DATASHEET

SAFEMATE PRIME SERIES
MICROBIOLOGICAL SAFETY CABINETS

•State of the art microprocessor control system.

•Large LCD Graphical display

•Sliding front 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

•Front access for filter maintenance and service

•C-shaped support stand for the easiest *one-man installation* procedure

•Easy retrofit option kits

Safemate PRIME Cabinets are supplied in three different sizes (0.9, 1.2 and 1.8).

These last generation Microbiological Safety Cabinets Class II type A2, have been designed 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.

BioAir S.p.A. - Tel.: +39 0382 6672.1 www.bioair.it - info@bioair.it
Numero REA MI – 2577880 Partita IVA e C. Fiscale: 11078210967 - Cap. Soc. Euro 3.000.000 i.v.
Sede Amministrativa: Via Figino, 20/22 – 20016 – Pero (MI) Italy
Sede legale: Via Pagano, 61 - 20145 – Milano - Italy
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High level 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 PRIME series provides a very affordable entry in the highly acclaimed Safemate series of microbiological safety cabinets, concentrating on the most important aspects for a Class II cabinet and assuring the high level of operator, product and environment protection required by the EN12469-2000 standards.

Main specifications

- Microprocessor controlled 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
    - 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 *one-man installation* procedure

Mechanical 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 for air tightness)
- Utilities inlets from the top of the cabinet.
- Stainless Steel AISI304 backwall and work surface with SB finishing (including spillage tray).
- Solid or perforated work surface divided in 30cm sectors to allow easy autoclaving.
- Electrically operated sliding multilayer safety glass window
- Comfortable 21cm front opening
- Easy to install retrofit options.
- White epoxy powder painted inner side walls, with smooth finish, to increase internal luminosity
- 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)

Functional specifications

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- 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 ≥ 0.5mt/sec
- Aperture protection Factor (Apf) ≥ 1.5×10^{5}
- Cleanability Index CC grade. (EN12296 tested)
- Light intensity on work surface > 1000 lux.
- Noise level ≤ 56dB(A) 1.2 Model (ISO11201)
- Work surface displacement (vibration) <0.005mm RMS between 20Hz and 20,000Hz (ISO5349 tested)
- Max power (for all power point) 3Amps.
- Microprocessor equipped with analogical watchdog.

CONTROL PANEL

Controls are located in the front part of the cabinet and include the control keyboard and LCD display.

The microprocessor will take care of regulating the motorblower to keep the airflows at the calibrated setpoints, based on the feedback data received from the vane anemometer installed in the exhaust path of the cabinet.

Access control is provided with a key for ON/OFF switching for users and a numeric password to access calibration and service menus.

The following parameters are monitored:

- Laminar vertical flow speed;
- Front barrier inflow speed;
- Audible/visual alarms for insufficient airflows, blower malfunction, front window position;
- UV exposure remaining time;
- Hour counters for: cabinet, HEPA filters, UV lamp.

The following controls are available:

- Cabinet ON/OFF switch;
- White light ON/OFF;
- Internal sockets ON/OFF;
- Combustible gas solenoid safety valve OPEN/CLOSE;
- UV light timer setting.
- ECO Mode activation

The electronic board provides a volt-free connector to switch on/off an external blower or for alarms remotization.
STANDARD UTILITIES

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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 provisioning. On the back wall, right side.
Gas tap provisioning. 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.

OPTIONAL ACCESSORIES

Description	Part No.
Adjustable Stand for Safemate series 0.9	AS1L310
Adjustable Stand for Safemate series 1.2	AS1L410
Adjustable Stand for Safemate series 1.8	AS1L610
Fixed Stand for Safemate series 0.9	AS1L300
Fixed Stand for Safemate series 1.2	AS1L400
Fixed Stand for Safemate series 1.8	AS1L600
Castor kit (4 pivoting, bracking, retractable castors)	AZ1L010
2 Drawers file cabinet	AC10000

OPTIONAL UTILITIES

Combustible gas tap with solenoid valve or inert gas tap
Additional sockets
Passive transition adapter for external ducting.
Active extraction kit for ducting with remote motorblower.

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TECHNICAL SPECIFICATIONS

MODEL	SAFEMATE PRIME 0.9	SAFEMATE PRIME 1.2	SAFEMATE PRIME 1.8
Part No. w/o work surface	**LDN300N**	**LDN400N**	**LDN600N**
Part No. solid work surface	AZ9N030	AZ9N040	AZ9N060
Part No. perforated work surface	AZ9N031	AZ9N041	AZ9N061
External size(lxpxh) mm	1074x795x1450	1380x795x1450	1990x795x1450
Work area size (lxpxh) mm	924x600x700	1230x600x700	1840x600x700
Front Aperture (mm)	210		
Weight (Kg)	206	240	340
HEPA filters efficiency	> 99,995% @ MPPS (test MPPS according to EN1822.1 – H14)		
Iternal cleanliness	ISO 3 (according to ISO14644-1)		
Exhaust air volume	≈300 m³/h	≈400 m³/h	≈600 m³/h
Motorblower(s)	Microprocessor controlled centrifugal blower with speed autoregulation based on filter clogging status. IP55 protection level		
Power supply	230V 50/60Hz **(optional 110V 60Hz version available)**		
Power (W) (Fan&Lights)	300	375	650
LAF speed (m/s)	0.38 +/- 0.02 m/s		
INFLOW speed (m/s)	0.58m/s +/-10%		
Internal Sockets	2		
Lighting	1000 lux		
Sound pressure level	<58 dB(A)	<60 dB(A)	<61 dB(A)
External chassis	Steel with bacteriostatic epoxy powder painting		
Inner surfaces	Stainless steel AISI304 with SB finish		

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