Safe^3

Class III MICROBIOLOGICAL SAFETY CABINETS

Safety you can afford

Technical Specifications

- Manufactured in accordance with EN12469:2000 standard
- State of the art microprocessor control system
- Main switch with removable key
- Soft touch keyboard
- Bar graph for exhaust air flow conditions; permanent display
- Alarms for low air flow
- Sloped front for the most comfortable access
- Front and side access for filter maintenance and service
- C-shaped support stand for easy *one-man installation* procedure
- Transfer hatch with interlocked doors
- Class III cabinet with exclusive three filter design.

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Numero REA: MI-2577880
Partita IVA e Codice Fiscale: 11078210967
Cap. Soc. Euro 3.000.000 i.v.
Sede Legale: Via Pagano, 61 - 20145 Milano - Italy
Sede Operativa: Via Lombardia, 12 - 27010 Siziano (PV) - Italy

Main specifications

- Controls comfortably located at eye level.
- Fan speed and aeraulic controlled by microprocessor.
- Three operating modes: normal, stand-by, calibration
- High speed rinse at start-up
- Self-calibration and internal Watch-dog cycle before "SAFE" condition is reached
- Visual display of "SAFE" conditions and "UNSAFE" conditions (LED and bar graph)
- Elapsed time meter
- Microprocessor control with following specifications:
  - Multilevel alarms, with redundancy functions.
  - Permanent display of working conditions.
  - High air flow stability both in case of transitional disturbances or to progressive filter clogging
  - 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 easy *one-man installation* procedure
- Anti blow back valve (optional) for ducted configuration
- Magnehelic Gauge for internal chamber pressure constant monitoring
- One (1) Electrical Socket as standard option.
- UV-Light installed on top (standard option)

Mechanical and functional specifications

- Sloped front design for the highest operational comfort.
- Stainless Steel internal surfaces with brushed finishing
- Liquid retaining work surface (Stainless Steel brushed finishing)
- Total visibility air and aerosol-tight front window equipped with robust gloves (Class III) for the safest operation when working with Risk Group 4 pathogens.
- Class III: Exclusive four filter design for the highest safety of the environment and the operator (Risk Group 4 pathogens): one (1) prefilter, one (1) HEPA H14 In-Let, two (2) HEPA H14 Exhaust Filters.
- H14 class High Efficiency Particulate Air filters with 99.995% efficiency on MPPS (most penetrating particle size) (EN1822-1)
- Filter change and maintenance from the front of the cabinet.
- Exhaust transitions easily installable.
- Anti-blow-back valve available as add-on option

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- 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 LED lights.
- 100% air exhaust single centrifugal motorblower
- Max power (for each power point): 3Amps.
- Microprocessor equipped with analogical watch-dog.
- Leakage tested in agreement with EN 12469

Technical Features Safe^3 Class III Cabinet

Intended life of the equipment (years):	10

1.1 POWER SUPPLY

Mains:	220/230 V~ 50/60 Hz
Power max input (W):	1500 (service power socket: max 700 W)
Electrical class:	I
Main fuses rating:	F10A H, 250 V (**Material:** steatite – **Size:** 5x20 - **I^2t:** 121)

1.2 REFERENCE STANDARDS

SAFETY:	IEC 61010-1:2010 / EN 61010-1:2010
Electrical insulating protection class [IEC 61140]:	I
ELECTROMAGNETIC COMPATIBILITY (EMC):	IEC 61326-1:2012 / EN 61326-1:2013
MICROBIOLOGICAL SAFETY:	EN 12469:2000
Microbiological class protection [EN 12469]:	III
IP protection degree [IEC 60529]:	Ordinary equipment (xxB)

1.3 DIMENSIONS AND WEIGHT

Weight (Kg):	220
Overall dimensions L x H x W (mm):	L2015 x 1295 x 810
Working area dimensions L x H x W (mm):	1200 x 675 x 695

Glove ports	2

1.4 CABINET PERFORMANCE

Working space air cleanliness class [EN 14644-1]:	ISO 3
Exhaust flow rate (m^3/h):	200 ±10 %

1.5 MAIN PARAMETRES

Lighting (lux):	>900
Vibration at the centre of the work surface (mmRMS):	<0,005
Max increase in ambient temperature (°C):	<5
Sound level [dB(A)]:	<56

1.6 OPERATING AMBIENT CONDITIONS

Electromagnetic operating area:	industrial
Use:	indoor
Altitude (m):	up to 2000
Temperature (°C):	from 10 to 35
Maximum relative humidity (%):	80 for temperatures up to 31 °C, decreasing linearly to 50 at 40 °C
Max MAINS supply voltage fluctuations (%):	up to ±10
TRANSIENT OVERVOLTAGE CATEGORY:	II
POLLUTION DEGREE:	2

1.7 TRANSPORT AND STORAGE

Ambient temperature (°C):	from -5 to 45
Relative humidity (%):	up to 90
Atmospheric pressure (mbar):	from 800 to 1060

1.8 HEPA FILTERS

Inlet filters dimensions (mm):	1st - 305 x 305 x 69 2nd - 305 x 305 x 90
Exhaust filters dimensions (mm):	1st - 305 x 457 x 90 2nd - 305 x 457 x 90
Efficiency class [EN 1822-1]:	H14
Global MPPS efficiency [EN 1822-1](%):	99,995
MPPS diameter [EN1822-1](µm):	0,1 ÷ 0,3

1.9 PRE FILTERS

Inlet pre-filter dimensions (mm):	305 x 305 x 23
Efficiency class [EN 1822-1](%):	H10

Global MPPS efficiency [EN 1822-1](%):	≥85

1.10 MATERIALS

Upper structure:	cold rolled steel, stove enamel coated RAL 7035
Central structure:	stainless steel AISI 304 - SB finishing
Front window:	2 layers laminated safety glass
Glass thickness (mm):	4+4

These Microbiological Safety Cabinets, are manufactured according to EN12469:2000