CLASS II MICROBIOLOGICAL SAFETY CABINET

CRUMA BIO+

SERFLAM
Service et Fournitures pour Laboratoires

CRUMA BIO+ Class II (Type A2) Microbiological Safety Cabinet Series further improves the best selling **CRUMA BIO** series by using a new and more efficient motorblower technology and implementing a streamlined design that makes it more user-friendly.

As always at Cruma: **Your Safety is our Commitment.**

No risk for the for Operator, Product and Environment.
Protection guaranteed as required by EN12469:2000 standard.
Green Evolution Improved.



German Certification
Our quality has been certified by the most prestigious body in Europe! All of our cabinets have been tested according to the most rigorous requirements to provide the best performance possible!

NEW FEATURES

In Cruma we believe simplicity is key for a better experience. The new CRUMA BIO+ takes this approach to its core by introducing a series of design improvements to make it easier to use the cabinet.

Tool-less front window cleaning
Removing the side protection carters to lift the front glass for cleaning is now easier with the new snap-in approach. No tools are required to perform this routine cleaning operation.

User installable taps
Quick&easy installation taps terminals make it for an easily configurable cabinet.

Reduced external depth
With an external depth lower than 800mm it is easy to fit the cabinet through any doorway.

Same-size sectors working surface
The sectors of the working surface are all the same size (300mm wide) making it easier to fit them in an autoclave for sterilization.

MAIN SPECIFICATIONS

- √ Microprocessor controlled DC motorblower enhances energy efficiency, reducing operating costs
- √ Fully compliant with the EN 12469 safety standard as independently tested and certified by TUV Nord, the leading testing agency in Europe
- √ GS quality mark
- √ Air and aerosol tight electrical sliding sash with unique "YZY" movement
- √ Available in 0.9 m, 1.2 m 1.5 m & 1.8 m cabinet widths
- √ Fully stainless steel working area
- √ Sloping front aperture to maximise user comfort
- √ CE certification according to Machinery Directive 89/392/ EEC, 91/368/EEC, 93/44/EEC 93/68/EEC
- √ Fully compatible with hydrogen peroxide vapours sterilization



It is not a typographical error,
2 year warranty

Because we are convinced of the quality of our products.

2 YEARS GUARANTEE · 2 ANOS GARANTIA

We recognise our responsability and dependence towards a healthy environment and, therefore, we destinate more than 7% of our annual budget in innovating and developing new products for the lab operator

our 7% engagement

Do you need help or
technical assistance?

Contact your distributor or call us if you have any questions or need technical support, spare parts, maintenance service...

+34 93 370 61 62

BIO-EN-2025-Rev.01

CRUMA 50 years
Laboratory equipment made in Barcelona 1974-2024

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CE · ISO 9001 · 2015 · our 7% engagement

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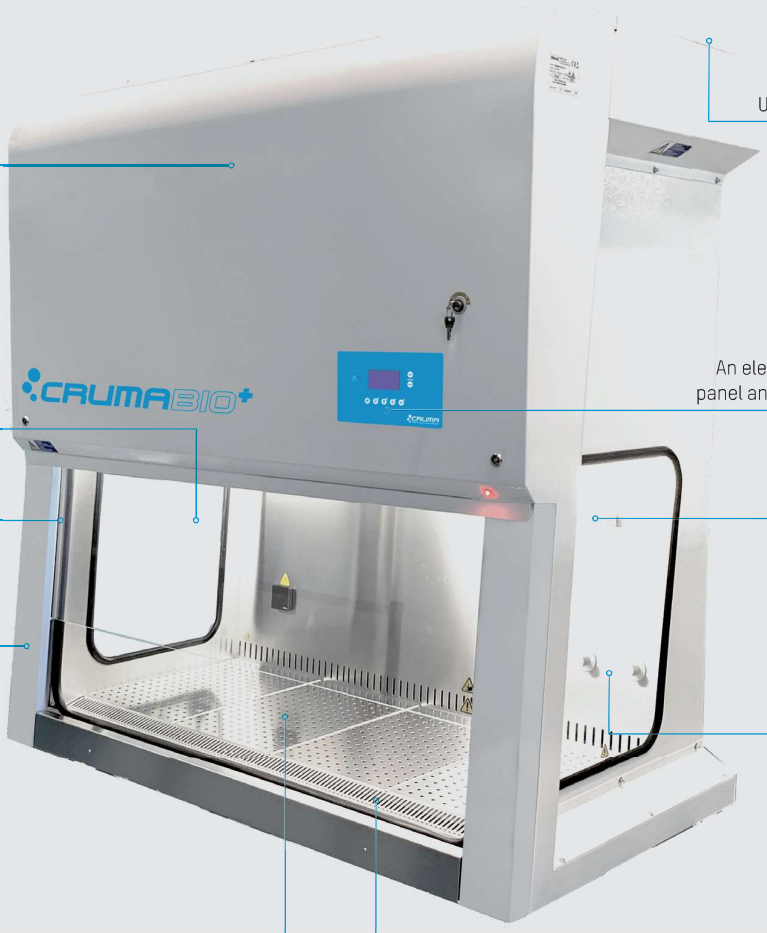



Utilities connection from the top

Silent operation: <49dB(A)



Tempered glass side windows to provide higher luminosity



An elegantly crafted standard control panel and display, for your convenience

Sloped front for the most comfortable access

UV lamp

Air/Aerosol tight electrical sliding sash with exclusive "yzy" movement



Integrated tap pre-installation



Perforated work surface for liquid containment (optional)



Anti obstruction "V" shaped front grille

FEATURES FOR UNBEATEN SAFETY, QUALITY AND USABILITY

Front grille with anti-obstruction "V" design. This special front grille design guarantees that the air flow of the front barrier, primary containment and protection mechanism of the cabin, is not obstructed during the use of the latter as prescribed by the reference standard EN12469:2000, even without the use of uncomfortable armrests. This feature ensures the operational safety of the machine over the entire length of the work area without sacrificing comfort.

Active control system of the tension of the front glass handling belts. This mechanism prevents the unrolling of the front glass support belts in case of obstruction to the movement of the glass, thus ensuring that accidental falls do not occur and reducing the risk of crushing during handling.

Front gasket and sealed closing mechanism. The special front glass moving mechanism allows the complete sealing of the working area when in closed position. This ensures a cleaner work area when the machine is closed and reduces air leakage risks from the front glass when in operating position.

Single motor blower design. The ventilation system with a single motor blower with electronic inverter guarantees an optimal performance with reduced consumption. Moreover, the airflow balancing is guaranteed by the plenum design and is independent of the state of filters clogging or of any electronic compensation mechanisms between different motors.

ECO Mode. By engaging the ECO Mode the cabinet will lower the front sash and reduce the speed of the motorblower in order to minimize power consumption and noise while keeping the work area clean. This is ideal if you need to leave the cabinet on during the night or between working shifts.

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HYDROGEN PEROXIDE READY

The optional camlock adapters allow the **CRUMA BIO+** to be connected to any hydrogen peroxide vapour generator.

The system is composed by two adapters:

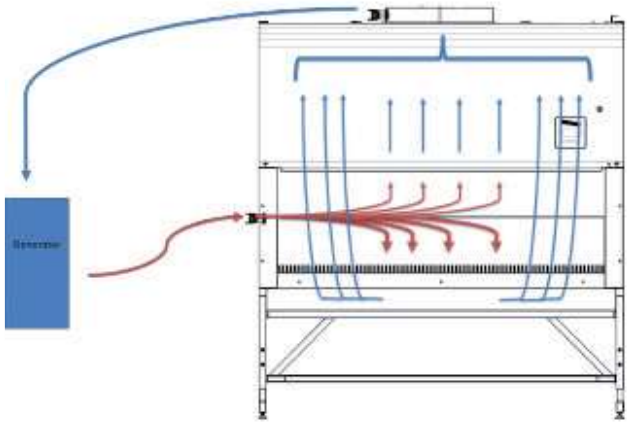
- an Inlet adapter installed in the side glass
- an Outlet adapter which is placed on top of the exhaust filter

The cabinet is fully compatible with hydrogen peroxide, allowing you to take advantage of this pharma-approved decontamination system.



MANAGING THE FLOWS

By creating a closed circuit with the cabinet the generator can control the inner pressure of the system, keeping it neutral or slightly below room pressure. This, along wiht the gasket seal on the front window and the use of a single removable part (the outlet adapter), highly reduces the risk of leakages in the room, making the use of tape or bags unneccesary.



STANDARD UTILITIES

ELECTRICAL EQUIPMENT	BIO 1+	BIO 2+	BIO 3+	BIO 4+
Automatic electronic airflow velocity control PCB	•	•	•	•
Main switch all position removable key	•	•	•	•
UVC Lamp (backwall mounted)	•	•	•	•
Motorblower (fan)	•	•	•	•
ECO Mode	•	•	•	•
Inverter	•	•	•	•
LED lamps	•	•	•	•
Sliding window electric motor	•	•	•	•
Combustible gas solenoid valve	•	•	•	•
Armrest	•	•	•	•
Pre-installation for combustible gas and vacuum line (taps not included)	•	•	•	•
Auxiliary electrical service socket	•	•	•	•
2nd auxiliary electrical service socket	•	•	•	•
Voltage-free contact (VFC) outlet	•	•	•	•
Alarm mute connector (for service personnel only)	•	•	•	•

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TECHNICAL DATA

SPECIFICATIONS	BIO 1+	BIO 2+	BIO 3+	BIO 4+
Reference Standards	IEC 61010-1:2010+A1:2016 / EN 61010-1:2010+A1:2016 IEC 61326-1:2012 / EN 61236-1:2013 / EN 12469:2000			
Electrical insulating/protection class [IEC 61140]	I			
Mains supply voltage	220-240 V~ 50/60 Hz			
Required power line (W): (720 W service socket included)	1050	1175	1250	1475
*Absorbed power (W): (fan and light on only)	200	325	400	625
Window glass UVC radiations retention (%)	98			
Combustible gas fixture max pressure (mbar)	20			
Inert fluids/vacuum fixture max pressure (bar)	4			
Electrical service socket max current (A)	3			
WEIGHT AND SIZE				
Weight (Kg)	210	245	275	335
Overall size L x D x H (mm) (without support stand)	1075x795x1450	1380x795x1450	1685x795x1450	1990x795x1450
Front aperture size L x H (mm):	860x195	1165x195	1470x195	1775x195
Working space size L x D x H (mm):	925x580x700	1230x580x700	1530x580x700	1840x580x700
MATERIALS				
Main structure	Cold rolled steel, **Microfree®** antimicrobial epoxy powder coated			
Working space surface	stainless steel AISI 304-SB finishing			
Front and side walls windows: laminated safety glass	laminated safety glass			
PERFOMANCES				
Laminar Air Flow mean velocity [EN 12469](m/s)	0,35 ÷ 0,40			
Inflow Air Barrier mean velocity [EN 12469](m/s)	0,53 ±10%			
Exhaust Air flow rate (m^3/h)	330±10%	450±10%	500 ±10%	600 ±10%
Exhaust Air flow ratio (%)	30±10			
Apf - Aperture Protection Factor [EN 12469] (Retention efficiency at front aperture)	≥1,0 x 105			
Working space air cleanliness class [EN 14644-1]	ISO 3			
Illuminance [EN 12469] (lux)	>750			
** Sound level [EN ISO 3744] (dB[A])	<49	<50	<54	<58
Vibration [EN 12469] (mm RMS)	<0,005			
Max increase inside cabinet in temperature from the ambient [EN 12469] (°C)	<5			
FILTERS				
Filters efficiency class [EN 1822-1]	H14 ***			
Filters global MPPS efficiency [EN 1822-1](%)	99,995			
MPPS diameter [EN1822-1](µm)	0,1 ÷ 0,3			

* Measured in operating conditions. Power requirements with lights off at minimum airflow speeds (as per EN12469:2000), are about 35% less than those shown in table.
** Measured in operating conditions. Actual values at customer site may be different due to room structure.
*** Efficiency higher than ULPA (Class F) as per ESP-RP-CC001.