

# MICROBIOLOGICAL **SAFETY CABINETS**

## Class II



OPERATOR,  
ENVIRONMENT,  
PRODUCT  
PROTECTION



 [www.lamsys.com](http://www.lamsys.com)

Conforms to EN 12469:2000



- Physical isolation (containment and controlled removal from the work zone) of pathogenic biological agents (PBA) and microorganisms to prevent airborne infection of the staff and contamination of the air in the work room and laboratory environment.
- Minimization of risk of contamination and cross-contamination of the product.
- Possibility to work with small amount of toxic chemicals and radionuclides as well as to remove work agent odors in case of mandatory connection to an active exhaust system using an exhaust hood supplied upon customer's additional request.
- Equipment of individual work places in medical, pharmaceutical and other institutions working with pathogenic biological agents and microorganisms.



**PULLOUT UV UNIT:**

- does not disturb the laminar flow
- does not require any additional space for storage
- reliable and simple in operation
- well-adapted for disinfection
- completely closes the front opening when equipment is inoperative
- controlled with optical position sensor
- passed international certification



# Neoteric

## MICROBIOLOGICAL SAFETY CABINETS Class II



Video

1200 mm

Operating mode monitoring system with audible and visible alarm indicates any disturbances of the airflow balance in the work chamber.

A proximity electromagnetic key reliably protects the control system from unauthorized access.

Front sash and UV unit position is controlled with optical sensors.




A removable ergonomic armrest prevents accidental blocking of the front air grille and ensures comfortable support of operator's arms.

Simple filter replacement.

A tabletop is divided in sections allowing their simple disinfection (within the work zone) and autoclaving.



**BSC Class II**

**BMB-II-«Laminar-S.» NEOTERIC**

### MAIN CHARACTERISTICS

Installation work chamber air cleanliness class for suspended particle (aerosol) concentration as per ISO 14644-1

- for particles of 0.5µm and more.....ISO 5
- for particles of 5.0µm and more.....ISO M (20; ≥5µm); LSAPC

Class of the cabinet as per EN 12469-2000..... II

Class of HEPA filters as per EN 1822-1..... H14

Average velocity of the inflow through the work opening, m/s..... 0,47±0,03

Average downflow velocity in the work chamber, m/s..... 0,35±0,01

Air recirculation, %..... ≈ 70

### MAIN PARAMETERS AND DIMENSIONS

Article.....2E-B.001-12

Maximum dimensions of the cabinet with stand\* (WxDxH), mm.....1200x770x2150\*

Dimensions of the work chamber (WxDxH), mm.....1105x610x750

Input power without built-in electric sockets, W.....110\*\*

Maximum allowed load on the built-in electric sockets, W.....1000

Clean air inflow capacity, m<sup>3</sup>/h.....795-817

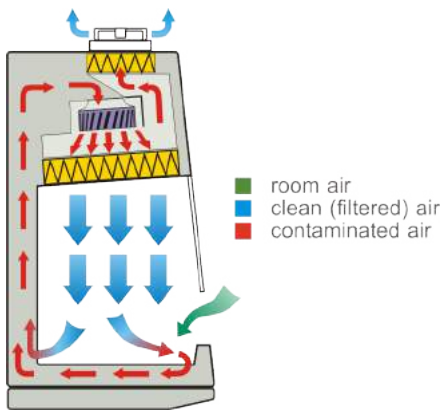
Exhaust air capacity, m<sup>3</sup>/h.....333-378

Minimum illumination of the work zone (integral value determined along the whole area of the work zone), lx .....1000

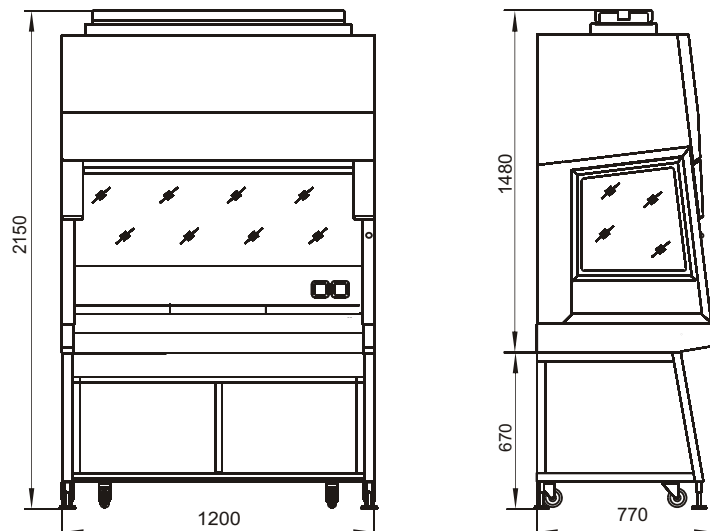
Maximum net weight of the cabinet with stand, kg.....230

\* Dimensions do not account for outstanding supports.  
 \*\* Power when HEPA filters are new (not clogged).

### AIRFLOW LAYOUT



### DIMENSIONAL DRAWING



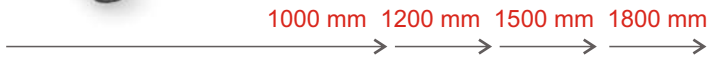
BMB-II-«Laminar-S.»



- Physical isolation (containment and controlled removal from the work zone) of pathogenic biological agents (PBA) and microorganisms to prevent airborne infection of the staff and contamination of the air in the work room and laboratory environment.
- Minimization of risk of contamination and cross-contamination of the product.
- Possibility to work with small amount of toxic chemicals and radionuclides as well as to remove work agent odors in case of mandatory connection to an active exhaust system using an exhaust hood supplied upon customer's additional request.
- Equipment of individual work places in medical, pharmaceutical and other institutions working with pathogenic biological agents and microorganisms.



A TOUCHSCREEN CONTROL PANEL conveniently visualizes operating modes, simplifies the control process and provides extensive service and maintenance information.



**SIMPLE ADJUSTMENT OF AIRFLOW VELOCITY**

The system individually controls the inflow and downflow velocities as well as automatically maintains airflow balance. Since there is no need to adjust the airflow balance manually, the time of maintenance at qualification, filter replacement and periodic checks is significantly reduced.

**HIGHLY PRECISE MAINTENANCE OF PRESET VELOCITY** of the airflows at any level of filter clogging and in case of environment change (humidity, temperature, pressure).

**SIMPLE AND SAFE FILTER REPLACEMENT PROCEDURE** minimizes the risk of filter damage in the process of their replacement thanks to configuration of the cabinet and new spring fixation system.



**BSC Class II**

**BMB-II-«Laminar-S.» SAVVY**

### MAIN CHARACTERISTICS

Installation work chamber air cleanliness class for suspended particle (aerosol) concentration as per ISO 14644-1

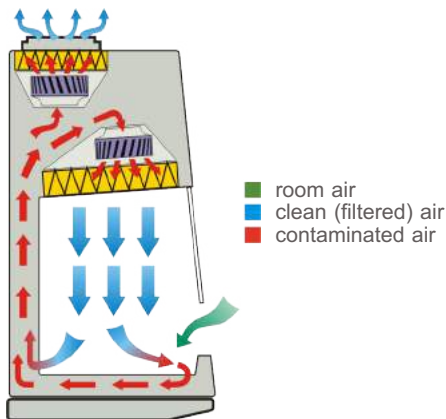
– for particles of 0.5µm and more.....	ISO 5
– for particles of 5.0µm and more.....	ISO M (20; ≥5µm); LSAPC
Class of the cabinet as per EN 12469-2000.....	II
Class of HEPA filters as per EN 1822-1.....	H14
Average velocity of the inflow through the work opening, m/s.....	0,47±0,03
Average downflow velocity in the work chamber, m/s.....	0,35±0,01
Air recirculation, %.....	≈ 70

### MAIN PARAMETERS AND DIMENSIONS

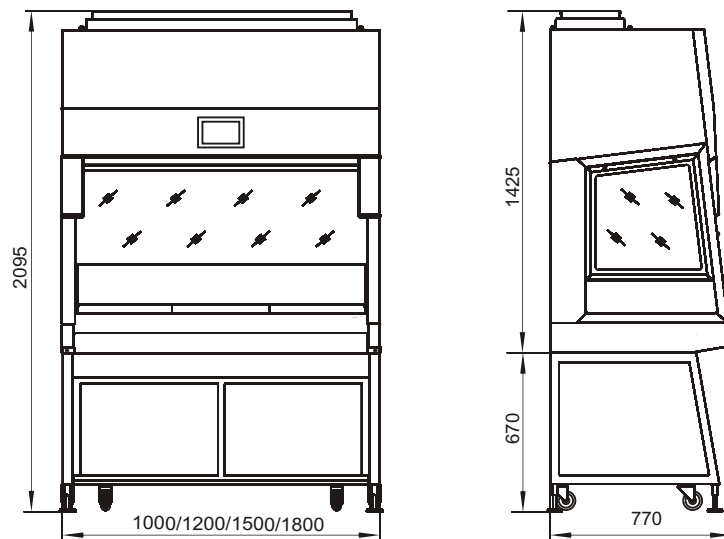
Article.....	2E-B.002-09	2E-B.002-12	2E-B.002-15	2E-B.002-18
Maximum dimensions of the cabinet with stand* (WxDxH), mm.....	1000x770x2095*	1200x770x2095*	1500x770x2095*	1800x770x2095*
Dimensions of the work chamber (WxDxH), mm.....	905x610x700	1105x610x700	1405x610x700	1705x610x700
Input power without built-in electric sockets, W.....	110**	110**	142**	300**
Maximum allowed load on the built-in electric sockets, W.....	1000	1000	1000	1000
Clean air inflow capacity, m <sup>3</sup> /h.....	656-674	795-817	1008-1036	1210-1245
Exhaust air capacity, m <sup>3</sup> /h.....	273-309	333-378	426-484	510-580
Minimum illumination of the work zone (integral value determined along the whole area of the work zone), lx.....	2000	2000	2000	2000
Maximum net weight of the cabinet with stand, kg.....	196	230	293	295

\* Dimensions do not account for outstanding supports.  
 \*\* Power when HEPA filters are new (not clogged).

### AIRFLOW LAYOUT



### DIMENSIONAL DRAWING



BMB-II-«Laminar-S.»

**MICROBIOLOGICAL SAFETY CABINETS**  
Class II



- Physical isolation (containment and controlled removal from the work zone) of pathogenic biological agents (PBA) and microorganisms to prevent airborne infection of the staff and contamination of the air in the work room and laboratory environment.
- Minimization of risk of contamination and cross-contamination of the product.
- Possibility to work with small amount of toxic chemicals and radionuclides as well as to remove work agent odors in case of mandatory connection to an active exhaust system using an exhaust hood supplied upon customer's additional request.
- Equipment of individual work places in medical, pharmaceutical and other institutions working with pathogenic biological agents and microorganisms.



**PULLOUT UV UNIT:**

- does not disturb the laminar flow
- does not require any additional space for storage
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- well-adapted for disinfection
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- controlled with optical position sensor
- passed international certification



1000 mm 1200 mm 1500 mm 1800 mm

HAS ALL THE ADVANTAGES OF SAVVY MODEL (see page 4)

**DISTINCTION FROM SAVVY MODEL:  
POWER-DRIVEN FRONT SASH**

Five preset positions of the front sash:

1. OPERATING POSITION in Main Operation mode.
2. UP POSITION for work chamber loading/unloading.
3. STOP BEFORE CLOSING for safety (at ~40 mm height from the work surface to prevent any trauma of operator's hands).
4. CLOSED POSITION in Standby mode or for work chamber UV irradiation.
5. DOWN POSITION for disinfection of the upper part of the front sash.

For safety reasons, the moving front sash automatically stops ahead of obstacle (in case of contact with an object or a hand of the operator).



**BSC Class II**

**BMB-II-«Laminar-S.» SAVVY SL**

### MAIN CHARACTERISTICS

Installation work chamber air cleanliness class for suspended particle (aerosol) concentration as per ISO 14644-1

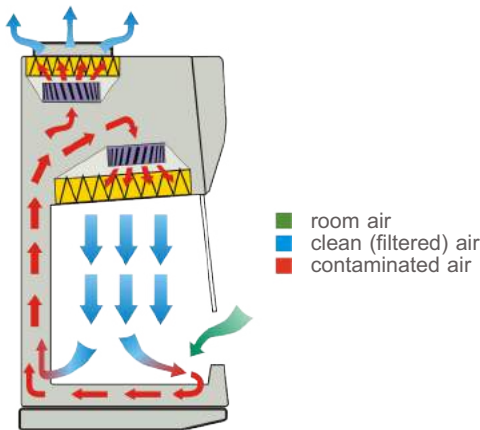
– for particles of 0.5µm and more.....	ISO 5
– for particles of 5.0µm and more.....	ISO M (20; ≥5µm); LSAPC
Class of the cabinet as per EN 12469-2000.....	II
Class of HEPA filters as per EN 1822-1.....	H14
Average velocity of the inflow through the work opening, m/s.....	0,47±0,03
Average downflow velocity in the work chamber, m/s.....	0,35+0,01
Air recirculation, %.....	≈ 70

### MAIN PARAMETERS AND DIMENSIONS

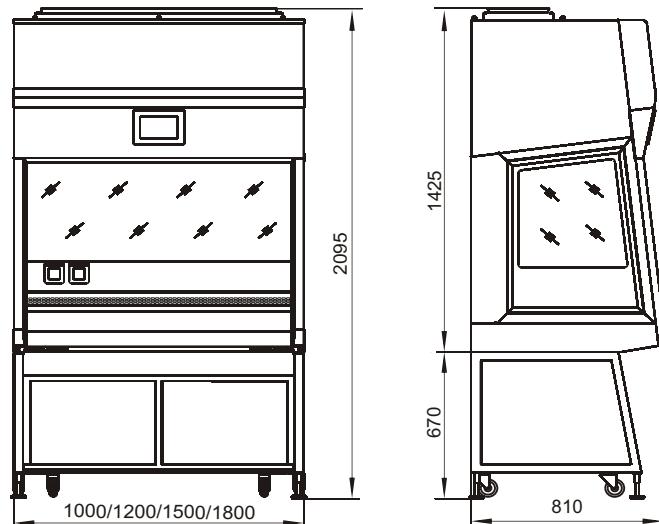
Article.....	2E-B.008-09	2E-B.008-12	2E-B.008-15	2E-B.008-18
Maximum dimensions of the cabinet with stand (WxDxH), mm .....	1000x810x2095*	1200x810x2095*	1500x810x2095*	1800x810x2095*
Height of the cabinet with stand and completely opened front sash, mm.....	2180	2180	2180	2180
Dimensions of the work chamber (WxDxH), mm.....	905x610x700	1105x610x700	1405x610x700	1705x610x700
Input power at <i>Main Operation</i> mode without built-in electric sockets, W.....	570	570	570	610
Maximum allowed load on the built-in electric sockets, W.....	1000	1000	1000	1000
Clean air inflow capacity, m <sup>3</sup> /h.....	656-674	795-817	1008-1036	1210-1245
Exhaust air capacity, m <sup>3</sup> /h.....	289-328	354-402	451-512	548-623
Minimum illumination of the work zone (integral value determined along the whole area of the work zone), lx .....	2000	2000	2000	2000
Maximum net weight of the cabinet with stand, kg .....	215	255	300	335

\* Dimensions do not account for outstanding supports.

### AIRFLOW LAYOUT



### DIMENSIONAL DRAWING



## MICROBIOLOGICAL SAFETY CABINETS Class II

**EAC**

**CE**



TOXIC  
CYTOSTATIC

- Protection of the personnel from the impact of cytostatic and cytotoxic agents that are manipulated in the work chamber.
- Aseptic production of antineoplastic agents.
- Reduction of risk of infection of an operator working with airborne pathogenic agents and microorganisms, protection of the environment as well as the product from external contamination and cross-contamination.
- In case the cabinet is used for work with biological pathogens and high-risk (especially hazardous) microorganisms, a corresponding protective (antiplague) coverall shall be used.



1200 mm



Video

### WORK CHAMBER:

- tabletop made of stainless steel, front sash made of laminated safety glass, side windows made of tempered glass;
- tray under the tabletop is made of stainless steel, has easy-to-clean configuration and prevents any leakages inside the cabinet or on the preliminary HEPA filters;
- work chamber lighting is LED.

### SUPPLY AND EXHAUST AIR FILTRATION SYSTEM:

- one supply HEPA filter H14 located above the work chamber;
- one exhaust HEPA filter H14 located in the upper ventilation chamber;
- four parallel preliminary cylindrical HEPA filters H14 located under the tabletop. THE FILTERS ARE REPLACED within the work chamber WHEN THE FANS ARE ON and do not require any disassembly of the cabinet, thus, minimizing the risk of contamination of the personnel or the environment.

### CONTROL SYSTEM COMPONENTS:

- automatic airflow maintenance independent of the level of the HEPA filter clogging;
- automatic switching-off of the UV light in case of opening the front sash or UV unit screen.



Safe  
preliminary  
filter replacement  
as per  
DIN EN 12980





**BSC Class II**

**BMB-II-«Laminar-S.» SAVVY CYTOS**

### MAIN CHARACTERISTICS

Installation work chamber air cleanliness class for suspended particle (aerosol) concentration as per ISO 14644-1

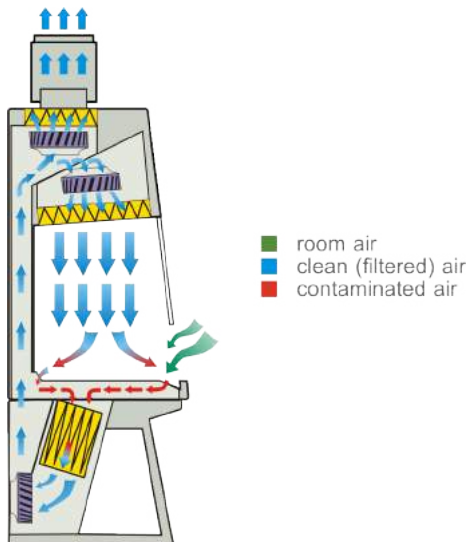
– for particles of 0.5µm and more.....	ISO 5
– for particles of 5.0µm and more.....	ISO M (20; ≥5µm); LSAPC
Class of the cabinet as per EN 12469-2000.....	II
Class of HEPA filters as per EN 1822-1.....	H14
Average velocity of the inflow through the work opening, m/s.....	0,47±0,03
Average downflow velocity in the work chamber, m/s.....	0,35±0,01
Air recirculation, %.....	≈ 70

### MAIN PARAMETERS AND DIMENSIONS

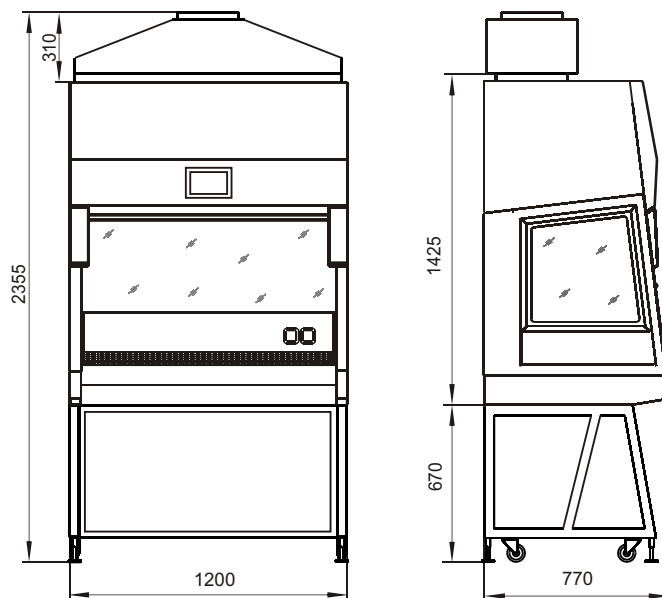
Article.....	2E-B.005-12
Maximum dimensions of the cabinet with exhaust hood (WxDxH)*, mm.....	1200x770x2355*
Dimensions of the work chamber (WxDxH), mm.....	1105x610x660
Input power without built-in electric sockets, W.....	140**
Maximum allowed load on the built-in electric sockets, W.....	1000
Clean air inflow capacity, m³/h.....	795-817
Exhaust air capacity, m³/h.....	333-378
Minimum illumination of the work zone (integral value determined along the whole area of the work zone), lx.....	2000
Maximum net weight of the cabinet, kg.....	270

\* Dimensions do not account for outstanding supports.  
 \*\*Power when HEPA filters are new (not clogged).

### AIRFLOW LAYOUT



### DIMENSIONAL DRAWING





TOXIC  
CYTOSTATIC

- Protection of the personnel from the impact of cytostatic and cytotoxic agents that are manipulated in the work chamber.
- Aseptic production of antineoplastic agents.
- Reduction of risk of infection of an operator working with airborne pathogenic agents and microorganisms, protection of the environment as well as the product from external contamination and cross-contamination.
- In case the cabinet is used for work with biological pathogens and high-risk (especially hazardous) microorganisms, a corresponding protective (antiplague) coverall shall be used.



Video

1200 mm

#### WORK CHAMBER:

- tabletop made of stainless steel, power-driven sliding front sash made of laminated safety glass, side windows made of tempered glass;
- tray under the tabletop is made of stainless steel, has easy-to-clean configuration and prevents any leakages inside the cabinet or on the preliminary HEPA filters;
- work chamber lighting is LED.

#### HAS ALL THE ADVANTAGES OF SAVVY CYTOS MODEL (see page 8) DISTINCTION FROM SAVVY CYTOS MODEL:

##### POWER-DRIVEN FRONT SASH

Five preset positions of the front sash:

1. OPERATING POSITION in Main Operation mode.
  2. UP POSITION for work chamber loading/unloading.
  3. STOP BEFORE CLOSING for safety (at ~40 mm height from the work surface to prevent any trauma of operator's hands).
  4. CLOSED POSITION in Standby mode or for work chamber UV irradiation.
  5. DOWN POSITION for disinfection of the upper part of the front sash.
- For safety reasons, the moving front sash automatically stops ahead of obstacle (in case of contact with an object or a hand of the operator).



 Safe preliminary filter replacement as per DIN EN 12980



**BSC Class II**

**BMB-II-«Laminar-S.» SAVVY SL CYTOS**

### MAIN CHARACTERISTICS

Installation work chamber air cleanliness class for suspended particle (aerosol) concentration as per ISO 14644-1

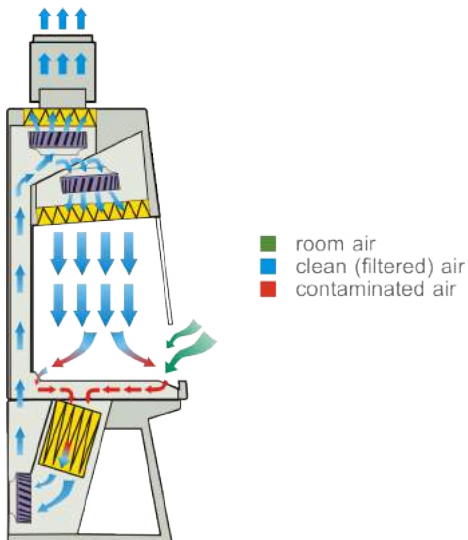
– for particles of 0.5µm and more.....	ISO 5
– for particles of 5.0µm and more.....	ISO M (20; ≥5µm); LSAPC
Class of the cabinet as per EN 12469-2000.....	II
Class of HEPA filters as per EN 1822-1.....	H14
Average velocity of the inflow through the work opening, m/s.....	0,47±0,03
Average downflow velocity in the work chamber, m/s.....	0,35±0,01
Air recirculation, %.....	≈ 70

### MAIN PARAMETERS AND DIMENSIONS

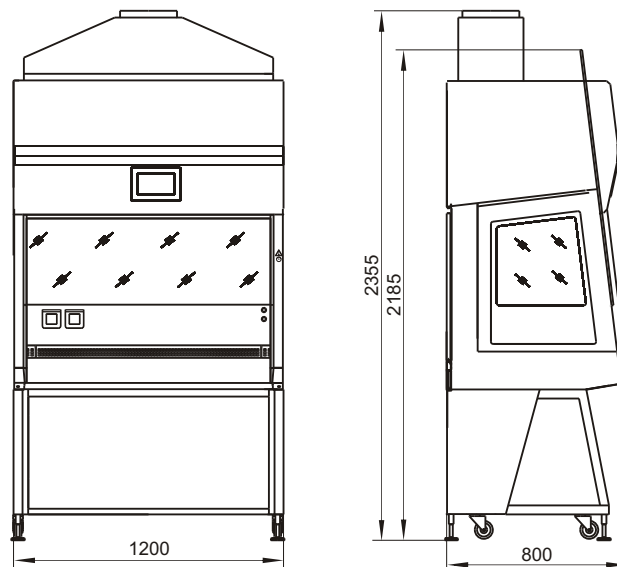
Article.....	2E-B.013-12
Dimensions of the cabinet assembled with the exhaust hood (WxDxH)*, mm.....	1200x810x2355*
Dimensions of the work chamber (WxDxH), mm.....	1105x610x700
Input power at <i>Main Operation</i> mode without built-in electric sockets, W.....	820
Maximum allowed load on the built-in electric sockets, W.....	1000
Clean air inflow capacity, m <sup>3</sup> /h.....	795-817
Exhaust air capacity, m <sup>3</sup> /h.....	354-402
Minimum illumination of the work zone (integral value determined along the whole area of the work zone), lx.....	2000
Maximum net weight of the cabinet, kg.....	330

\* Dimensions do not account for outstanding supports.

### AIRFLOW LAYOUT



### DIMENSIONAL DRAWING





- Physical isolation (containment and controlled removal from the work zone) of pathogenic biological agents (PBA) and microorganisms to prevent airborne infection of the staff and contamination of the air in the work room and laboratory environment.
- Minimization of risk of contamination and cross-contamination of the product.
- Equipment of individual work places in medical, pharmaceutical and other institutions working with pathogenic biological agents and microorganisms.



**No recirculation  
in the cabinet  
(100% exhaust)**




**THE CABINET DOES NOT PROTECT FROM TOXIC CHEMICALS AND RADIONUCLIDES!**

In case of work with small amount of toxic chemicals and radionuclides as well as to remove work agent odors, the cabinet shall be connected to an active exhaust system via exhaust hood (part of the delivery set)

In all other cases, it is up to the organization operating the cabinet to decide whether it is necessary to connect the cabinet to the exhaust system based on the risk assessment and analysis.



**BSC Class II**

BMB-II-«Laminar-S.»

## MAIN CHARACTERISTICS

Installation work chamber air cleanliness class for suspended particle (aerosol) concentration as per ISO 14644-1

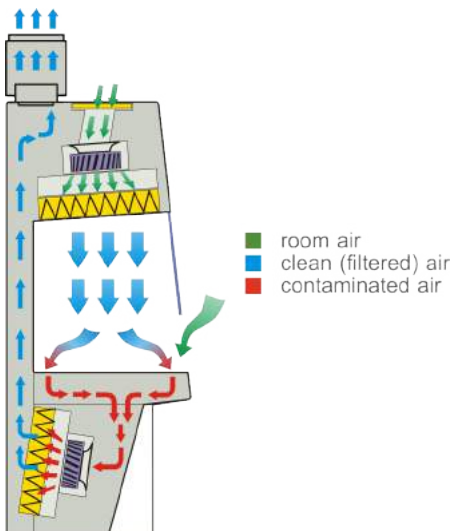
– for particles of 0.5µm and more.....	ISO 5
– for particles of 5.0µm and more.....	ISO M (20; ≥5µm); LSAPC
Class of the cabinet as per EN 12469-2000.....	II
Cabinet type according to NSF/ANSI 49.....	B2
Class of HEPA filters as per EN 1822-1.....	H14
Average velocity of the inflow through the work opening, m/s.....	0,53±0,02
Average downflow velocity in the work chamber, m/s.....	0,35±0,01
Air recirculation, %.....	no recirculation

## MAIN PARAMETERS AND DIMENSIONS

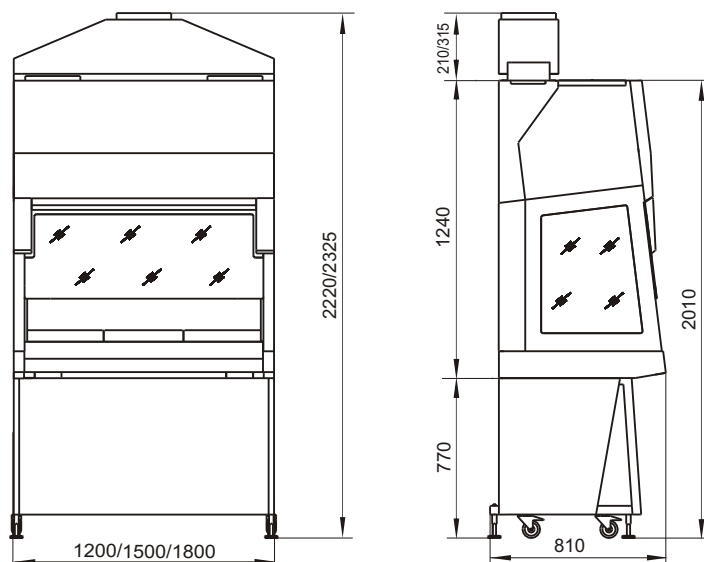
	SAVVY B2	NEOTERIC B2	NEOTERIC B2
Article.....	2E-B.003-12	2E-B.003-15	2E-B.003-18
Type of control panel.....	touchscreen	pushbutton	pushbutton
Maximum dimensions of the cabinet with exhaust hood* (WxDxH), mm.....	1200x810x2325*	1500x810x2220*	1800x810x2325*
Dimensions of the work chamber (WxDxH), mm.....	1105x610x705	1405x610x705	1705x610x705
Input power without built-in electric sockets, W.....	730**	730**	960**
Maximum allowed load on the built-in electric sockets, W.....	1000	1000	2000
Clean air inflow capacity, m <sup>3</sup> /h.....	795-820	1008-1036	1070-1100
Exhaust air capacity, m <sup>3</sup> /h.....	1180-1220	1502-1550	1675-1745
Minimum illumination of the work zone (integral value determined along the whole area of the work zone), lx.....	2000	2000	2000
Maximum net weight of the cabinet with exhaust hood, kg.....	270	330	370

\* Dimensions do not account for outstanding supports.  
 \*\* Power when HEPA filters are new (not clogged).

## AIRFLOW LAYOUT



## DIMENSIONAL DRAWING



## LAMSYSTEMS CC

DESIGN, MANUFACTURE, SALE AND MAINTENANCE OF HIGH-TECHNOLOGY LABORATORY EQUIPMENT, CLEAN ZONES AND CLEAN ROOMS



## MANUFACTURE

About 7000 square meters of production facilities are fitted with up-to-date machines and equipment of well-known international brands, i.e. from German, Japanese and Swiss manufacturers. Annual output amounts to about 2500 units. More than 30 models are serial. LAMSYSTEMS products are supplied to numerous countries of CIS, Europe and Asia. LAMSYSTEMS is a top supplier in the market of the Russian Federation – 80%.



## LABORATORY

We continuously test materials, structures and technologies using up-to-date instruments and equipment in our own testing laboratory. As a result, we are able to design the equipment that corresponds to international quality and safety requirements.



## ACCEPTANCE TESTING

All of the products manufactured by LAMSYSTEMS are certified. The acceptance testing site is designed as a Class 7 clean room and is fitted with qualified equipment for testing each item released.



## SERVICE

Strict requirements to service quality are significant part of our corporate culture. Well-experienced service engineers are able to perform any type of works related to maintenance and repair of LAMSYSTEMS equipment.

# LABORATORY EQUIPMENT

FOR FACTORIES AND LABORATORIES WITH STRICT REQUIREMENTS TO AIR CLEANLINESS



## MICROBIOLOGICAL SAFETY CABINETS



Class I

Class II

Class III

Operation with pathogenic biological agents (PBA)

Operation with cytostatic and cytotoxic products

Operation with PBA, small amounts of toxic and chemical substances

LAMINAR FLOW CABINETS

IVF WORKSTATIONS

PCR-CABINETS

FUME HOODS

ISOLATORS (GLOVE BOXES)

STERILE STORAGE CABINETS



## CUSTOMIZED ASSEMBLY

WE ARE ABLE TO CREATE CONTINUOUS TECHNOLOGICAL PROCESS LINES BASED ON OUR EQUIPMENT.

The lines can consist of biosafety cabinets, laminar flow cabinets, fume hoods, positive and negative-pressure isolators etc.



## CLEAN ZONES

Our portfolio comprises more than 500 clean zones ensuring a required cleanliness class as per ISO 14644-1



# MICROBIOLOGICAL SAFETY CABINETS

## ADDITIONAL OPTIONS

### Class II




- Technical gas tap with electromagnetic valve\*
- Inflammable gas tap with electromagnetic valve\*
- Vacuum tap with electromagnetic valve\*
- Exhaust hood for connecting the cabinet to the exhaust system
- Additional sockets
- ULPA filters
- Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) disinfection kit
- Holes in side walls
- Cabinet base stand



*A gas tap or a vacuum tap can be installed into an operational cabinet without any additional qualification required.*

*\* The electromagnetic valve automatically locks gas and vacuum supply in case of power cutoff, the cabinet switching-off or alarm activation.*

[www.lamsys.com](http://www.lamsys.com) 



## LAMSYS

**LAMSYS CC**  
Turgoyak Road, 2/4  
Miass, Chelyabinsk region  
456300 Russian Federation  
Phone/Fax: +7(3513) 255 255  
sales@lamsys.com

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Manufacturer reserves its right to change technical specification and configuration of the equipment in the course of its further development.