LAMSYSTEMS

MICROBIOLOGICAL SAFETY CABINETS
Class II and Class III

**OPERATOR,
ENVIRONMENT,
PRODUCT
PROTECTION**

www.lamsys.com

LAMSYSTEMS

BMB-II-"Laminar-S"

MICROBIOLOGICAL SAFETY CABINETS Class II Type A2

NEOTERIC

900 mm 1200 mm 1500 mm 1800 mm

Microbiological safety cabinet class II NEOTERIC is produced in conformity with requirements of the European standard EN 12469:2000.

The cabinet provides product, operator and environment protection.

It is designed for work with agents of biosafety levels 1, 2 and 3.

NEOTERIC model features good ergonomics, low noise level, low energy consumption, easy cleaning, maintenance and repair.

A PULLOUT UV UNIT HAS A UNIQUE DESIGN:

- doesn't interrupt a laminar air flow
- doesn't require a special place for storage
- reliable and easy-to-use
- well-adapted for cleaning
- completely covers the front opening of the cabinet in standby mode
- is controlled by optical position sensor
- is certified by TÜV NORD

Using the audible-visible alarm, the system of monitoring the cabinet operating modes warns the operator about the air flow imbalance in the working chamber.

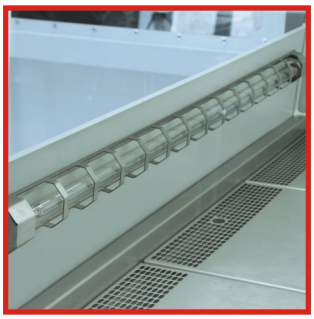
The optical sensors of the front sash and the UV unit position provide total control of the cabinet operating modes.

Easy replacing of the filtering elements.

The table top is made of segments for a more convenient working zone disinfection and autoclaving.

For additional information, see **www.bmb221.com**

The NEOTERIC cabinet is provided with the audible-visible indication system **REFLEX**[LS], and in case of blocking the front grille on the table surface, it will immediately warn the operator about worsening of the cabinet protective properties.



BSC Class II

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1:2015, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	II
Cabinet type according to NSF/ANSI 49	A2
Class of the installed HEPA filters according to EN 1822-1:2009	H14
Average velocity of the inflow though the work opening, m/s	0,47±0,03
Average downflow velocity in the working chamber, m/s	0,35+0,01
Illuminance level in the working zone, lux, not less than	1000
Air recirculation rate in the cabinet, %	≈70

MAIN PARAMETERS AND DIMENSIONS

BMB-II-"Laminar-S" NEOTERIC	900	1200	1500	1800
Article	1E-B.001-09.0	1E-B.001-12.0	1E-B.001-15.0	1E-B.001-18.0
Dimensions of the cabinet assembled with the stand (WxDxH), mm	1000x770x2150	1200x770x2150	1500x770x2150	1800x770x2092
Dimensions of the working chamber (WxDxH), mm	905x610x750	1105x610x750	1405x610x750	1705x610x750
Weight of the cabinet assembled with the stand (net), kg, not more than	196	235	300	300
Power consumption (without the built-in outlets load), W, not more than	100*	110*	160*	150*
Total acceptable load on the built-in outlets, W, not more than	1000	1000	1000	1000
Air volume supplied to the working chamber, m^3/h	656-674	795-817	1008-1036	1210-1245

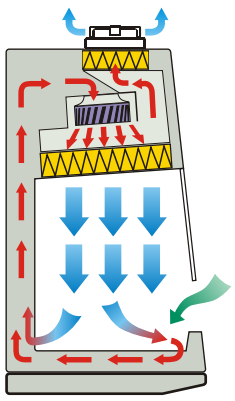
ADDITIONAL OPTIONS

- Multi-purpose taps
- Extra outlets
- ULPA filters
- LED lighting of the working chamber
- Hood to connect the cabinet to external exhaust system

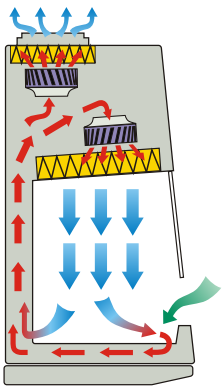
* *The power consumption with newly installed uncontaminated HEPA filters.*

AIR FLOW SCHEME

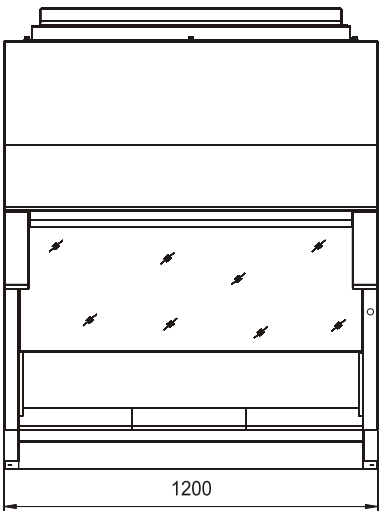
contaminated air
room air
clean (filtered) air

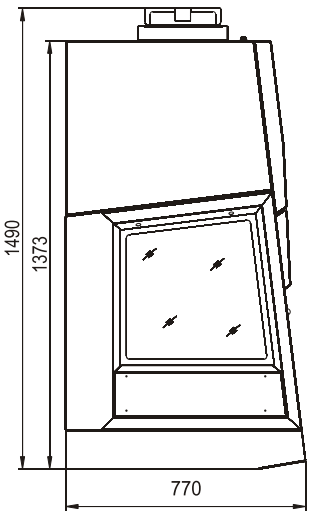


900 / 1200 / 1500 mm



1800 mm





LAMSYSTEMS

BMB-II-"Laminar-S"

MICROBIOLOGICAL SAFETY CABINETS Class II Type A2

SAVVY

900 mm 1200 mm 1500 mm 1800 mm

Microbiological safety cabinet class II SAVVY is produced in conformity with requirements of the European standard EN 12469:2000.

The cabinet provides product, operator and environment protection.

It is designed for work with agents of biosafety levels 1, 2 and 3.

SAVVY model features good ergonomics, low noise level, low energy consumption, easy cleaning, maintenance and repair.

The system provides separate inflow and downflow control as well as automatic air balance control. There is no need to adjust air balance mechanically which significantly decreases maintenance time when validating, changing filters and performing periodic verifications.

TOUCH SCREEN made displaying modes more demonstrative, the cabinet control easier and provided the user with more service information.

UV LIGHT is located in the pullout unit outside the work chamber and does not interfere with the airflow at work.
A unique pullout UV unit is included into the basic configuration (page 1).

LOW NOISE LEVEL

47 dBA

in operating mode
(fans and lighting turned on)
in testing laboratory
environment

Using the audible-visible alarm, the system of monitoring the cabinet operating modes warns the operator about the air flow imbalance in the working chamber.

The optical sensors of the front sash and the UV unit position provide total control of the cabinet operating modes.

Easy replacing of the filtering elements.

The table top is made of segments for a more convenient working zone disinfection and autoclaving.

BSC Class II

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	II
Cabinet type according to NSF/ANSI 49	A2
Class of the installed HEPA filters according to EN 1822-1	H14
Average velocity of the inflow though the work opening, m/s	0,47±0,03
Average downflow velocity in the working chamber, m/s	0,35+0,01
Air recirculation rate in the cabinet, %	≈70

MAIN PARAMETERS AND DIMENSIONS

BMB-II-"Laminar-S" SAVVY	900	1200	1500	1800
Article	1E-B.002-09.0	1E-B.002-12.0	1E-B.002-15.0	1E-B.002-18.0
Dimensions of the cabinet assembled with the stand (WxDxH), mm	1000x770x2095	1200x770x2095	1500x770x2095	1800x770x2095
Dimensions of the working chamber (WxDxH), mm	905x610x750	1105x610x750	1405x610x750	1705x610x750
Power consumption (without the built-in outlets load), W, not more than	-	110*	142*	220*
Total acceptable load on the built-in outlets, W, not more than	1000	1000	1000	1000
Air volume supplied to the working chamber, m^3/h	656-674	795-817	1008-1036	1210-1245
Air outflow volume, m^3/h	273-309	333-378	426-484	510-580
Noise level at 1 m distance from the cabinet, dBA, not more than	-	47**	55**	57**

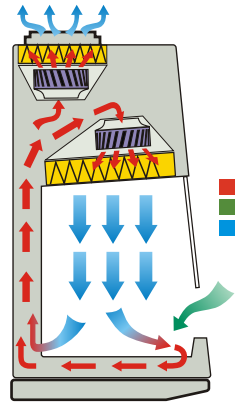
* *The power consumption with newly installed uncontaminated HEPA filters;*

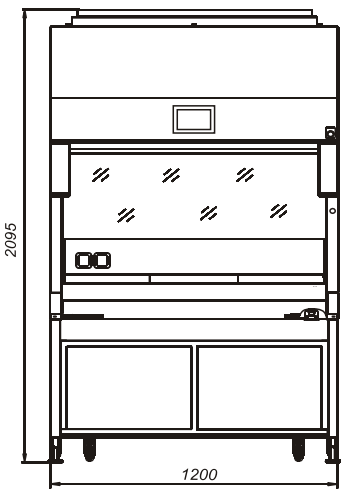
** *noise level measured in a considerably free sound field over the sound reflecting surface (noise level in real-time operating conditions depends on the room size, the cabinet placement, and the background noise level and it can change in the range of 3-4 dB(A)).*

ADDITIONAL OPTIONS

- Multi-purpose taps
- Extra outlets
- ULPA filters
- Hood to connect the cabinet to external exhaust system

AIR FLOW SCHEME





LAMSYSTEMS

BMB-II-"Laminar-S"

MICROBIOLOGICAL SAFETY CABINETS **Class II Type A2**

VIS-A-VIS for work with lab animals

Microbiological safety cabinet class II VIS-A-VIS is designed to work with lab animals.

The design of VIS-A-VIS cabinet allows two operators working opposite one another at the same time.

It provides product, operator and environment protection when working with agents of biosafety levels 1, 2 and 3.

The cabinet is designed for operation in standing or seating position

The cabinet is equipped with a system of monitoring the operating modes; optical sensors of the front glasses, the UV unit and the safety closure position; a control panel with LCD, where operation information of the cabinet is shown. The audible-visible alarm system is activated upon failure of the safety conditions.

Downward laminar air flow prevents the materials cross contamination in the working zone. The animals' hair catcher is installed under the table top.

BSC Class II

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1:2015, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	II
Cabinet type according to NSF/ANSI 49	A2
Class of the installed HEPA filters according to EN 1822-1:2009	H14
Average velocity of the inflow though the work opening, m/s	0,45±0,03
Average downflow velocity in the working chamber, m/s	0,33±0,01
Illuminance level in the working zone, lux, not less than	2000
Air recirculation rate in the cabinet, %	≈50

MAIN PARAMETERS AND DIMENSIONS

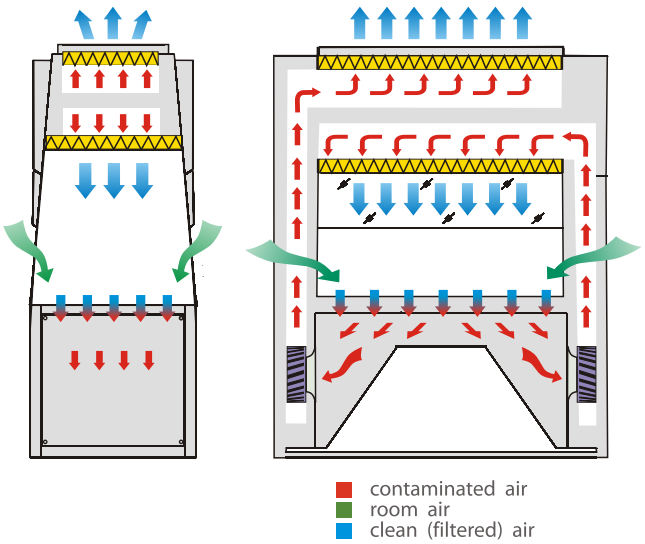
BMB-II-"Laminar-S" VIS-A-VIS	Article: 1E-B.004-12.0
Dimensions of the cabinet (WxDxH), mm	1506x750x1965
Dimensions of the working chamber (WxDxH), mm	1110x665x687
Weight of the cabinet assembled with the stand (net), kg, not more than	314
Power consumption (without the built-in outlets load), W, not more than	183*
Total acceptable load on the built-in outlets, W, not more than	1000
Air volume supplied to the working chamber, m^3/h	915

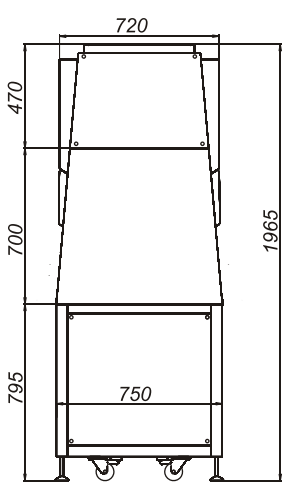
* *The power consumption with newly installed uncontaminated HEPA filters.*

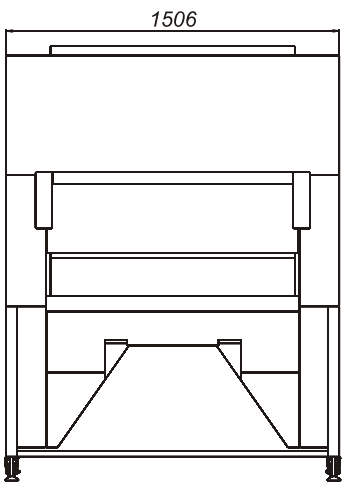
ADDITIONAL OPTIONS

– Multi-purpose taps
– Hood to connect the cabinet to external exhaust system
– Cabinet's stand for operating the cabinet while standing

AIR FLOW SCHEME







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BMB-II-"Laminar-S"

TOXIC
CYTOSTATIC

MICROBIOLOGICAL SAFETY CABINETS Class II Type A2

CYTOS

Biological safety cabinet class II Cytos is designed for work with cytostatic and cytotoxic agents.

The cabinet Cytos provides product, operator and environment protection for work with agents of biosafety levels 1, 2 and 3.

TOUCH SCREEN made displaying modes more demonstrative, the cabinet control easier and provided the user with more service information.

Tabletop is made of stainless steel, front sash is made of lamenated glass, side walls are made of tempered glass.

Work chamber illumination is LED.

One supply HEPA filter H14 is located above the work chamber.

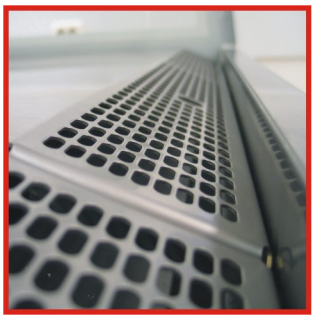
One exhaust HEPA filter H14 is located in the upper part of the ventilation camera.

Four intermediate cylindrical HEPA filters H14 are installed parallel to each other and located under the work chamber worktop. FILTER REPLACEMENT IS PERFORMED WITH WORKING FANS through the work chamber without additional dismantling of the cabinet. Therefore it minimizes the risks of personnel and environment contamination.

The system of monitoring the cabinet's operating modes warns the operator about the air flow imbalance in the work chamber with an audible-visible alarm.

Optical sensors of the front glass and the UV unit position provide total control of the cabinet operating modes.

A unique pullout UV unit is included into the basic configuration
(page 1)



BSC Class II

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1:2015, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	II
Cabinet type according to NSF/ANSI 49	A2
Class of the installed HEPA filters according to EN 1822-1:2009	H14
Average velocity of the inflow though the work opening, m/s	0,47±0,03
Average downflow velocity in the working chamber, m/s	0,35+0,01
Illuminance level in the working zone, lux, not less than	2000
Air recirculation rate in the cabinet, %	≈70

MAIN PARAMETERS AND DIMENSIONS

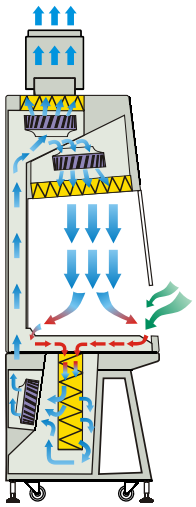
BMB-II-"Laminar-S" CYTOS	Article: 1E-B.005-12.0
Dimensions of the cabinet assembled with stand without exhaust hood (WxDxH), mm	1200x770x2092
Dimensions of the working chamber (WxDxH), mm	1105x610x660
Weight of the cabinet assembled with the stand (net), kg, not more than	270
Power consumption (without the built-in outlets load), W, not more than	900/140*
Total acceptable load on the built-in outlets, W, not more than	1000
Air volume supplied to the working chamber, m^3/h	795–817
Noise level at 1m distance from the cabinet, dBA, not more than	58

ADDITIONAL OPTIONS

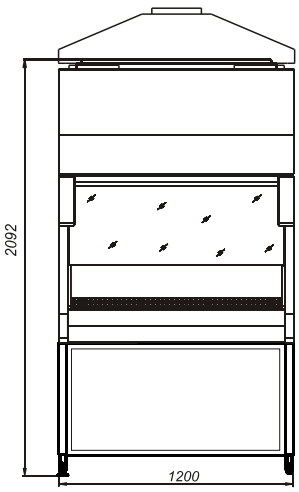
- Extra outlets
- ULPA-filters

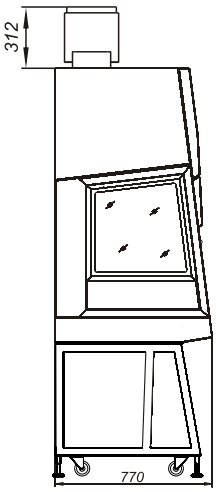
** Power consumption with newly installed (uncontaminated) HEPA filters.*

AIR FLOW SCHEME



contaminated air
room air
clean (filtered) air





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BMB-II-"Laminar-S"

MICROBIOLOGICAL SAFETY CABINETS **Class II Type B2**

1200 mm

The biological safety cabinet class II type B2 is designed for work with agents of biosafety levels 1, 2 and 3. It provides product, operator and environment protection.

No air recirculation in the cabinet and a 100% removal of the filtered air to the room exhaust system provide an increased safety level of the cabinet class II type B2.

The cabinet must be connected to an individual active exhaust system with a flow rate of 1135-1205 m^3/h. The room where the cabinet is installed must have a supply ventilation system with a flow rate of not less than 1000 m^3/h.

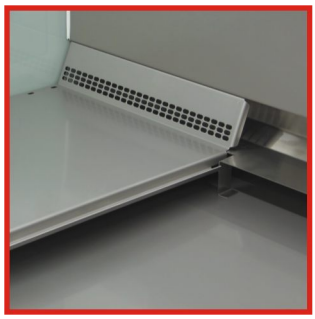
The cabinet has two independent filter-fan units providing air inflow and outflow.

Due to connection with an external exhaust system, the cabinet provides protection from toxic chemical substances and radionuclides.

Using the audible-visible alarm system, the system of monitoring the cabinet operating modes warns the operator about the air flow imbalance in the working chamber.

The optical sensors of the front glass and the UV unit position provide total control of the cabinet operating modes.

A unique pullout UV unit is included into the basic configuration
(page 1)



BSC Class II

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1:2015, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	II
Cabinet type according to NSF/ANSI 49	B2
Class of the installed HEPA filters according to EN 1822-1:2009	H14
Average velocity of the inflow though the work opening, m/s	0,47±0,03
Average downflow velocity in the working chamber, m/s	0,35+0,01
Illuminance level in the working zone, lux, not less than	1000
Air recirculation rate in the cabinet, %	no recirculation

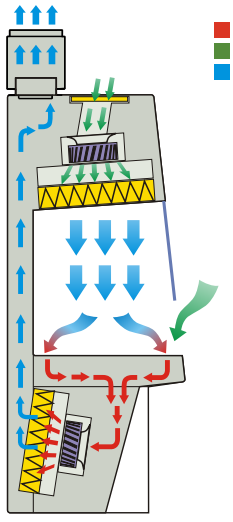
MAIN PARAMETERS AND DIMENSIONS

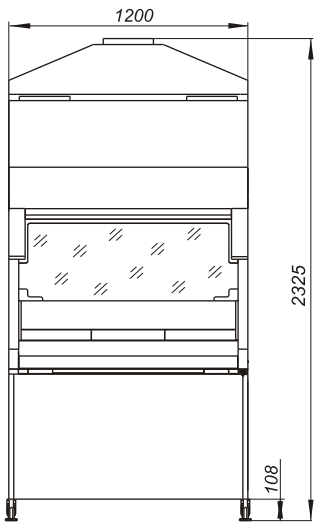
BMB-II-"Laminar-S" B2	Article: 1E-B.003-12.0
Dimensions of the cabinet assembled with the stand (WxDxH), mm	1200x810x2325
Dimensions of the working chamber (WxDxH), mm	1105x610x705
Weight of the cabinet assembled with the stand (net), kg, not more than	270
Power consumption (without the built-in outlets load), W, not more than	720
Total acceptable load on the built-in outlets, W, not more than	1000
Air volume supplied to the working chamber, m^3/h	795-820

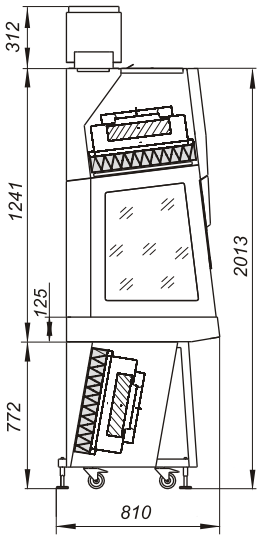
ADDITIONAL OPTIONS

- Multi-purpose taps
- Extra outlets
- LED lighting of the working chamber

AIR FLOW SCHEME







LAMSYSTEMS

BMB-III-"Laminar-S"

MICROBIOLOGICAL SAFETY CABINETS Class III

PROTECT

Microbiological safety cabinet class III PROTECT provides maximum operator protection from the biohazardous aerosols. The cabinet is designed for work with agents of biosafety levels 1, 2, 3 and 4.

The model design allows using those cabinets for work with deadly bacteria and viruses.

If connected to the individual active exhaust system, the cabinet could be used for protection from small amounts of toxic chemical substances and radionuclides.

The system of monitoring with the audible-visible indication system warns operator about the failure of working modes in the cabinet.

The cabinet model 1800* mm has 4 glove ports which allow two operators working simultaneously

The cabinet has a sealed PASS-THROUGH SLUICE GATE made of stainless steel.

PULL OUT SLUICE TABLE TOP makes loading objects into the working chamber easier.

FRONT SASH can be lifted for equipment loading. It is made of laminated safety glass and equipped with two oval glove ports.

REMOVABLE OUTLET UNIT in the working chamber with self-powered shutoff function.

The design of the cabinet allows integrating several cabinets in one line for continuous technological process.

WASTE DISPOSAL SYSTEM can be integrated into the tray of the working chamber.

BSC Class III

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1:2015, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	III
Class of the installed HEPA filters according to EN 1822-1:2009	H14
Prefilter class according to EN779:2002	G4
Minimal negative pressure in the working chamber, Pa, not less than	200
Permanently provided working negative pressure in the working chamber, Pa, not less than	250
Air inflow filtering Air outflow filtering	two-stage (G4,H14) two-stage (H14,H14)
Air recirculation rate in the cabinet, %	no recirculation

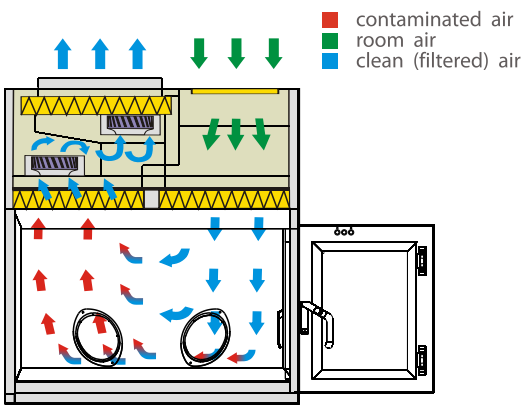
MAIN PARAMETERS AND DIMENSIONS

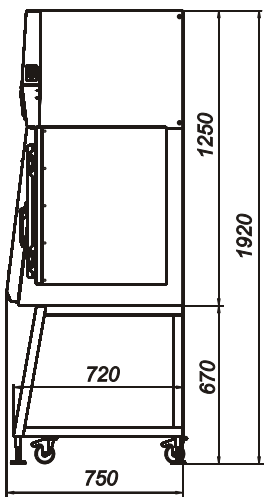
BMB-III-"Laminar-S" PROTECT	1200	1800
Article	1E-C.001-12.0	1E-C.001-18.0
Dimensions of the cabinet assembled with the stand (WxDxH), mm	1720x750x1940	2320x750x1920
Dimensions of the working chamber (WxDxH), mm	1140x640x675	1740x640x675
Weight of the cabinet assembled with the stand (net), kg, not more than	350	360
Maximum power consumption (without the built-in outlets load), W, not more than	420	390
Total acceptable load on the built-in outlets, W, not more than	1000	1000
Airflow rate through the supply HEPA filter, m^3/h, not less than	270-320	400-450
Illuminance level in the working zone, lux, not less than	1500	2000

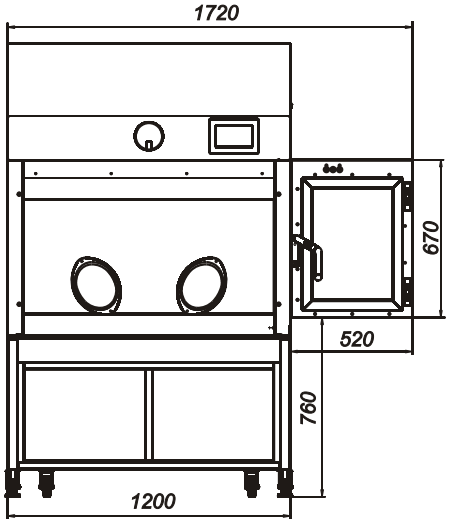
ADDITIONAL OPTIONS

– A self-contained module for glove integrity testing
– Safe material, object and waste removal system

AIR FLOW SCHEME







LAMSYSTEMS

BMB-III-"Laminar-S"

MICROBIOLOGICAL SAFETY CABINETS Class III

PROTECT VIS-A-VIS

Microbiological safety cabinet class III PROTECT VIS-A-VIS provides maximum operator protection from the biohazardous aerosols. The cabinet is designed for work with agents of biosafety levels 1, 2, 3 and 4.

The model design allows using those cabinets for work with deadly bacteria and viruses.

1200 mm 1800* mm

** The cabinet is produced upon request*

If connected to the individual active exhaust system, the cabinet could be used for protection from small amounts of toxic chemical substances and radionuclides.

The system of monitoring with the audio-visible indication system warns operator about the failure of working modes in the cabinet.

! The cabinet is designed for operators working simultaneously opposite one another

The cabinet has a sealed PASS-THROUGH SLUICE GATE made of stainless steel.

PULLOUT SLUICE TABLE TOP makes loading objects into the working chamber easier.

FRONT SASH can be lifted for equipment loading. It is made of laminated safety glass and equipped with two oval glove ports.

REMOVABLE OUTLET UNIT in the working chamber with self-powered shutoff function.

WASTE DISPOSAL SYSTEM can be integrated into the tray of the working chamber.

BSC Class III

MAIN CHARACTERISTICS

Air cleanliness class in the working chamber of the cabinet in terms of concentration of airborne particles (aerosols) according to ISO 14644-1:2015, not less than	5 ISO
Cabinet class according to EN 12469:2000, NSF/ANSI 49	III
Class of the installed HEPA filters according to EN 1822-1:2009	H14
Prefilter class according to EN779:2002	G4
Illuminance level in the working zone, lux, not less than	2000
Minimal negative pressure in the working chamber, Pa, not less than	200
Permanently provided working negative pressure in the working chamber, Pa, not less than	250
Air inflow filtering Air outflow filtering	two-stage (G4,H14) two-stage (H14,H14)
Air recirculation rate in the cabinet, %	no recirculation

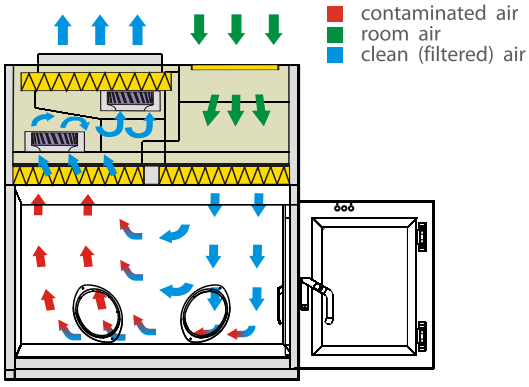
MAIN PARAMETERS AND DIMENSIONS

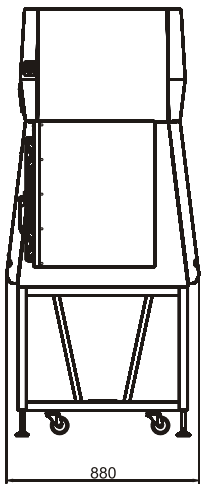
BMB-III-"Laminar-S" PROTECT VIS-A-VIS	1200
Article	1E-C.002-12.0
Dimensions of the cabinet assembled with the stand (WxDxH), mm	1720x880x1940
Dimensions of the working chamber (WxDxH), mm	1040x655x685
Weight of the cabinet assembled with the stand (net), kg, not more than	350
Maximum power consumption (without the built-in outlets load), W, not more than	450
Total acceptable load on the built-in outlets, W, not more than	1000
Airflow rate through the supply HEPA filter, m^3/h, not less than	270-320

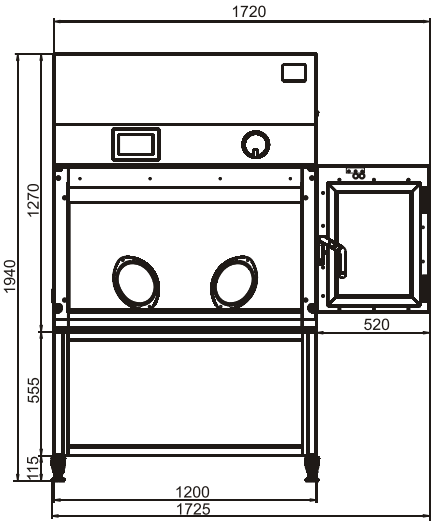
ADDITIONAL OPTIONS

– A self-contained module for glove integrity testing
– Safe material, object and waste removal system

AIR FLOW SCHEME







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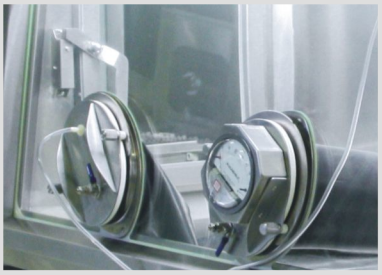
ADDITIONAL OPTIONS **BSC Class III**



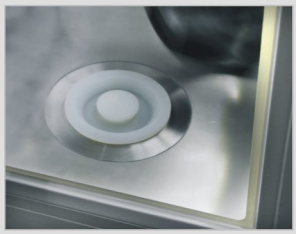
A SELF-CONTAINED MODULE FOR GLOVE INTEGRITY TESTING

A self-contained module for glove integrity testing ensures detection of any defects including the smallest ones like needle punctures.

It consists of a glove port plug with a built-in pressure gauge and a valve for compressed air line connection.

SAFE MATERIAL, OBJECT AND WASTE REMOVAL SYSTEM

The table top of the class III cabinets can be featured with an opening for installation of a removable sealed container with two lids: an inner and an outer one.



Slight discrepancies between the given information and the actual configuration of a product are possible due to continuous improvement of the product structure for reliability and operating characteristics enhancement.

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