

# BIOHAZARD SAFETY CABINET

## STERIL STERILSAFE - CLASS II A



Images herein provide are intended for illustration purpose only. The specifications can change without notice.



**EN 12469:2000**

## Introduction

Biohazard Safety Cabinets (BSC) are used in all those situations where it is necessary to protect the operator and the environment from harmful effects deriving from the uncontrolled spread of airport contaminants and, in equal measure, until no environmental interference of a microbiological nature involves and compromises the product during its manipulation.

## Applications

They are normally used in the laboratories of Microbiology, Virology, Haematology, Cell cultures.

They find an ever-increasing use in innovative research fields and in particular for the manipulation of:

- Oncogenic viruses
- Recombinant DNA
- Pathogens

Regarding the correct use and correct application of the equipment covered by this technical data sheet, reference should be made to the regulations in force in the relevant countries of use.

## Definition

The STERILSAFE series cabins produced by ALS are defined as:

- ✓ **BIOHAZARD** as they manage to satisfy the performances described in the following paragraphs.
- ✓ **Class II** in that they are equipped with a partial front working opening designed to allow the intake of 30% of the total air in play at a minimum speed of 0.4 m / s and a recirculation system of the remaining 70% which is sent on the laminar flow work area at an average speed of 0.4 m / s (as defined by the EN 12469 standards).
- ✓ **Type A1**, according to NSF 49 (U.S.A.) regulations, as they can be used in safety conditions even by returning the portion of expelled air from the front barrier to the environment.
- ✓ **Type A2** as, according to NSF 49 (U.S.A.) regulations, the expelled air quota can be channelled towards the outside of the room (for more technical details see the dedicated paragraph)

## Certification

**The BSC of the STERILSAFE serie, model 48 (120cm) and 72 (180cm) are NF certified by LNE according to EN 12469:2000**

**The model 36 (90cm) and 60 (150cm) are designed and manufactured according to the same EN 12469:2000 but they're not certified.**

## Specifications

**External structure in epoxy powder coated cold-rolled steel** for excellent corrosion resistance to the attack by aggressive common chemicals.

**Rear wall in stainless steel AISI 304 L**, designed to conform to requirements and pass the "cleanability test" according to EN12469:2000.

**Work surface in stainless steel AISI 316L** consisting of sections (or in one piece upon request) which are easily removable for carrying out routine cleaning and/or autoclaving sterilization procedures; closed or perforated on request.

**Front window:** electrically operated vertically sliding safety glass sash window

**Re-circulating and extractor fans:** the 'S'-Series are supplied with single centrifugal fan, whilst models of the 'D' Series with double centrifugal fan (main and exhaust) to provide complete operator, product and environmental protection. Moreover the 'D' models fitted with double motor-fan are designed and are also suitable to discharge the filtered air outside the laboratory through a ducting system if required.

**Filtration:**H14 HEPA/ULPA filters with an efficiency better than 99,995 % MPPS (EN-1822).

**Operation Condition:** Air cleanliness in Class ISO 3 as per ISO EN 14644-1.

**The user-friendly practical keyboard** and the rear-lit LCD will continuously display all required data keeping the user constantly informed of the cabinet conditions in operation, and in particular:

- display of laminar airflow velocity and frontal air barrier velocity
- display of inside and outside temperature
- display of residual lifetime of HEPA/ULPA filters, UV Lamp and activated carbon filter (if fitted)

- display of total number of hours of operation
- display of saturation level of HEPA/ULPA filters

**Audio-visual alarms provided for:**

- out of range or incorrect laminar airflow velocity and frontal air barrier velocity
- incorrect position of front sash-window
- clogging of HEPA/ULPA filters
- end of life-cycle of UV lamp and saturation of activated carbon filter (if fitted)
- blockage in the exhaust duct ( if fitted )
- fan-motor malfunction
- power failure

**Lighting:** fluorescent tubes in built-in housing, placed outside the contaminated area

**D.O.P.-DEHS inlet port** for testing the HEPA/ULPA filters

**Magnetic and removable UV sterilizing lamp** (optional) that can be easily placed in each area of the back wall. It is completed with two switch-off countdown timers, one variable on a 0-3 hours scale (1-minute steps), the other set to 3 fixed hours.

## Standard equipment

- Perforated work surface, divided into sectors
- Power socket (2 sockets on models 60 and 72)
- 100% DEHS port
- Vacuum tap
- Gas tap with solenoid valve

## Optional accessories

- Blind work surface, divided into sectors (on request, without extra charge)
- Floor stand
- UV lamp
- Additional electrical outlets
- Armrest (pair)
- Chest of drawers on wheels
- Gas / nitrogen / vacuum / compressed air taps
- Additional power socket.
- NO / NC clean contact
- Blind side walls (on request, without extra charge)
- Touch screen controller

## Testing

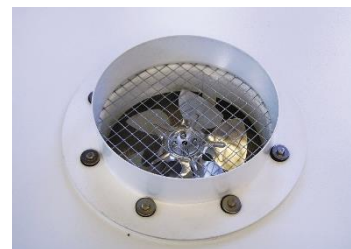
Each cabin is individually tested by the quality control office of our production site, with certified instrumentation in SIT centres and in accordance with internal procedures included in the ISO 9001 quality manual.

Upon request it is possible to carry out "VALIDATION TESTS" on site with IQ / OQ PROTOCOLS

## Installation of exhaust duct

The hoods of the CTH series are equipped with provision for connection outside the room; the indications relating to the maximum length of the channel to be connected do not consider any curve. It should be considered that each curve provides a pressure drop equivalent to one linear meter (10 linear meters with three curves = 13 linear meters)

| Model         | Flange diameter | Duct max length |
|---------------|-----------------|-----------------|
| STERILSAFE 36 | 200mm           | 15m             |
| STERILSAFE 48 |                 |                 |
| STERILSAFE 60 |                 |                 |
| STERILSAFE 72 |                 | 18m             |



## Technical Data

| Description   | Unit  | STERILSAFE 36       | STERILSAFE 48 | STERILSAFE 60 | STERILSAFE 72 |
|---|---|---------------------|---------------|---------------|---------------|
| <b>Code</b>   |   | <b>14500</b>        | <b>14501</b>  | <b>14502</b>  | <b>14503</b>  |
| External dimensions WxDxH (1)   | mm  | 1045x810x1545       | 1350x810x1545 | 1655x810x1545 | 1960x810x1545 |
| Internal dimensions WxDxH   | mm  | 887x580x740         | 1192x580x740  | 1497x580x740  | 1802x580x740  |
| Working frontal aperture  | mm  | 200*                |               |               |               |
| Max frontal aperture  | mm  | 490                 |               |               |               |
| Weight  | kg  | 170                 | 195           | 225           | 260           |
| Exhaust air volume  | m <sup>3</sup> /h   | 290                 | 390           | 485           | 585           |
| Noise (2)   | dB(A)   | <53                 | <54           | <55           | <56           |
| Light   | lux   | >1100               | >1200         | >1300         | >1300         |
| Voltage   |   | 230V / 1 + T / 50Hz |               |               |               |
| Power consumption (3)   | A   | 1,9                 | 2,1           | 3,4           | 3,6           |
| Electrical class/IP   |   | 1/20                |               |               |               |
| Internal electrical outlet  | The electrical outlets have a total load capacity of 6A and are protected by a T6A fuse |                     |               |               |               |
| Heat emission   | W   | 175                 | 240           | 295           | 360           |
| (1) The total depth of the cabinet can be easily reduced to 780 mm removing the back panel<br>(2) At operation condition according to EN-12469: 2000<br>(3) Clean filters, lighting activated, internal outlet load excluded<br>* Alternative sash-height settings (250-160 mm) by the factory are available upon request |   |                     |               |               |               |

|                                       |  |
|---------------------------------------|--|
| Product name                          | <b>STERILSAFE</b> series. STERIL™ brand is full property of Angelantoni Group              |
| Manufacturer                          | Angelantoni Life Science S.r.l.<br>Loc. Cimacolle, 464<br>06056 Massa Martana (PG) - Italy |
| Voltage                               | 208 – 253 VAC 50 Hz  |
| Environmental conditions - operations | Temperature: +2° ~ +50°C<br>RH%: 30 ~ 85% without condensation                             |
| Environmental conditions - storage    | Temperature: +2° ~ + 50°C<br>RH%: 20 ~ 80% without condensation                            |
| Alarms                                | Acoustic and visual  |
| In case of black-out                  | System shuts down  |
| Warranty                              | 12 (twelve) months   |