

## DATASHEET

### SAFEMATE ECO SERIES MICROBIOLOGICAL SAFETY CABINETS



- Low energy consumption EC motor blower
- State of the art microprocessor control system.
- Large digital display, high resolution
- Air and aerosol-tight sliding sash, electrically operated by finger touch
- Alarms for low air flow and wrong front window position
- Sloped front and back wall for the most comfortable access
- Lateral windows
- Front access for filter maintenance and service
- C-shaped support stand for the easiest *oneman installation* procedure
- Easy retrofit option kits
- Fully automated fumigation cycle

S@femate ECO Cabinets are supplied in four different sizes (0.9mt, 1.2mt, 1.5mt and 1.8mt).

These last generation Microbiological Safety Cabinets Class II type A2, have been certified according to the most stringent safety standards (EN12469-2000).

The internal design, the air flow aerodynamics and monitoring, the built-in safety devices and the very accurate manufacturing, guarantees the highest performances at the most stringent safety levels, as specified by EN12469 standard and have been certified by the most prestigious European certification bodies for Safety Cabinets.

Certified intrinsic biological safety, combined with impressively competitive prices, gives the end user a state-of-the-art cabinet accessible to every budget, that only experienced European design and accurate quality manufacturing, can provide.

The ECO series evolves from our best seller series with a more eco-friendly approach: the new EC Motorblowers provide high efficiency while consuming less energy and the airflows has been designed in order to reduce noise pollution, while assuring the high level of operator, product and environment protection required by the EN12469-2000 standards.

### **Main specifications**

- Microprocessor controlled EC motor blower, with volumetric sensor for exhausted air flow monitoring
- State of the art Microprocessor control system offering:
  - Large screen monitor.
  - Automatic control of preset airflow volumes.
  - Sliding sash window with smart control.
  - Permanent monitoring of HEPA filters life span.
  - Alarms. Multilevel alarms, with redundancy functions.
  - Permanent display of working conditions.
  - Highest air flow stability both in case of transitional disturbances or to progressive filter clogging
  - Fully-automatic fumigation cycle
  - Continuous monitoring of front barrier air flow for the highest operator safety
  - Low barrier alarm
  - Power failure alarm
- Volt-free contact for remote monitoring of exhaust fan.
- Automatic reset of initial conditions in case of power failure
- C-shaped support stand for the easiest *oneman installation* procedure

### **Mechanical and functional specifications**

- 5° Sloped front design for the highest operational comfort. Sloped back side of the working chamber for the best down flow distribution (cabinet carcass EN12298 tested and certified for air tightness)
- Utilities inlets from the top of the cabinet.
- Stainless Steel internal surfaces with 2B finishing (including spillage tray). Solid or perforated work surface (3 sections) and special designed front grill.
- Electrically operated sliding multilayer safety glass window (max opening at 120°)
- Comfortable 200mm front opening
- Easy to install retrofit options through lateral sides.
- Comfortable lateral side windows series available



- Exposed exhaust HEPA filter for easy visual integrity check.
- H14 class High Efficiency Particulate Air filters with 99.999% efficiency on .3micron particles (most penetrating particle diameter) (Efficiency >= 99.995% on 0.1-0.2 micron particles MPPS as per EN1822-1)
- ISO 3 (ISO14644-1) internal cleanliness level
- Both exhaust and Main Filters are equipped with a micromesh membrane located downstream which acts as airspeed equalizer expansion plenum, as well as a clear indicator of filter damages.
- Filter change and maintenance from the front of the cabinet.
- Exhaust transitions easily installable.
- Key operated. The key can be removed when the unit is in SAFE mode, in order to avoid unwanted operation. In case of power failure, the cabinet is re-set to original working conditions.
- Self-calibration cycle performed when cabinet is switched on.
- High speed rinse and set up cycle performed, before reaching the SAFE operating mode.
- Visual display of SAFE conditions. Pre-warning before actual alarm conditions are reached (visual and acoustic alarms)
- Soft touch control with keys for standard service utilities. Interconnected UV and fluorescent lights.
- Exhaust and recirculating flow rates ensure 25 air changes/min in the working area (30% 70% split)
- Front barrier air speed  $\geq 0.5\text{mt/sec}$
- Aperture protection Factor (Apf)  $\geq 1.5 \times 10^5$
- Cleanability Index CC grade. (EN 12296 tested and certified)
- Light intensity on work surface  $> 900\text{ lux}$ .
- Noise level  $\leq 56\text{dB(A)}$  1.2 mt Model (ISO 11201, ISO 4871 and ISO EN 3744 tested and certified)
- Work surface displacement (vibration)  $<0.005\text{mm RMS}$  between 20Hz and 20,000Hz (ISO 5349 tested and certified)
- Power supply: AC 230V, 50/60Hz
- Max power (for each power point) 3Amps.
- Microprocessor equipped with analogical watch dog.

## STANDARD UTILITIES

Utilities are located on the back wall of the working area. Connectors for the utilities are located on the top of the cabinet towards the back.

Vacuum tap. On the back wall, right side.
Gas tap with safety solenoid valve. On the back wall, right side.
Electrical sockets. On the back wall.
DOP sampling port. Below the work surface, left side.
UV lamp installed on the back wall.

## OPTIONALS ACCESSORIES

Description	Part No.
Stand for S@femate ECO 0.9	AS1L310

Stand for S@femate ECO 1.2	AS1L410
Stand for S@femate ECO 1.5	AS1L510
Stand for S@femate ECO 1.8	AS1L610
Castor kit	AZ1L010
2 Drawers file cabinet	AC10000

## OPTIONAL UTILITIES

Additional gas taps.
Additional sockets
RS232 data transmission kit (Software not included)
Passive transition adapter for external ducting.
Active extraction kit for ducting with remote motorblower.

## TECHNICAL SPECIFICATIONS

MODEL	S@FEMATE ECO 0.9	S@FEMATE ECO 1.2	S@FEMATE ECO 1.5	S@FEMATE ECO 1.8
Part No. with perforated work surface	LDD2201	LDE2201	LDF2201	LDG2201
Part No. with solid work surface	LDD2200	LDE2200	LDF2200	LDG2200
External size(lxpxh) mm	1074x840x1450	1380x840x1450	1685x840x1450	1990x840x1450
Work area size (lxpxh) mm	924x600x700	1230x600x700	1530x600x700	1840x600x700
Height including stand (mm)	2175	2175	2175	2175
Front Aperture (mm)	195	195	195	195
Weight (Kg)	206	240	272	340
HEPA filters efficiency	> 99,995% MPPS (test MPPS according to EN1822.1)			
Internal cleanliness	ISO 3 (according to ISO14644-1)			
Exhaust air volume	≈300 m <sup>3</sup> /h	≈400 m <sup>3</sup> /h	≈500 m <sup>3</sup> /h	≈600 m <sup>3</sup> /h
Motorblower(s)	Centrifugal with speed autoregulation based on filter clogging status. IP55 protection level (2 blowers in 1.8 model)			
Power supply	230V 50Hz			
Power (W)	260	300	415	560
Internal Sockets	2	2	2	2
Fluorescent lamps	2x25W	2x30W	2x36W	2x58W
Lighting	1200 lux			
Sound pressure level	<58 dB(A)	<58 dB(A)	<58 dB(A)	<58 dB(A)

