Euro Clone®

serving science through innovation

S@feflow™ Series
MICROBIOLOGICAL SAFETY CABINETS:
The Ultimate Microbiological Safety Cabinet

AUTHORIZED FOR PUBBLICATION

Technical Specifications

- **MSC Class II Type A2**
- **Fully EN12469 certified by Tüv Hamburg and LNE Paris.**
- **Last generation Microprocessor control with interactive functions**
- **Large screen monitor, with permanent display of critical functions and operational / emergency messages.**
- **Multilevel alarms with redundancy functions**
- **Continuous measurement of volumetric airflows (total and exhausted)**
- **Air and aerosol-tight sliding sash, electrically operated by finger touch**
- **Automatic Sterilisation Cycle (ASC), reliable, safe and reproducible.**

S@feflow ™ Cabinets are supplied in three different sizes (0.9mt, 1.2mt and 1.8mt).
These highly sophisticated Microbiological Safety Cabinets Class II Type A2, provide the highest safety for the operator and the environment for the manipulation of Risk Groups 1 to 3 of pathogens (WHO Classification of Infective Microorganisms by Risk Group, 2004)
The internal design, the air flow aerodynamics and monitoring, the built-in safety devices and the comprehensive range of unique options, guarantees the highest performances at the most stringent safety levels, higher than those specified by EN12469 standard and have been certified by all the most prestigious European certification bodies for Safety Cabinets (Germany, UK and France).
Certified intrinsic biological safety, combined with highly sophisticated interactive features and options, gives the end user, the environment and the product an ultimate microbiological safety that only experienced European design with over 35 years of know how and accurate quality manufacturing, can provide.

TÜV NORD GS geprüfte Sicherheit

EN 12469 APPROVED

Main specifications

1. Fully EN12469 certified (by Tuev Hamburg and LNE Paris)
2. Sloped front for highest operational comfort.
3. Air- and aerosol-tight electrical sliding sash with smart functions. User friendly swing-out feature for effective cleaning and sanitation of the inner glass surface.
4. Microprocessor control with following main specs:
    i. Large screen monitor.
    Easy to read. Multi-functional display. Icons to access the different functions.
    Permanent display of main parameters. Message display (standard functions and emergency situations)
    ii.Three levels of PIN codes
    Operator, Supervisor and Calibration.
    iii. Accessory functions
    Choice of five languages, time and date display, SW version display, entered PIN level display, etc.
    iv. Fully automatic UV light cycle
    v. Sliding sash window with smart control (opens/closes automatically when required during certain automatic cycles such as UV positioning, automatic fumigation, etc). The window can be also operated manually directly from the keyboard. Special safety system build in to prevent accidents.
    vi. Permanent monitoring of HEPA filters life span.
    vii. Permanent monitoring of UV light life span
    viii. Direct maintenance and re-calibration accessible from the keyboard no need of external lap tops neither of opening the electrical panel for normal calibration procedures.
    ix. Alarms. Multilevel alarms, with redundancy functions (direct speed measurement and position of the window checked by double micro switch). Permanent measurement of total flow and exhaust flow by vane anemometer(s)
    x. Multitask multi-pin plug build as standard option, for monitoring of the UV cycle and of the automatic sterilisation cycle
5. Very silent and quite operation <54dB(A) due to special soft plenum design and highly vibration-free suspensions of the fan(s).
6. Utilities plug-in from the top. Standard gas tap, power point and vacuum tap are connectable from the top of the cabinet. Consequently the overall width footprint of the cabinet is considerably reduced.
7. Automatic Sterilisation Cycle. (Optional kit: Formalin vaporiser and neutralising activated carbon filter exhaust kit)

Fully automatic, self-operating fumigation cycle, operated by the microprocessor. Cycle is based on following steps (times for each step can be set according to a precise protocol that the user can validate):

    i. Vaporising (formaldehyde is fumigated in the working chamber)
    ii. Diffusion (formaldehyde is circulated in the plenum and through the Hepa filters)
    iii. Contact time (for proper sterilisation effect)
    iv. Purge with automatic control of the residence time of the exhausted air through the activated carbon filter.

This allows the filter to have at any time the same efficiency, independently from the concentration of formaldehyde in the exhausted air. The front window is opened and the voltage applied to the fan is automatically controlled in order to optimise residence time.

8. Five different exhaust kit options to satisfy the most stringent needs
    i. Passive transition adapter for short ducting
    ii. remote external fan with or without additional filter
    iii. Thimble for multiple connection configurations with central exhaust
    iv. Activated charcoal filter automatic fumigation
    v. Integral dual HEPA exhaust filter
9. Recessed exhaust filter configuration to maximize distance from HEPA filter surface to laboratory ceiling, even with dual exhaust filter installed
10.Data Logger Kit.

This kit is used for downloading operational data relevant to several main operational parameters and can be operated by a total of up to 10 users on the same cabinet.

11. UPS Emergency Power Supply

Interactive emergency power supply for the safest power failure management of the Cabinet. In case of main power failure this device allows an adequate exit time for the operator in order to complete any unfinished tasks, and subsequently closes the front window and shot down the cabinet automatically. Pre-failure operating conditions are resumed when power returns.

Mechanical and functional standard specifications

- 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)
- Stainless Steel 304 internal surfaces with 2B finishing (including spillage tray). Perforated work surface (3 sections) and special designed front grill. Solid work surface available.
- Stainless steel 304 spillage sump

• Electrically operated sliding multilayer safety glass window; swing out features for cleaning.
• Utilities inlets from the top of the cabinet.
• Recessed exhaust Hepa filter.
• H14 class High Efficiency Particulate Air filters guaranteed with 99.999% efficiency on 0.3 micron particles (most penetrating particle diameter) (EN1822-1 and EN 13091:1999 tested and certified)
• 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.
• Three PIN code levels (Operator, Supervisor and Calibration)
• Programmable UV light cycle.
• Digital HEPA filter life span indicator
• Digital UV lamp life span indicator
• Automatic re-set of original working conditions in case of power failure.
• Self calibration cycle performed at start -up.
• High speed rinse and set up cycle performed, before reaching the SAFE operating mode.
• 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 ≥ 0.5mt/sec
• Aperture protection Factor (Apf) ≥ 2x 10 exp 5 (KI-discus test)
• Cleanability Index CC grade.(EN 12296 tested and certified)
• Light intensity on work surface > 900 lux.
• Noise level ≤ 54dB(A) 1.2 mt Model (ISO 11201, ISO 4871 and ISO EN 3744 tested and certified)
• Work surface displacement (vibration) <0.005mm RMS between 20Hz and 20,000Hz (ISO 5349 tested and certified)
• 230V, 50Hz
• Max power (for each power point) 3Amps.
• CE certification according to Machinery Directive 89/392/EEC, 91/368/EEC, 93/44/EEC 93/68/ EEC.

Technical Features S@feflow™ Series

Code number	LD80000	LD60000	LD70000
	S@feflow 0.9	**S@feflow 1.2**	**S@feflow 1.8**
Work chamber dimensions (lxdxh):	879x480x650 mm	1183x480x650 mm	1793x480x650 mm
Overall dimensions (lxdxh):	1055x792x1455 mm	1360x792x1455 mm	1970x792x1455 mm
Weight:	200 kg	270 Kg	350 Kg
Power supply:	230V-50Hz	230V-50Hz	230 V 50 Hz
Power requirement:	1.750 W	1.780 W	2.370 W
Noise Level	≤54dB (A)	≤54 dB (A)	≤55 dB (A)
Lighting	≥800 lux	≥800 lux	≥800 lux

Options

	Stands and UV
AS18000	Stand for all S@feflow 0.9 models
AS16000	Stand for all S@feflow 1.2 models
AS17000	Stand for all S@feflow 1.8 models
AK18000	Mobile UV light kit for all S@feflow 0.9 models
AK16000	Mobile UV light kit for all S@feflow 1.2 and S@feflow 1.8 models
	Transition Adapters (Not for BS Models)
AZ18200	Passive transition adapter kit for S@feflow 0.9 with exhaust enhancement grill (not installed). For ducts length up to 18 mt.
AZ16200	Passive transition adapter kit for S@feflow 1.2 with exhaust enhancement grill (not installed). For ducts length up to 18 mt.
AZ17200	Passive transition adapter kit for S@feflow 1.8 with exhaust enhancement grill (not installed). For ducts length up to 18 mt.

AZ18300	Extraction open hood ("thimble" no fan) for S@feflow 0.9
AZ16300	Extraction open hood ("thimble" no fan) for S@feflow 1.2
AZ17300	Extraction open hood ("thimble" no fan) for S@feflow 1.8
AZ18100	Motorised extraction kit for secondary exhaust HEPA filter or charcoal filter(see below "Other options") For S@feflow 0.9
AZ16100	Motorised extraction kit for secondary exhaust HEPA filter or charcoal filter(see below "Other options") For S@feflow 1.2
AZ17100	Motorised extraction kit for secondary exhaust HEPA filter or charcoal filter(see below "Other options") For S@feflow 1.8
AZ10000	Motorised remote extraction kit for all models (to be ordered in conjunction with Passive transition adapter) for ducts length >18 meters. Can be equipped with HEPA or Charcoal filters (see below "Other options" filter size for 1,2 meter cabinet)
	Optional utilities
AP30001 (**)	Installed Additional Vacuum tap for all models (check for delivery time)
AZZ4000	Retrofit Additional power point for all models. Not installed.
AP40000 (**)	Installed Additional power point for all models (check for delivery time)
	Automatic sterilisation options
AZ33000	Formalin vapourizer for all models
AZ18500	Frame for installation of dedicated Formalin Charcoal filter for all S@feflow 0.9 models (Charcoal filter excluded)
AZ1A500	Frame for installation of dedicated Formalin Charcoal filter for all S@feflow 1.2 & 1.8 models (Charcoal filter excluded. For 1.8 models please add AZ17500)
AZ17500	Adapter to fit with item AZ1A500 only for all S@feflow 1.8 models
CP52000	Formalin Charcoal filter to fit on item AZ18500 for S@feflow 0.9. Not suitable for permanent usage (only for sterilisation)
CP22000	Formalin Charcoal filter to fit on item AZ1A500 for all S@feflow 1.2 and 1.8 models. Not suitable for permanent usage (only for sterilisation)
	Other options
TBA	Secondary Exhaust General Purpose Charcoal filter for S@feflow 0.9 to fit on item AZ18100
TBA	Secondary Exhaust General Purpose Charcoal filter for S@feflow 1.2 to fit on item AZ16100 and AZ10000
TBA	Secondary Exhaust General Purpose Charcoal filter for S@feflow 1.8 to fit on item AZ17100
TBA	Secondary Exhaust HEPA filter for S@feflow 0.9 to fit on item AZ18100
TBA	Secondary Exhaust HEPA filter for S@feflow 1.2 to fit on item AZ16100
TBA	Secondary Exhaust HEPA filter for S@feflow 1.8 to fit on item AZ17100
80055014	Solid work surface (liquid retaining, single piece design) S@feflow 0.9 (NOTE: for retrofit. Recalibration required!)
80055015	Solid work surface (liquid retaining, single piece design) S@feflow 1.2 (for retrofit. Recalibration required)
80055016	Solid work surface (liquid retaining, single piece design) S@feflow 1.8 (NOTE: for retrofit. Recalibration required!)
AC10000	2- drawers file cabinet for all S@feflow models

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