



# *Telstar*® *BiOptima*

## *Class II Biological Safety Cabinet*

*Advanced & ergonomic design*

*Comfortable and easy to use*

*Low energy consumption*

*Enhanced safety features*

*Low maintenance*



# **Telstar BiOptima**

Telstar **BiOptima** Series, our newest range of high quality Class II Biological Safety Cabinets ensures the highest level of protection for operator, product and environment, minimizing hazards inherent to working with agents assigned to biosafety levels 1, 2 and 3.

This series has been designed according to the highest standards of quality, biological safety, reliability, ergonomics and usability and meets the latest customer requirements such as low energy consumption and low sound level.

- *Low energy*
- *Low sound level*
- *Superior quality*
- *High performance*
- *Ergonomic design*
- *Easy to operate*
- *Easy to clean*
- *Easy to decontaminate*
- *Low maintenance*
- *Easy installation*
- *According highest standards*
- *Microprocessor safety control*
- *GMP and PIC's compliant*
- *Enhanced safety features*

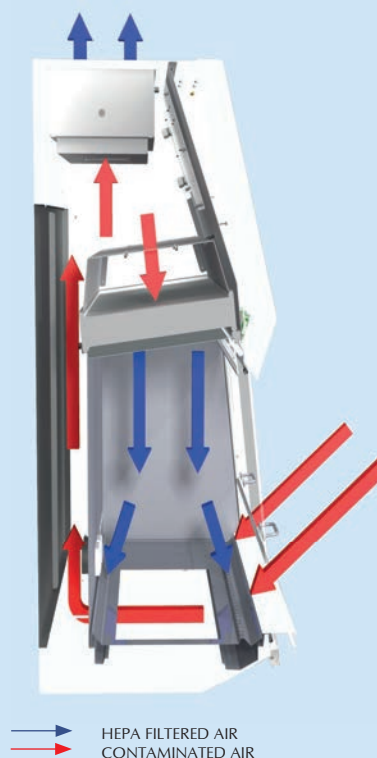


## **Certified Safety: EN 12469**

The **BiOptima** 4 & 6 and Cyto 4 & Cyto 6 cabinets are independently tested and certified by TÜV Nord, the main certification body in Europe, to guarantee conformity to standard EN 12469 for Class II biological safety cabinets (30% exhaust, 70% recirculation unit). The **BiOptima** is specified for working with levels 1, 2 and 3 pathogenic agents. It also conforms to the main requirements NSF/ANSI 49 (Class II A2), JIS K3800, SFDA YY-0569 and AS2252.



# Biological Safety Cabinet Class II



## Basic principle

**BiOptima** provides operator protection by inflow, product protection by HEPA-filtered laminar downflow in the working area (30% exhaust; 70% recirculation) and environmental protection by HEPA-filtered exhaust air.

## Applications

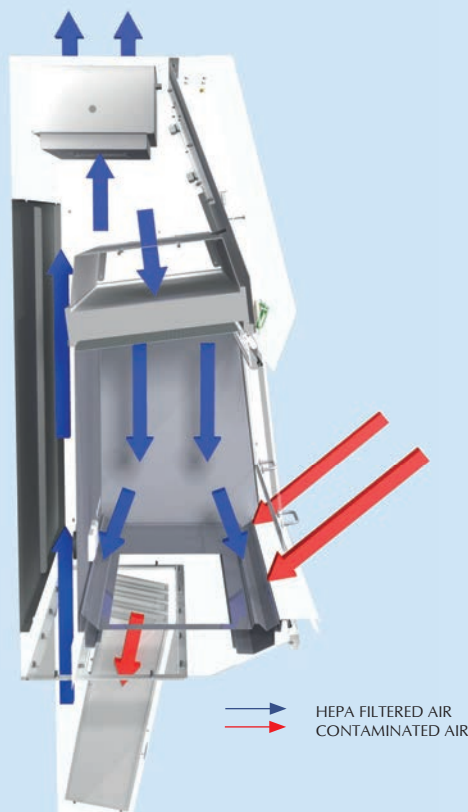
**BiOptima** is designed for microbiological research with biological agents (e.g. bacteria, viruses, etc) and allergens.

## Available sizes

**BiOptima** is standard available in 3, 4, 5 and 6 ft (90, 120, 150 and 180 cm) width.

TECHNICAL SPECIFICATIONS	units	BiOptima 4	BiOptima 6
External dimensions (WxDxH)	mm	1338x797x1450	1948x797x1450
Internal dimensions (WxDxH)	mm	1190x548x666	1800x548x666
Shipping dimensions (WxDxH)	mm	1430x870x1770	2080x870x1770
Weight	Kg	220	285
Shipping weight	Kg	250	320
Laminar flow speed / laminar flow rate	m/s m <sup>3</sup> /h	0.35	0.35
Front entry air speed / extraction flow rate	m/s m <sup>3</sup> /h	0.65 (552)	0.60 (773)
Power	W	190	240
Voltage (others available upon request)	V	230	230
Frequency	Hz	50	50
Lighting	Lux	≥ 1000	≥ 1000
Sound	dB(A)	≤ 58	≤ 58
Vibration	mm RMS	< 0.005	< 0.005
Filters	Pre Filter	G3	G3
	Downflow Hepa Filter	H14	H14
	Exhaust HEPA Filter	H14	H14
Air Quality	ISO 4 in accordance with ISO CD 14644-1: 353 part. ≥ 0.5 μm/m <sup>3</sup> ; 10000 part. ≥ 0.1 μm/m <sup>3</sup>		

# Biological Safety Cabinet Class II for Cytotoxics



## Basic principle

**BiOptima Cyto** is equipped with additional V-shaped HEPA filters underneath the work surface, which filter the inflow air and keep the internal construction of the cabinet free of contamination and therefore ensures the topmost safety for high risk applications.

## Applications

**BiOptima Cyto** is designed for high risk microbiological and high toxic applications, such as the production of cytotoxic medicines.

## Available sizes

**BiOptima Cyto** is standard available in 4 and 6 ft (120 and 180 cm) width.

TECHNICAL SPECIFICATIONS	units	BiOptima Cyto 4	BiOptima Cyto 6
External dimensions (WxDxH)	mm	1338x797x2212	1948x797x2212
Internal dimensions (WxDxH)	mm	1190x548x666	1800x548x666
Shipping dimensions (WxDxH) (BOX1)	mm	1430x870x1770	2080x870x1770
Shipping dimensions (WxDxH) (BOX2)	mm	1430x870x1070	2080x870x1770
Weight	Kg	285	380
Shipping weight (BOX 1)	Kg	250	320
Shipping weight (BOX 2)	Kg	110	135
Laminar flow speed / laminar flow rate	m/s m <sup>2</sup> /h	0.35	0.35
Front entry air speed / extraction flow rate	m/s m <sup>2</sup> /h	0.65 (510)	0.65 (773)
Power	W	200	250
Voltage (others available upon request)	V	230	230
Frequency	Hz	50	50
Lighting	Lux	≥ 1000	≥ 1000
Sound	dBA	≤ 60	≤ 60
Vibration	mm RMS	< 0.005	< 0.005
Filters	Pre Filter	G3	G3
	Downflow Hepa Filter	H14	H14
	Exhaust HEPA Filter	H14	H14
Air Quality	ISO 4 in accordance with ISO CD 14644-1: 353 part. ≥ 0.5 μm/m <sup>3</sup> ; 10000 part. ≥ 0.1 μm/m <sup>3</sup>		

# Features & Benefits

## Ergonomic design

At Telstar we strongly believe that on the comfort when using a BSC. With **BiOptima** a user centered cabinet has been developed. Standard features are designed to offer maximum comfort and make cabinet very easy to use.

- External armrest. Ergonomic epoxy coated stainless plate arm rest contributes to the comfortable working position of the operator.
- 7° sloped front window for ergonomic work position of the operator. With predefined working, open and close position.
- Electric driven laminated safety glass front window.
- Diffused and dimmable LED lighting for visual comfort.
- High working Area. (666 mm)
- Side glass.
- Intuitive user interface.
- Superior Laminarity
- Low Operation cost
- Ergonomic lighting is positioned outside the work area. This does not disturb the downflow, nor create inconvenient shades, nor create obstructions during cleaning.
- User-friendly LCD control panel, positioned at an angle, showing the operator all relevant functions and alarms at a glance.

## Easy to clean

**BiOptima** cabinet characteristics make it extremely easy the cleaning of the working area

- Hinged front glass for backside access that allow complete opening of front window for easy access to all points in the working area. Additionally it will facilitate entering large equipment into the main cabinet chamber.
- One piece inner chamber – Standard equipped with Stainless Steel chamber with rounded corners, allowing easy cleaning.
- Segmented working trays.
- The drip tray underneath the worktop collects spilled liquids up to 4 Litres (according to EN 12469), preventing these liquids from entering parts of the cabinet that are difficult to clean.

## Easy to service & decontaminate

- G3 Pre-filter prevents dust, dirt and particles entering the HEPA filters, tremendously increasing HEPA filter lifetime. Build-in pre-filter for extended HEPA filters life. (Up to 7 years)
- Innovative, unique and patented 4F System (Fast, Friendly and eFFicient) to replace the downflow filter: the filter is easily accessible from the front of the cabinet using a unique fast tightening/untightening device, reducing the time required to replace the filter within five minutes.
- All technical parts are easy accessible from the front of the cabinet HEPA filter quick release 4F system (Patented)
- Easy to upgrade
- Ready for accessory installation

## Advanced safety features

Characteristics of **BiOptima** make it exceed the EN 12469 standards.

- Replaceable CG screen for the best laminarity
- Dedicated exhaust fan and speed sensor
- High Efficiency EC fans (EBM-PAPST)
- TÜV Nord Certification for 4, 6 (According EN-12469) and Cyto 4, Cyto 6 (According Din 12980)
- V-shape inflow grille provides superior safety by preventing blocking the inflow and contamination from the operator's sleeves
- Side glass for process supervision and better lighting
- Negative pressure in sides
- Controlled airflow

# General Specifications

- Tubular EC fans
- Electrical automatic sliding front window
- Hinged full opening of frontal window
- 7° sloped front window for a better working position
- 304L stainless steel chamber with rounded angles and hardened security glass sides
- G3 pre-filter & drip tray underneath working surface
- Sides with Negative pressure
- LED lighting
- Hermetically closable sealing around the front window
- Security anti-reflective front window with UV protection, with no visual obstacles on the lower edge
- Microprocessor control with filter-loading-self-compensation
- Main screen showing the laminar flow speed and the filter clogging level
- Control panel with international colour code to indicate cabinet status
- UV light and fans with timer to be programmable
- Four predefined languages (Spanish, English, French and German)
- Access to all the maintenance areas via the front side of the cabinet.

# Options and accessories

A full range of options and accessories to customise BiOptima cabinetis available to fulfill any requirement:

- Support tables (available in various options)
- Gas & vacuum tap
- Solid side waste port
- Humidity sensor
- Temperature sensor
- IQ/OQ documentation
- External EC/AC fan
- Relay
- Canopy
- Exhaust transition
- USB Connector
- Heated surface
- Weighting stone
- Monitor in back wall
- Additional socket
- Particle counter



**ISO 9001: Certified Company**

BR-BIOPTIMA-EN-0719

Telstar reserves the right to improvements and specifications changes without notice.

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