliary electrical service socket                 | •        | •        | •        | •        |
| 2 <sup>nd</sup> auxiliary electrical service socket | optional | optional | optional | •        |
| UVC lamp socket                                     | •        | •        | •        | •        |
| Voltage-free contact (VFC) outlet                   | •        | •        | •        | •        |
| Alarm mute connector (for service personnel only)   | •        | •        | •        | •        |

## 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)  | LDD2822   | LDE2822           | LDF2822           | LDG2822           |
| SPECIFICATIONS   |   |                   |                   |                   |
| Reference Standards:   | IEC 61010-1:2010 / EN 61010-1:2010<br>IEC 61326-1:2012 / EN 61236-1:2013<br>AS 2252.2 |                   |                   |                   |
| Electrical insulating/protection class [IEC 61140]:                          | I   |                   |                   |                   |
| Mains supply voltage:  | 220-240 V~ 50/60 Hz   |                   |                   |                   |
| Required power line [W]:<br>(700 W service socket included)                  | 1200  | 1200              | 1350              | 1750              |
| * Absorbed power [W]:<br>(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):<br>(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 [AS1807.1](m/s):                              | 0.40 ÷ 0.45   |                   |                   |                   |
| Inflow Air Barrier mean velocity [AS1807.22](m/s):                           | >0.65   |                   |                   |                   |
| Inflow Air Barrier rate (m³/h):  | 450 ±10%  | 550 ±10%          | 700 ±10%          | 800 ±10%          |
| Inflow Air Barrier ratio [%]:  | 40 ±10  |                   |                   |                   |
| Apf - Aperture Protection Factor [EN 12469]:                                 | ≥1,0 x 10 <sup>5</sup>  |                   |                   |                   |
| Air Barrier containment test penetration [AS1807.22] [%]:                    | <0.01   |                   |                   |                   |
| Working space air cleanliness class [EN 14644-1]:                            | ISO 5   |                   |                   |                   |
| Lighting (lux):  | >750  |                   |                   |                   |
| ** Sound level [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, 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  
Siziano (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 (AS2252.2); 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 CO<sub>2</sub> 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



**IOAIR**

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Call: 1300 306 002 [www.laftech.com.au](http://www.laftech.com.au)

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Accredited Laboratory

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