SafeMate Prime Series - BioSafety Cabinet Class II – A2

Data sheet

SafeMate Prime cabinets are supplied in three different sizes (0.9, 1.2 and 1.8).
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.

- 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

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
- 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

- 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 x 105
- 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.

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

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 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.

TECHNICAL SPECIFICATIONS

Feature	SafeMate Prime 0.9	SafeMate Prime 1.2	SafeMate Prime 1.8
External size	W 1074 x D 795 x H 1450 mm	W 1380 x D 795 x H 1450 mm	W 1990 x D 795 x H 1450 mm
Work area size	W 924 x D 600 x H 700 mm	W 1230 x D 600 x H 700 mm	W 1840 x D 600 x H 700 mm
Front Aperture	210 mm		
Weight	206 kg	240 kg	340 kg
HEPA filters efficiency	> 99,995% @ MPPS (test MPPS according to EN1822.1 – H14)		
Internal 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 (Fan & Lights)	300 W	375 W	650 W
LAF speed	0.38 m/s +/- 0.02 m/s		
INFLOW speed	0.58m/s +/-10%		
Internal Sockets	2		
Lighting	>750 lux		
Sound pressure level	<65 dB(A)		
External chassis	Steel with bacteriostatic epoxy powder painting		
Inner surfaces	AISI 304 Stainless steel (SB finish)		