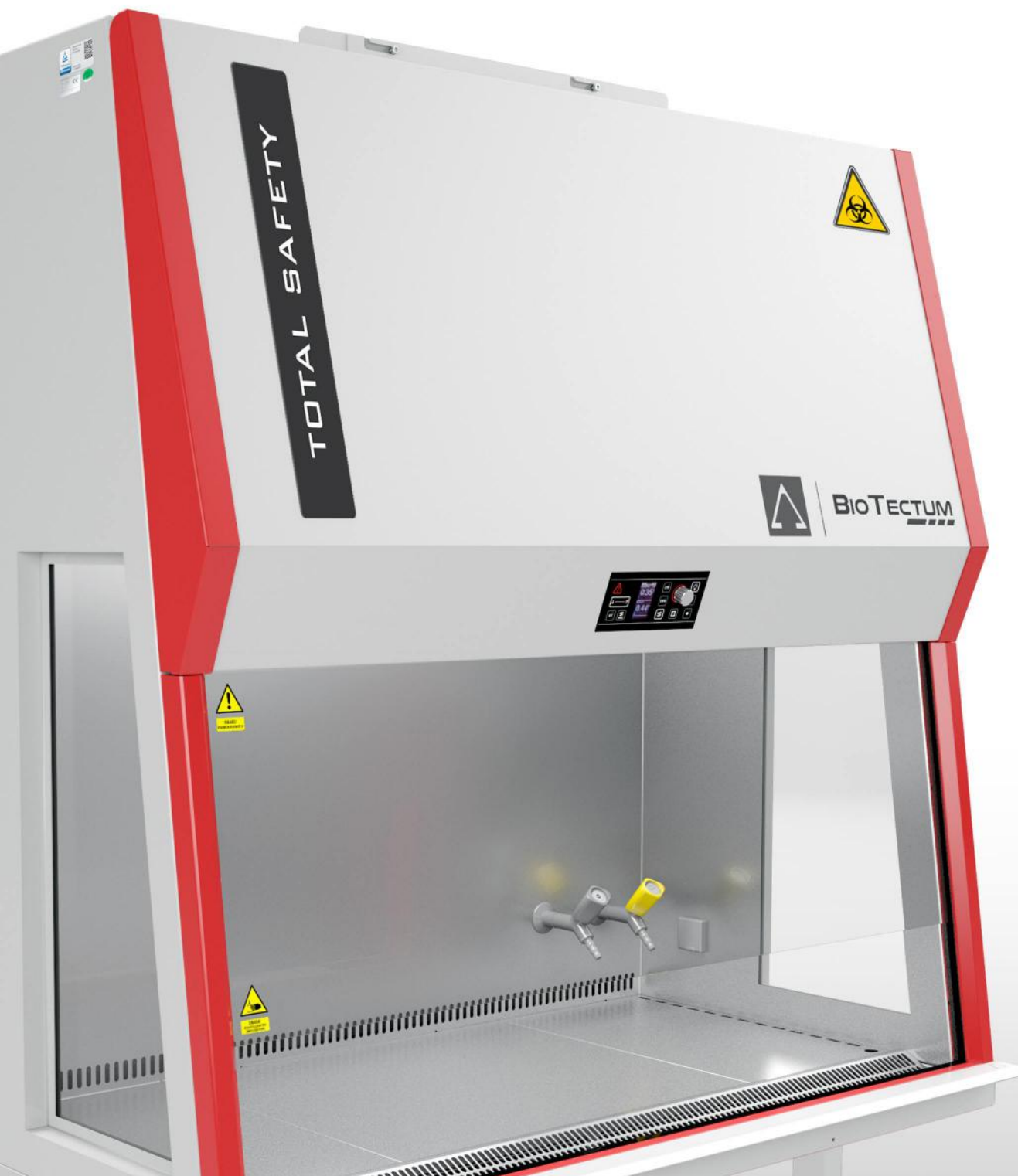# Biological Safety Cabinets

Class II, Type A2

We design and develop modern laboratory solutions
with an ergonomic design using the latest technologies and trends.

Table of contents:

About BioTectum

BioTectum - Microbiological safe working chambers

As a team, we focus first and foremost on modern, advanced solutions to ensure the highest comfort and safety for laboratory workers. Persistence, constant testing, and a willingness to ask even difficult questions have allowed us to create a new generation of laminar chambers – providing better protection and, in addition, requiring significantly fewer energy resources. But we don't intend to stop there. Our goal is to create a laminar chamber with the best possible performance.

Innovations for laboratories

We are constantly looking for ways to improve our products, extend their lifespan, and improve the efficiency and comfort of working with them. Hence, dozens of innovative solutions and conveniences, such as an extensive alarm system controlling laminar chamber parameters or intelligent control of fans, filters, and lighting. We put at the disposal equipment that will not let you down. It is for you that we go further and set new standards in the laboratory equipment industry.

BioTectum Classic Chamber - introduction

The Classic Line is characterized by three electronically commutated motors manufacturer EBM Papst and an electrically controlled front window, and the interior of the working area is made using seamless construction. The chamber has a dedicated microprocessor control system, the ability to easily wash the front glass on both sides, and low energy consumption and noise generation.

✔ **Safety**
CE declaration of conformity

✔ **Working Comfort**
Extremely low noise level

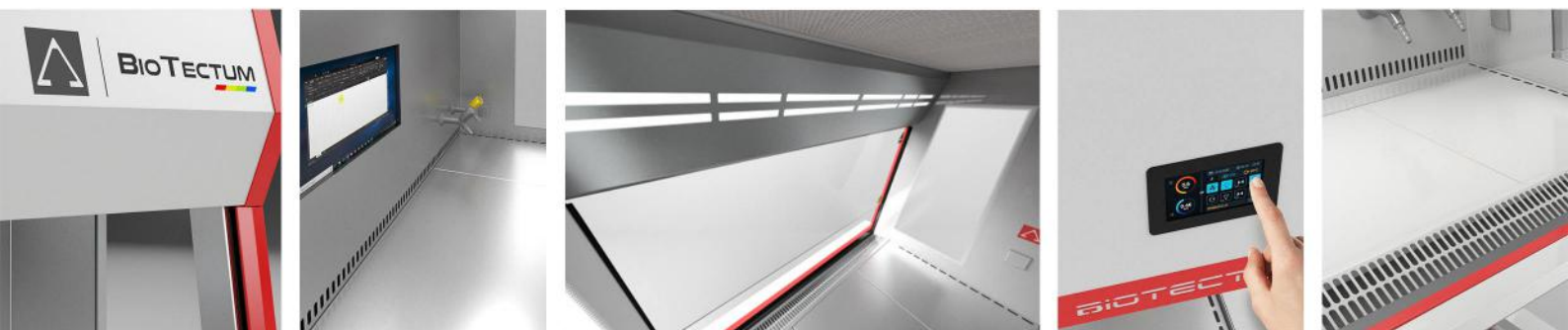✔ **Certifcate TÜV Rheinland**
Compliance with standard EN 12469/2002

Technologies used:

⌵ **TEC FLOW**
Automatic digital compensation of air velocity in the chamber and at the outlet depending on changing operating conditions.

⌵ **TEC AUTO CONTROL**
System self-diagnostics.

⌵ **TEC REMOTE CONTROL**
Remote diagnostics of chamber settings.

⌵ **TEC SUSPEND**
A mode that keeps the chamber in continuous operation while reducing energy consumption.

⌵ **TEC DSAM**
Setting of evaporation time, fan operation, standstill time, number of repetitions and neutralisation time and ventilation. An H_2O_2 evaporator is required to carry out the process.

⌵ **TEC TURN&TOUCH**
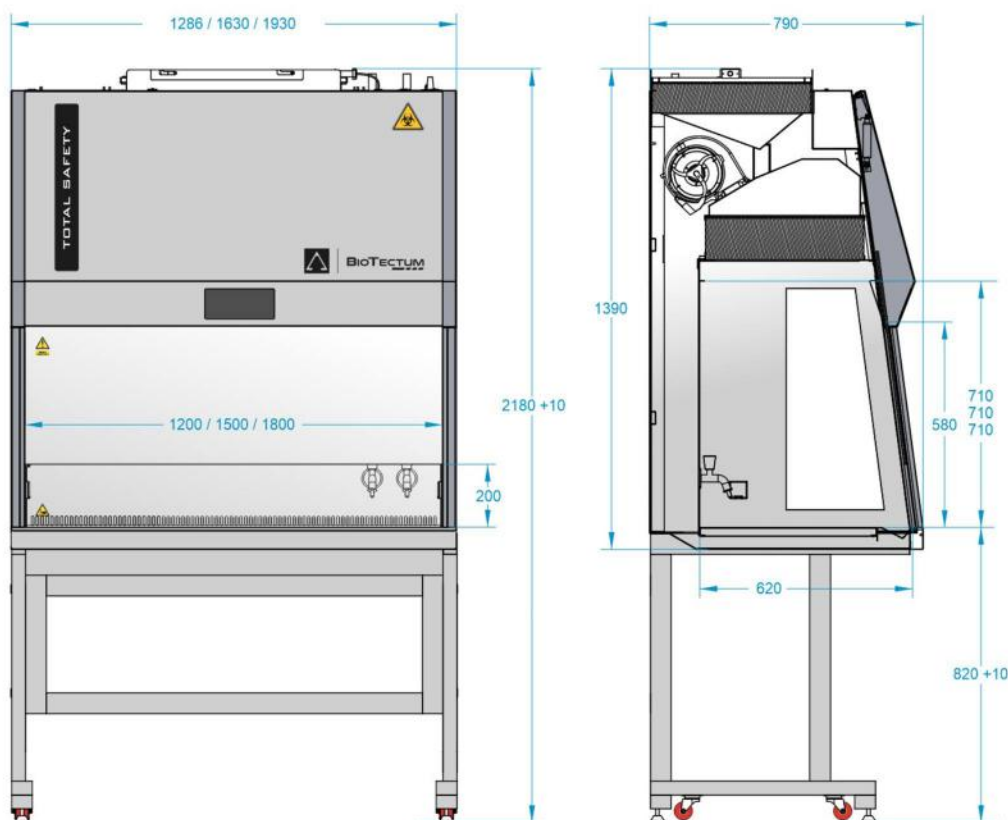Classic control panel with membrane keypad and selection knob.

Biological Safety Cabinets

Class II, Type A2

BioTectum Classic Chamber - specifications

Line: Classic

TECHNICAL DATA	BioTectum 1.2	BioTectum 1.5	BioTectum 1.8
Lighting intensity level [Lux]	800-1700 [1]	800-1700 [1]	800-1700 [1]
Noise level [dB]	48 [2]	48 [2]	54 [2]
Working opening height [mm]	160-250 [3]	160-250 [3]	160-250 [3]
Main voltage [V]	230 V 1/N/PE AC	230 V 1/N/PE AC	230 V 1/N/PE AC
Frequency [Hz]	50	50	50
Socket protection [A]	10	10	10
Maximum power [W]	594	581	611
Power consumption in SUSPEND mode [W]	32 [4]	30 [4]	29 [4]
Power consumption in OPERATION mode [W]	135-195 [1]	135-195 [1]	135-195 [1]
Degree of protection of electrical outlets	IP44	IP44	IP44
Energy class	1	1	1
Nitrogen, CO2, compressed air maximum pressure [bar]	4	4	4
Gas fuel pressure maximum [mbar]	20	20	20
LED lighting	Standard	Standard	Standard
Nominal luminace [lx]	800-1700 [1]	800-1700 [1]	800-1700 [1]
UV illumination [W]	30	30	30
Number of 230 [V] outlets	3	3	3
Power cord length [m]	3	3	3
Head filter dimensions [mm]	457x1220x110	457x1524x117	457x1820x117
Exhaust filter dimensions [mm]	457x610x68	457x915x68	457x915x68
Downward directed flow [m/s]	0,25 – 0,50 [5]	0,25 – 0,50 [5]	0,25 – 0,50 [5]
Airflow to the interior (curtain) [m/s]	≥ 0,4 [6]	≥ 0,4 [6]	≥ 0,4 [6]
Filtration efficiency for 0.3 um particles	99,999	99,999	99,999
Filter efficiency in MPPS [%]	99,995	99,995	99,995
Chamber weight [kg]	230	290	350

[1]   Depending on the mode and model
[2]   Measurement methodology EN ISO 11201:2012, EN
[3]   200 [mm] standard
[4]   SUSPEND - economic mode
[5]   Standard around 0,35 [m/s]
[6]   Standard around 0,44 [m/s]

Equipment elements - Classic

ELEMENTS / VERSION	STANDARD ●	OPTION ○
stand on wheels under the chamber made of closed profiles height 835 mm to the work surface 855 mm, wheels locked with leveling	●	
solid worktops	●	
stylistic elements RAL 2002	●	
UV lamp mounted permanently, placed in the upper part of the work area	●	
illumination LED	●	
smooth adjustment of illumination intensity of working area	●	
two electrical sockets in the work area, including one on the left and one on the right side of the chamber	●	
the ability to set the display contrast	●	
temperature sensor in the working chamber with signaling that the temperature inside the chamber has been exceeded	●	
real-time clock and date	●	
port that allows the DOP test of HEPA filters	●	
MODBUS RTU communication protocol enabling cooperation with BMS (Building Management System)	●	
USB connector for software updates	●	
built-in diagnostic connector for connecting a computer with BT Remote Control software	●	
remote diagnostics of biotectum chamber settings	●	
Valve for flammable or technical gases TOFF – yellow		○
Vacuum valve TOFF – grey		○
Hole in the side window		○
Under-counter filter BASIC -a mesh filter to prevent solids such as paper, lignin, cotton wool and others used during chamber operation from entering the chamber - recommended accessory		○
Adjustable electric stand, E-STAND 200, range to the worktop 635 - 835 mm		○
AutoProtect program - set, program includes the SMT1000I APC Smart-UPS 1000VA LCD 230V UPS module		○
Reinforced version, carrying capacity up to 50 kg		○
Anti-vibration granite slab built into 600 mm wide countertop segment based on vibration isolators		○
Sliding table for the microscope		○
Front glass adapted to work with an optical microscope		○
Sink made of AISI 316L acid-proof stainless steel		○
Water valve TOFF		○
N2 valve TOFF - blue		○
Built-in computer monitor LED IPS 19" iiyama, IP 65, the option includes 2 x USB connectors in the workspace and connections on the rear wall of the device enabling connection to the PC		○
Hanger for PC class computer mounted on the frame		○
Solenoid valve for vacum		○
Solenoid valve for flammable gases		○
Additional electrical socket		○
Additional UV-C light strip		○
Sewer connection (eg drainage from the filtration system)		○
Stylistic elements painted in a colour other than basic		○
Roods for attaching liquids bags and bottls to back wall		○
Stainless steel hanging basket, W 250 x H 150 mm		○
Extraction outlet connecting to the ventilation		○

BioTectum Classic NEO Chamber - introduction

The BioTectum Classic NEO line of laminar chambers is represented by a model with a working width of ≈ 950mm. The units in this series, unlike the Classic line, are equipped with two electronically commutated motors manufacturer EBM Papst, have a higher working space height, and have an interior made of stainless steel and tempered glass, which gives the products exceptional elegance while maintaining all the required safety features for use.

✔ **Safety**
CE declaration of conformity

✔ **Working Comfort**
Extremely low noise level

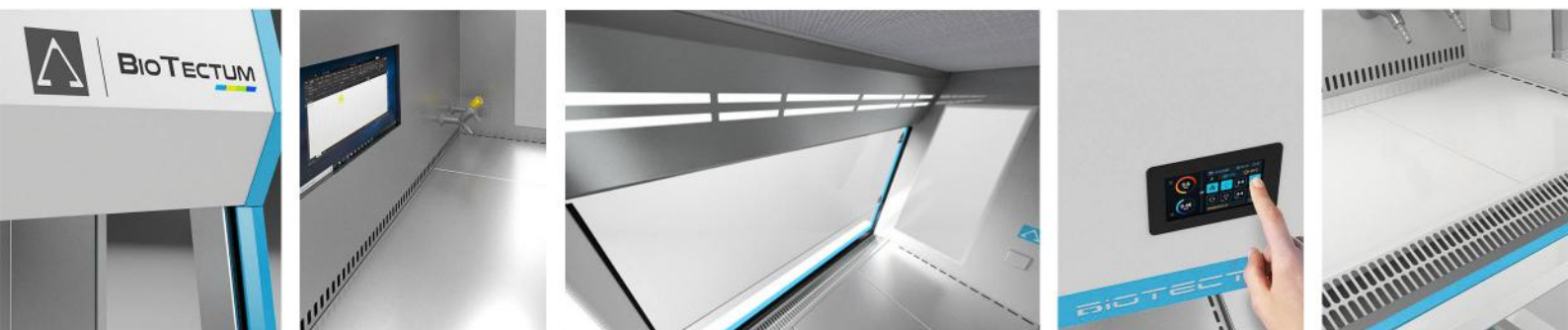✔ **Certifcate TÜV Rheinland**
Compliance with standard EN 12469/2002

Technologies used:

✔ **TEC FLOW**
Automatic digital compensation of air velocity in the chamber and at the outlet depending on changing operating conditions.

✔ **TEC AUTO CONTROL**
System self-diagnostics.

✔ **TEC REMOTE CONTROL**
Remote diagnostics of chamber settings.

✔ **TEC SUSPEND**
A mode that keeps the chamber in continuous operation while reducing energy consumption.

✔ **TEC DSAM**
Setting of evaporation time, fan operation, standstill time, number of repetitions and neutralisation time and ventilation. An H_2O_2 evaporator is required to carry out the process.

✔ **TEC TURN&TOUCH**
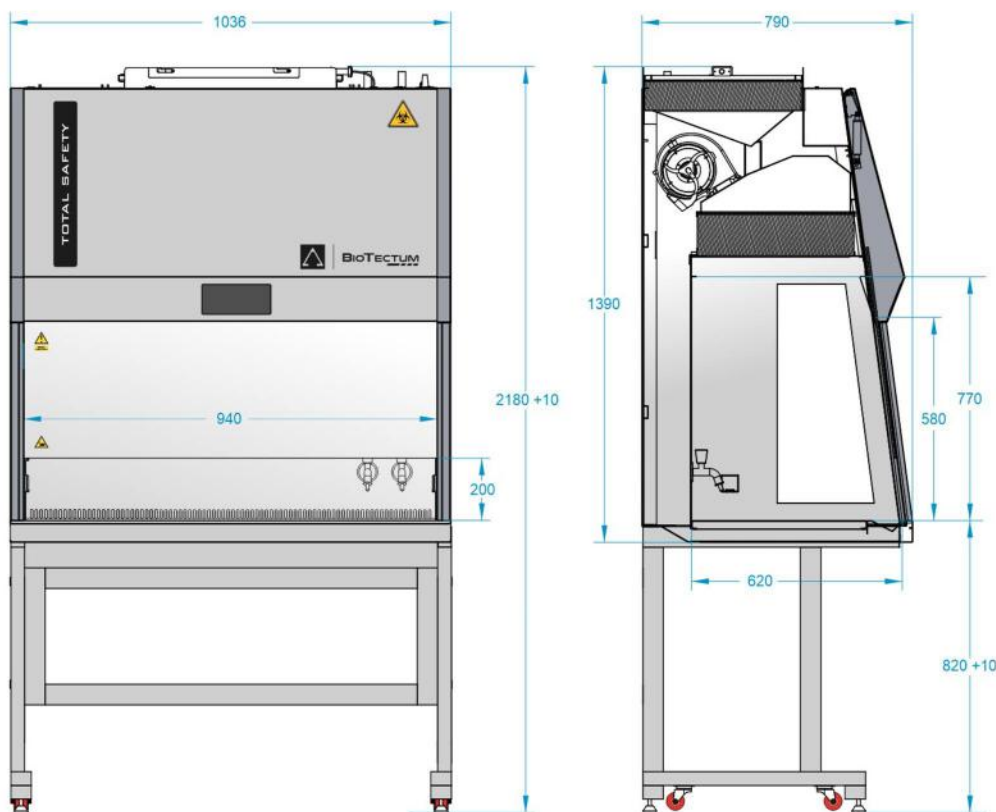Classic control panel with membrane keypad and selection knob.

Biological Safety Cabinets

Class II, Type A2

BioTectum Classic NEO Chamber - specifications

Line: **Classic NEO**

TECHNICAL DATA	BioTectum 1.0 Neo
Lighting intensity level [Lux]	800-1700 [1]
Noise level [dB]	52 [2]
Working opening height [mm]	160-250 [3]
Main voltage [V]	230 V 1/N/PE AC
Frequency [Hz]	50
Socket protection [A]	10
Maximum power [W]	381
Power consumption in SUSPEND mode [W]	20 [4]
Power consumption in OPERATION mode [W]	90 [1]
Degree of protection of electrical outlets	IP44
Energy class	1
Nitrogen, CO2, compressed air maximum pressure [bar]	4
Gas fuel pressure maximum [mbar]	20
LED lighting	Standard
Nominal luminace [lx]	800-1700 [1]
UV illumination [W]	30
Number of 230 [V] outlets	2
Power cord length [m]	3
Head filter dimensions [mm]	457x915x68
Exhaust filter dimensions [mm]	457x610x68
Downward directed flow [m/s]	0,25 – 0,50 [5]
Airflow to the interior (curtain) [m/s]	≥ 0,4 [6]
Filtration efficiency for 0.3 um particles	99,999
Filter efficiency in MPPS [%]	99,995
Chamber weight [kg]	190

[1] Depending on the mode and model
[2] Measurement methodology EN ISO 11201:2012, EN
[3] 200 [mm] standard
[4] SUSPEND - economic mode
[5] Standard around 0,35 [m/s]
[6] Standard around 0,44 [m/s]

Equipment elements - Classic NEO

ELEMENTS / VERSION	STANDARD ●	OPTION ○
Two EC centrifugal fans manufacturer ebm papast	●	
Electrically movable front window	●	
Solid worktop	●	
Stand on wheels under the chamber made of closed profiles height 835 mm to the work surface 840 mm +10 mm, wheels locked with leveling	●	
UV lamp mounted permanently, placed in the upper part of the work area	●	
Illumination LED	●	
Smooth adjustment of illumination intensity of working area	●	
Two electrical sockets in the work area, including one on the left and one on the right side of the chamber	●	
Temperature sensor in the working chamber with signaling that the temperature inside the chamber has been exceeded	●	
Tec Turn&Touch - management panel with contrast ajustment	●	
Tec Auto Control - system auto-diagnostics	●	
Tec Remote Control - remote diagnosis of chamber settings	●	
Tec Flow - automatic digital air velocity compensation	●	
Tec Suspend - mode that keeps the chamber in continuous operation while reducing energy consumption	●	
Tec DSAM - setting of evaporation time, fan operation, standstill time, number of repetitions and neutralisation time and ventilation. An H2O2 evaporator is required to carry out the process	●	
Independent control of downflow and exhaust	●	
Stylistic elements RAL 2002 (Vermilion)	●	
Easy glass cleaning	●	
LED information strip	●	
BR Design Classic Neo - back wall of the workspace and the tabletop are made of AISI 316L acid-resistant stainless steel, the side walls are made of tempered glass	●	
Port for DOP test of HEPA filters	●	
MODBUS RTU port for cooperation with BMS (Building Management System)	●	
Clock / date	●	
Valve for flammable or technical gases TOFF - yellow		○
Solenoid valve for flammable gases		○
Vacuum valve TOFF - grey		○
Solenoid valve for vacum		○
N2 valve TOFF - blue		○
Hole in the side window		○
Under-counter filter BASIC -a mesh filter to prevent solids such as paper, lignin, cotton wool and others used during chamber operation from entering the chamber - recommended accessory		○
Adjustable electric stand, E-STAND 200, range to the worktop 635 - 835 mm		○
AutoProtect program - set, program includes the SMT1000I APC Smart-UPS 1000VA LCD 230V UPS module		○
Hanger for UPS module mounted on the frame		○
Asymmetrically divided three-segment worktops - acid resistant stainless steel AISI 316L		○
Reinforced version, carrying capacity up to 50 kg		○
Anti-vibration granite slab built into 600 mm wide countertop segment based on vibration isolators		○
Additional UV-C light strip		○
Tec Touch Panel		○
Radio remote control to start the chamber		○
Sewer connection (eg drainage from the filtration system)		○
Stylistic elements painted in a colour other than basic		○
Roods for attaching liquids bags and bottls to back wall		○
Stainless steel hanging basket, W 250 x H 150 mm		○
Extraction outlet connecting to the ventilation		○
GR Design Classic Neo - back wall of the workspace and the tabletop are made of AISI 316L acid-resistant stainless steel electrostatic painted with anti-bacterial and chemically resistant paint, the side walls are made of tempered glass		○

BioTectum Classic & Classic NEO Chamber - key features

**We design and develop modern laboratory solutions
with an ergonomic design using the latest technologies and trends.**

Key features:

Electrically moveable front window
Electrically movable front window, positioned at an angle to the worktop with edge position monitoring and automatic stopping function at the optimum height above the worktop in the working position.

Electric fans
Two or three high-quality electronically commutated V-shaped (Zephyro System ®) fans guarantee ideal laminar distribution as well as low current consumption and low noise emissions. Two temperature-compensated airflow sensors, one for laminar flow and one for protective curtain measurement.

Integrated connections
Flammable gas, inert gas and power supply connections are located at the top of the chamber, so there are no pipes protruding outside the chamber. Biotectum chambers can be moved closer to furniture or walls.

LED information strip
LED light strip, visual information on the operating status of the unit.

Seamless stainless steel AISI 316L
The interior of the work area is made entirely of AISI 316L stainless steel in a seamless design with rounded sides to minimise the number of surfaces posing a risk of contamination.

Colour options
Personalisation of the colour of stylistic elements. RAL 2002 Vermilion standard.

V-shaped air intake
V shaped air inlet on the air curtain which eliminates the requirement for additional armrests.

High-quality connections
Internal utility installations with valves from the Italian company TOFF, 230 V sockets manufactured by Berker.

Intuitive control
The CLASSIC panel with its dedicated function keys and membrane keypad provides a robust element for managing the operation of the laminar chamber. The Turn&Touch knob enables precise and intuitive navigation through the menu of available functions. The numerical values of the flows are displayed and easy to read from both a sitting and standing position.

Stainless steel worktop
AISI 316L stainless steel worktop, solid or asymmetrically divided.

Stainless steel bowl
AISI 304 stainless steel bowl with optional electrostatic bacteriostatic coating.

Emergency power supply
Autoprotect System – the connection of the chamber to the UPS emergency power supply and the corresponding software enables further chamber operation and gives the necessary time to protect the test material properly. In a fraction of a second, it cuts off the power supply to electrical sockets and electro-valves while maintaining the correct safe operating conditions of the chamber.

Diagnostic connector
Diagnostic connector for connection of an optional module for remote verification of chamber operating parameters by an authorized service center or manufacturer via GSM or Wi-Fi.

Easy glass cleaning
The construction of the chambers is designed to allow easy cleaning of the front glass enclosing the working area on both sides.

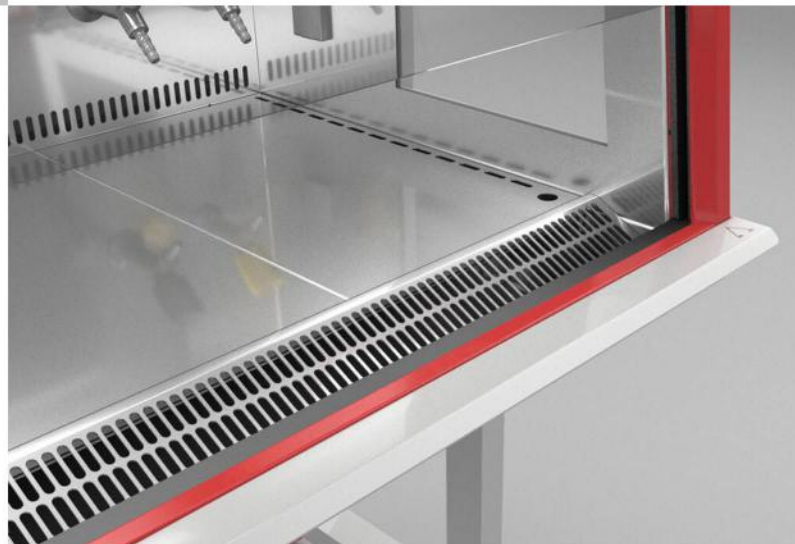**You can choose the technology and material of the chamber workspace.**

BR DESIGN (STANDARD)

The interior of the work area, work top and V shaped air inlet are made entirely of stainless steel acid resistant type AISI 316L.
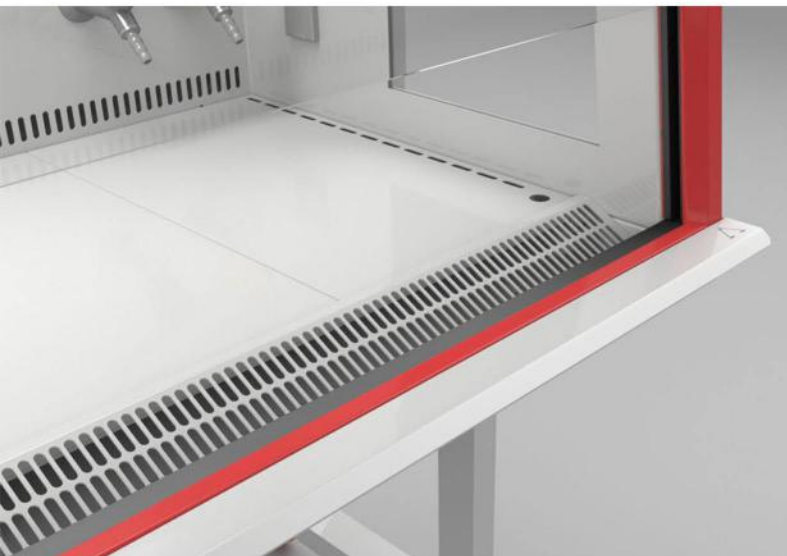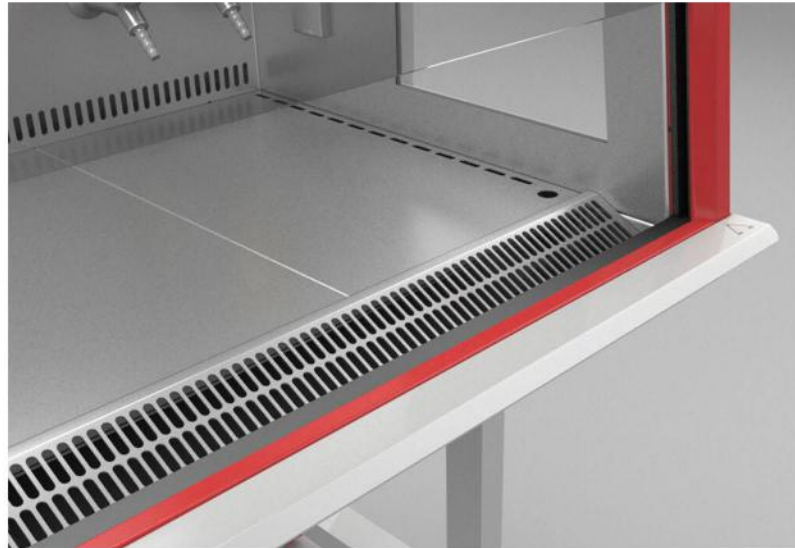
GR DESIGN (OPTION)

The interior of the work area, work top and V shaped air inlet are made entirely of stainless steel acid resistant type AISI 316L electrostatically painted with anti-bacterial and chemically resistant paint (STERILCOAT®).

MR DESIGN (OPTION)

The interior of the work area, work top and V shaped air inlet are made entirely of stainless steel acid resistant, polished (mirror effect) type AISI 316L.

Intelligent Management System

User-friendly and easy to use.

✓ information and emergency messages   ✓ language selection Polish, English, German   ✓ visual and acoustic alarms   ✓ individual user programs

Tec Touch Panel ™

The touch panel is equipped with easy-to-read color pictograms with clocks that, among other things, graphically show the values of airflow, windshield position, and information, alarm or possible error messages with an indication of what they refer to.

Panel Classic Tec Turn&Touch ™

Equipped with a membrane keypad with dedicated function keys, it provides a solid element for managing the operation of the laminar chamber. The Turn&Touch knob precisely and intuitively navigates the menu of available functions. Chamber status values such as flow rates, temperatures and others, among others, are displayed and easy to read from both sitting and standing positions.

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Color & rack options

Personalization BECAUSE COLOR MATTERS

The standard color of the stylistic elements is RAL 2002 (Vermilion), but this does not mean that we cannot make the chamber in a different color version to suit your needs.

RACK options

For laminar flow chambers Class II microbiological safety.

RACK **MOBILE ON WHEELS** (standard)

RACK DIMENSIONS:
≈ 1000 / 1300 / 1650 / 1950 mm

RACK **ELECTRICAL** (option)

RACK DIMENSIONS:
≈ 1000 / 1300 / 1650 / 1950 mm

RACK **STANDARD** (option)

RACK DIMENSIONS:
≈ 1000 / 1300 / 1650 / 1950 mm

Autoprotect

Safety above all !

Connecting the chamber to a UPS emergency power supply and using AutoProtect enables continued operation of the chamber after a power outage and gives the necessary time to properly protect the test material. In a fraction of a second, the power to electrical outlets and solenoid valves is cut off while maintaining proper, safe operating conditions of the chamber.

The program works in two variants:

1. alerts the operator to a power failure (default setting) and leaves the decision on further work with the chamber to the operator including closing the the glass and shutting down the device.

2. automatic mode operation according to predefined settings:
time of operation on the UPS emergency power supply which is followed by automatic closing of the window and switching off the chamber each stage is signaled is indicated by an appropriate alarm message

TEC CLEAN™ for your safety.

The design of chambers allows for easy cleaning of the front glass enclosing the area on both sides work area. In order to be able to wash the inner part of the glass you need to:

• Start the CLEAN program on the control panel - which will automatically lift the glass.

• Lift the front cover along with the glass. To facilitate the process of lifting the cover is assisted by gas cylinders

Opening the front panel   Cleaning the front window

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BioTectum UV Bactericidal Lamp

The BioTectum germicidal lamp has been developed for our health and safety in the fight against coronavirus. Thanks to the forced air flow, it allows safe indoor use in the presence of people.

Safety
CE declaration of conformity

Catalogue

Model	Catalogue no.
BioTectum UV-C 50	955-0600-0050
BioTectum UV-C 100	955-0600-0100
Mobile tripod	955-0600-0013

Prices quoted exclude 23% VAT and transport costs.

Basic specifications

Specification	BioTectum UV-C 50	BioTectum UV-C 100
Power supply [V/Hz]	230/50	230/50
Power [VA]	75	115
UV-C emitting element [W]	2 x TUV 30	2 x TUV 55
Fan capacity [m³/h]	135	135
Disinfected volume [m³]	25-50	45-100
Lamp operating area [m³]	20-Oct	20-40
Radiator life [h]	9000	9000
Case type	IP 20	IP 20
Assembly	wall/ceiling-mounted or on a mobile stand	wall/ceiling-mounted or on a mobile stand
Dimensions LxHxD [mm]	1180x210x114	1180x210x114

Why the BioTectum?

We design and develop modern laboratory solutions
with an ergonomic design using the latest technologies and trends.

+25

years on the market

+8

years of experience in the
manufacture of **Laminar Chambers**

+1000

happy clients

✔ **Sound pressure level**

Very quiet work below 49 [dB] (BioTectum 1.2/1.5) BioTectum 1.8,
and 54 [dB] (Biotectum 1.0/1.8) only.

✔ **Energy saving and environment protection**

Two or three electronically commutated (EC) fans manufactured by ebm
papst in the V Zephyro System™. EC fans high advantage technology
comparing with traditional AC fans offer: energy efficiency, lower noise
level, longer lifespan, and easier control and integration.

✔ **Durability**

User friendly and durable display and electronic components.

✔ **HEPA filters**

Very good /long life quality Hepa filters manufactured by AFPRO
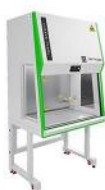Netherlands in accordance with NEN-EN-ISO 14001:2025.

✔ **Design**

Advantage is a modern design, and high quality finishing
of all components in the cabinet.

BioTectum Classic

BioTectum Classic NEO

Let's see how we can help you!

Feel free to contact us. We would be happy
to discuss your laminar chamber needs.