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SAFE USE

LONG-TERM WARRANTY

MIPROLAB

MSAFE SERIES

SAFETY CABINETS

*Production of Custom Sizes and Features

MSAFE SERIES SAFETY CABINETS are designed for all work with microorganisms that offer a high level of protection for the user, the environment and the product, with an uncertain level of harm and damage.

A Class II type cabinet is defined as a ventilated cabinet for the protection of personnel, product and the environment, usually used for microbiological or chemotherapy studies. In some laboratories these protections are referred to as cell culture or tissue culture. Class II BSCs are designed with an open front with inward airflow (personnel protection), downward HEPA-filtered laminar airflow (product protection) and HEPA-filtered exhaust air (environmental protection). All Class II BSCs require all biologically contaminated ducts and areas to be under negative pressure or surrounded by negative pressure ducts and areas. This provides a fail-safe feature that protects the user even in the event of a failure.

CLASS II TYPE A2 BIOSAFETY CABINETS (EN 12469 CERTIFIED)

Class II Type A2 biosafety cabinets are the most common type of BSC in use today. Type A2 cabinets must maintain a minimum average flow rate of 0.40 m/s through the wing opening. While some of the incoming air is discharged outside the cabin, the remaining part is recirculated back into the cabin. Type A2 BSCs usually return HEPA filtered air back to the laboratory. The recirculated, HEPA-filtered linear flow air creates an environment within the work area that protects the samples from contamination. Laminar (unidirectional/linear) downflow air helps prevent cross-contamination within the chamber and between samples.

IMPROVED CONTROL SCREEN

The control panel has a touch digital/LCD display.
On screen;

- Air flow rate,
- Total working time,
- Current date/time,
- Cabin temperature,
- Time counter,
- HEPA filter life,
- Windscreen,
- UV lamp,
- Total operating time/life of the UV lamp,
- UV lamp countdown timing,
- Parameters such as the flow rate of particle-free air supplied to the work area are found.

**You can get information for your specific requests.*

	CLASS II A2-900	CLASS II A2-1200	CLASS II A2-1500	CLASS II A2-1800
FAN	Lubrication-free, highly efficient centrifugal type			
EXTERNAL SURFACE STRUCTURE	Electrostatic Powder Coated Steel Sheet			
INTERIOR SURFACE STRUCTURE	AISI 304 Stainless Steel			
AIR FLOW RATE CONTROL	Microprocessor control system with LED display and automatic speed compensation against increasing filter resistance			
AIR FLOW RATE	0,4 ± % 20 m/sn			
POWER VALUES	230V-50 HZ			
INSTALLED POWER	760 W			
INTERIOR DIMENSIONS (EXBXD) mm	880x720x640	1185x720x640	1490x720x640	1800x720x640
OUTER DIMENSIONS (EXBXD mm	1053x2300x880	1360x2300x880	1665x2300x880	1970x2300x800
NET WEIGHT (kg.)	157	190	225	260
PACKED WEIGHT (kg.)	167	201	237	273

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CLASS II TYPE A2 BIOSAFETY CABINETS (EN 12469 CERTIFIED)

Class II Type A2 biosafety cabinets are the most common type of BSC in use today. Type A2 cabinets must maintain a minimum average flow rate of 0.40 m/s through the wing opening. While some of the incoming air is discharged outside the cabin, the remaining part is recirculated back into the cabin. Type A2 BSCs usually return HEPA filtered air back to the laboratory. The recirculated, HEPA-filtered linear flow air creates an environment within the work area that protects the samples from contamination. Laminar (unidirectional/linear) downflow air helps prevent cross-contamination within the chamber and between samples.

IMPROVED CONTROL SCREEN

The control panel has a touch digital/LCD display.
On screen;

- Air flow rate,
- Total working time,
- Current date/time,
- Cabin temperature,
- Time counter,
- HEPA filter life,
- Windscreen,
- UV lamp,
- Total operating time/life of the UV lamp,
- UV lamp countdown timing,
- Parameters such as the flow rate of particle-free air supplied to the work area are found.

You can get information for your specific requests.

	CLASS II B2-900	CLASS II B2-1200	CLASS II B2-1500	CLASS II B2-1800
FAN	Lubrication-free, highly efficient centrifugal type			
EXTERNAL SURFACE STRUCTURE	Electrostatic Powder Coated Steel Sheet			
INTERIOR SURFACE STRUCTURE	AISI 304 Stainless Steel			
AIR FLOW RATE CONTROL	Microprocessor control system with LED display and automatic speed compensation against increasing filter resistance			
AIR FLOW RATE	0,4 ± % 20 m/sn			
POWER VALUES	230V-50 HZ			
INSTALLED POWER	760 W			
INTERIOR DIMENSIONS (EXBXD) mm	880x720x640	1185x720x640	1490x720x640	1800x720x640
OUTER DIMENSIONS (EXBXD mm	1053x2300x880	1360x2300x880	1665x2300x880	1970x2300x800
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UNIQUE DESIGN

H14 aluminium case, double surface protected H14 filters are used in the device. No wood or fibreboard is used in the filter group,
Cabinet: has 2 EN 1822 H14 HEPA filters, downflow and exhaust,
Our device has a dynamically balanced continuously lubricated centrifugal or direct driven fan/motor on two planes for low noise, low vibration and long service life in accordance with the standards. The latest generation energy efficient fan is used, which can provide constant air flow despite building voltage fluctuations,
There is a negative pressure steel plenum where the air in the area between the exhaust filter placed in the upper compartment of the device and the supply (main) filter placed on the ceiling of the working volume is discharged and pressed back into the cabin.

HIGH LEVEL PROTECTION

The Biosafety cabinet we have produced protects the operator and the laboratory environment against the particles produced in the working area, the product and process in the working area, the product and process in the working area, the product and process in the working area against airborne contaminants in the ambient air, and the product and process in the working area, the employee, the working environment and the product being studied against cross contamination.
Side walls are closed in the device. There is no air leakage from the side walls to the external environment and there are no surfaces that may cause the accumulation of pollutants. Maximum protection is provided by negative pressure.

Test data verifying all performance criteria and to be provided upon request are specified below;

- **Input current speed by direct input current measurement method,**
- **Downstream flow velocity and laminar flow,**
- **Filter leakage screening tests with aerosol test for both filters.**

OPTIONAL REQUESTS

- Production in Special Dimensions and Specifications (Dimension/Software/Programme)
- 4.3 / 5.5 and 7.2 Inch Screen Options.
- Pre-Filter,
- Activated Carbon Impregnated Prefilter,
- ULPA Filter,
- Work Cabinet Hanger Apparatus,
- Revision for Microscope Integration,
- Interface for Remote Access,
- Carbon Filter,
- Temperature/Humidity Sensor,
- Process Parameter Recording System.

ACCESSORIES

- Incinerator,
- Bead steriliser,
- Height Adjustable Transport Stand,
- Portable UV Lamp,
- Service Valves for Gas and Air,
- Wheeled Transport Stand,

MSAFE Class II-B2 Biosafety Cabinets are designed solely with safety, ease of use, user comfort, and ease of maintenance in mind.
D.O.P Test Output Supplied as standard
Hepa filters can be replaced easily and in a short time
The easily accessible control system is located outside the contaminated area.
No effort and time is required to clean the inside of the glass window
Automatic window opens fully and remains stationary for ease of cleaning
Glass system The front window is frameless to maximise the field of view and is easily accessible for cleaning the front and back. The window glass is 6 mm tempered shatterproof glass. There is no permanent abrasion / etching on the glass.
Since all operations are performed automatically, the user does not need to make any settings.
The noise level is very low thanks to the quiet fan.
All components, except the fan motor and filters, are located outside contaminated air spaces to facilitate servicing without the need to de-contaminate the cabin.
The device comes with all original standard accessories and specific tools required for device maintenance. Any necessary spare parts and accessories required to enhance the device's functionality and for use during testing are provided free of charge with the device.
The cabin is designed to optimize user comfort, reduce glare, and maximize access to the work area. The device is designed so that airflow through the front air intake barriers is not obstructed by personnel during operation.

EASE OF USE AND MAINTENANCE

HEPA FILTER	It is a Hepa type filter and holds particles larger than 0.3 ml,cron. Minimum efficiency level is 99,999% (according to D.O.P test) Decontamination Factor (F) is minimum 100.000. Class H14 Filters are protected with metal diffuser.
WORKING CABINET	Epoxy Electrostatic powder painted 2 mm cold drawn DKP Lower cabinet mobile removable or fixed system with metal cover. Gas and water outlet nozzles with hose ends in the cabinet, heavy and light gas separator, flurescent lighting in the cabinet, hood part of the system suitable for air flow physics. Side walls are closed in the device. There are no surfaces that can cause air leakage from the side walls to the external environment and accumulation of pollutants. Maximum protection is provided by negative pressure.
WORKING GROUND	Disassembled Perforated AISI 304 stainless steel, with compartment type table The work table has round corners, maximum 4 pieces, without cracks, removable and made of stainless steel.
PRE-FILTER, MAIN FILTER	Synthetic fibre based filter. It prolongs the life of the HEPA filter by filtering the particles in the air coming to the HEPA filter. H14 Hepa Filter is used. Ulpa Filter is used.
FAN	Two ECM type or DC type Motor Fans are used. The cabinet has a dynamically balanced continuously lubricated centrifugal or direct drive fan/motor on two planes for low noise, low vibration and long service life in accordance with the standards. The latest generation energy efficient fan is used, which can provide constant air flow despite building voltage fluctuations. Fan motors used in the device have an external or integrated rotor design. The fan motor used in the device will compensate for filter loading or has an automatic response filter compensation system.
LIGHTING	Low Power high intensity 1290 Lux fluorescent lamp and UV lamp are used. Fluorescent lamps are mounted behind the control panel module, outside the working area. Electronic ballasts are used to eliminate light flicker, extend lamp life, reduce heat dissipation and create a shadowless, dazzle-free working area. Or the working area is illuminated with a light that does not tire the eyes, does not cause shadows and does not glare, which is the same in every area. Lighting intensity at least 750 lux is used in the device. The UV lamp will be operated by an automatic timer with automatic interruption managed by the UV lamp microprocessor control unit by the microprocessor control unit and is interconnected with the ran/motor and fluorescent lamps for safety.
PAINT	After the metal parts are cleaned with special solvents, they are coated with epoxy eloctrostatic powder paint and baked at 200°C. Or optionally, complete stainless steel application is made.
NOISE LEVEL	Below 65Db
STANDARD ACCESSORIES	Standing support stand, UV Lamp, Filter Life Counter, Air and Gas tap of the device is available. In case of gas leakage, gas flow can be stopped automatically. The device has 2 IP 54 protected earthed electrical sockets.
OPTIONS	Complete inner chamber stainless steel /gas and water valve /sink/cabinet
INSTALLED POWER	220 Volt 50Hz
AIR FLOW CONTROLLED	Microprocessor Controlled LCD Display
AİR FLOW CONTROLLED	The front window of the device is motorised for easy one-touch operation or the front window is designed as a non-motorised fixed system with a convenient working position. The glass system of the device The front window is frameless to maximise the field of view and is easy to reach for cleaning the front and back. The window glass is 6 mm tempered shatterproof glass. There is no permanent abrasion / etching on the glass.
OTHER TECHNICAL SPECIFICATIONS	It is produced in accordance with user request and laboratory conditions. The device has an audible and visual alarm system. In this way, when there is a problem in any of the parameters related to safety (air flow rate inflow, dowenflow) front window, filter, UV lamp, etc. light and sound alarm system.

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