MICROBIOLOGICAL SAFETY CABINETS

CRUMA BIO-1

The last generation microbiological safety laminar flow cabinets **CRUMA BIO CLASS II Type A2** with digital functions.

The cabinet design ensures complete integrity by close control of the airflow. Incoming air is filtered through the first HEPA filter and down through the work area in a laminar flow pattern. The descending air creates a protective barrier preventing any outside air entering the cabinet. The airflow is then re-directed from the base of the cabinet into a plenum where 30% is expelled through a second HEPA filter and 70%, along with 30% new make up air, is re-circulated back into the cabinet through the first HEPA filter.

APPLICATIONS

- √ Manipulation of microorganisms, bacteria, fungi, viruses and parasites Risk categories 1, 2 and 3.
- √ Isolation and sample culture
- √ Quantification methods
- √ Microscopy techniques and sample preparation - Identification and classification of microorganisms
- √ Genetic Manipulation

MAIN SPECIFICATIONS

- √ Microprocessor controlled motor blower (LCD) with volumetric sensor for exhausted air flow monitoring
- √ State of the art Microprocessor control system offering:
  - Large screen monitor
  - Automatic control of preset airflow volumes
  - Sliding sash window with smart control
  - Permanent monitoring of HEPA filters life span
  - Alarms. Multilevel alarms, with redundancy functions - Permanent display of working conditions
  - Highest air flow stability both in case of transitional disturbances or to progressive filter clogging
  - Semi-automatic fumigation cycle (EN12297 tested and certified)
  - Continuous monitoring of front barrier air flow for the highest operator safety
  - Low barrier alarm
  - Power failure alarm
- √ Volt-free contact for remote monitoring of exhaust fan
- √ Automatic reset of initial conditions in case of powerfailure
- √ C-shaped support stand for the easiest one man installation procedure

CHARACTERISTICS

- √ Fully EN12469 certified by TÜV Hamburg
- √ State of the art microprocessor control system
- √ Large digital display, high resolution
- √ Air and aerosol-tight sliding sash, electrically operated by finger touch
- √ Alarms for low airflow and wrong front window position
- √ Sloped front and back wall for the most comfortable access
- √ Front access for filter maintenance and service
- √ C-shaped support stand for the easiest one man installation procedure
- √ Easy retrofit option kits

TECHNICAL SPECIFICATIONS

Number of filters HEPA-H14		2
Number of IP44 fans		1
Average volume of treated air		±350 m^3/h
Average face velocity		0.50 m/s
Total electrical power consumption		260 W
Voltage-Frequency		110-230 V / 50-60 Hz
Fluorescent Lamp / Light intensity		36 W / 900 Lux
Noise level		49 dB
Packaging: Palletized cardboard box	Volume	2 m^3
	Weight	260 Kg

2 year *warranty*

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2 YEARS GUARANTEE / 2 AÑOS GARANTÍA

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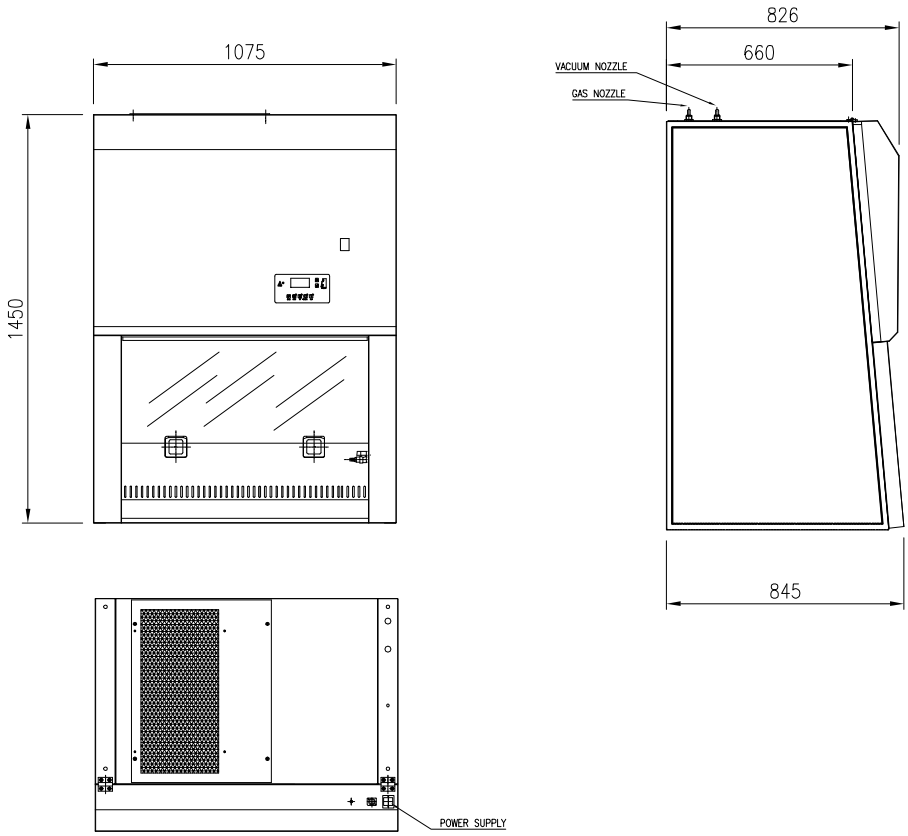
MICROBIOLOGICAL SAFETY CABINETS

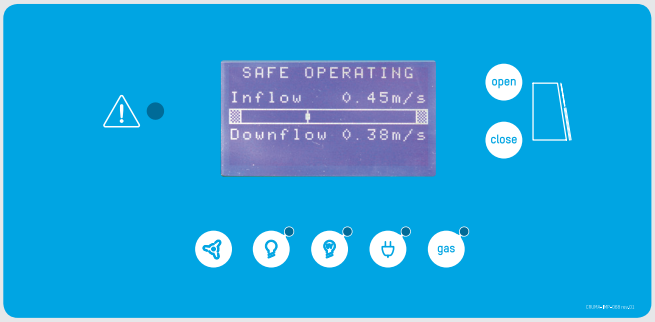
CRUMA BIO-1

SIZES (mm)



SIZES (mm)

External Dimensions			Internal Dimensions		
Widht	Depth	Height	Widht	Depth	Height
1075	840	1450	924	600	700



MAIN STRUCTURE

External metal parts	1.2 mm galvanized steel, coated with antiacid polymer powder resin thermo-hardened at 200 °C
Internal metal parts	Stainless Steel internal surfaces with 2B finishing (including spillage tray). Solid work surface in 3 sections and special designed front grill at the air barrier that cannot be obstructed by the operator's arms
Front door	Electrically operated from control panel sliding multilayer safety glass window

KEYBOARD MEMBRANE

Membrane keyboard commands for opening and closing the front window, activation of service outlets, electrical socket, gas solenoid valve, lighting and predisposed key to activate the connector kit germicidal lamp under the condition of complete closure of front of the machine, given the presence of the relevant position sensors.

All available accessories can be mounted without any structural modification of the cabin.

Provision for possible expulsion for channel adapters or additional filters.

ACCORDING TO STANDARDS

Cabinet	CEN-12469
Filters	EN-779: 1996 (HEPA & ULPA Filters) EN-1822:1998 (HEPA & ULPA Filters)
Quality	UNE EN ISO 9001:2015

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CRUMA BIO-1

MECHANICAL AND FUNCTIONAL SPECIFICATIONS

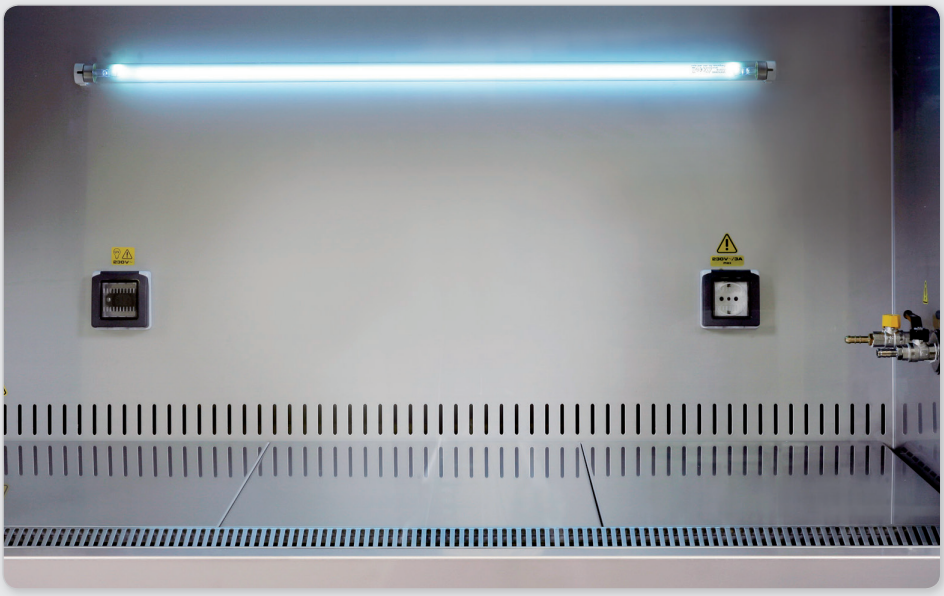
- Sloped front design for the highest operational comfort. Sloped back side of the working chamber for the best down flow disbution (cabinet carcass EN12298 tested and certified for air tightness)
- Utilities inlets from the top of the cabinet
- Stainless Steel internal surfaces with 2B finishing (including spillage tray). Solid work surface (3 sections) and special designed front grill
- Electrically operated sliding multilayer safety glass window (max opening at 120°)
- Comfortable 200mm front opening
- Easy to install retrofit options through lateral sides.
- Exposed exhaust HEPA filter for easy visual integrity check
- H14 class High Efficiency Particulate Airfilters with 99.995% efficiency on.3micron particles (most penetrating particle diameter) (EN 1822-1 and EN 13091:1999 tested and certified)
- Both exhaust and Main Filters are equipped with a micromesh membran elocated downstream which acts as airspeed equalizer expansion plenum, as well as a clear indicator of filter damages
- Filter change and maintenance from the front of the cabinet
- Exhaust transitions easily installable
- Key operated. The key can be removed when the unit is in SAFE mode, in order to avoid unwanted operation. In case of power failure, the cabinet is reset to original working conditions
- Self calibration cycle performed when cabinet is switched on
- High speed rinse and set up cycle performed, before reaching the SAFE operating mode.
- Visual display of SAFE conditions. Pre-warning before actual alarm conditions are reached (visual and acoustic alarms)
- Soft touch control with keys for standard service utilities. Interconnected UV and fluorescent lights
- Exhaust and recirculating flow rates ensure 25 air changes/min in the working area (30% 70% split)
- Front barrier air speed ≥0.5mt/sec
- Aperture protection Factor (Apf)≥1.5 x 10 exp5
- Cleanability Index CC grade. (EN 12296 tested and certified)

SERIAL EQUIPMENT

- DOP test port
- 2 Electrical sockets
- UV lamp
- Vacuum tap
- Gas tap

OPTIONAL EQUIPMENT

- Taps additional gaseous fluids.
- Acces for different electrical equipment put on the car.
- A second line of fuel gas.
- Spray formalin and related accessories to cycle semi-automatic decontamination.
- Passive extraction kit for external expulsion.
- Kit motorized bike extraction fan remote for external expulsion.
- Tubular table support



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MICROBIOLOGICAL SAFETY CABINETS

CRUMA BIO-2

The last generation microbiological safety cabinets **CRUMA BIO CLASS II Type A2** with digital functions.

The cabinet design ensures complete integrity by close control of the airflow. Incoming air is filtered through the first HEPA filter and down through the work area in a laminar flow pattern. The descending air creates a protective barrier preventing any outside air entering the cabinet. The airflow is then re-directed from the base of the cabinet into a plenum where 30% is expelled through a second HEPA filter and 70%, along with 30% new make up air, is re-circulated back into the cabinet through the first HEPA filter.

APPLICATIONS

- √ Manipulation of microorganisms, bacteria, fungi, viruses and parasites Risk categories 1, 2 and 3.
- √ Isolation and sample culture
- √ Quantification methods
- √ Microscopy techniques and sample preparation - Identification and classification of microorganisms
- √ Genetic Manipulation

MAIN SPECIFICATIONS

- √ Microprocessor controlled motor blower, with volumetric sensor for exhausted air flow monitoring
- √ State of the art Microprocessor control system offering:
  - Large screen monitor
  - Automatic control of preset airflow volumes
  - Sliding sash window with smart control
  - Permanent monitoring of HEPA filters life span
  - Alarms. Multilevel alarms, with redundancy functions - Permanent display of working conditions
  - Highest air flow stability both in case of transitional disturbances or to progressive filter clogging
  - Semi-automatic fumigation cycle (EN12297 tested and certified)
  - Continuous monitoring of front barrier air flow for the highest operator safety
  - Low barrier alarm
  - Power failure alarm
- √ Volt-free contact for remote monitoring of exhaust fan
- √ Automatic reset of initial conditions in case of powerfailure
- √ C-shaped support stand for the easiest one man installation procedure

CHARACTERISTICS

- √ Fully EN12469 certified by TÜV Hamburg
- √ State of the art microprocessor control system
- √ Large digital display, high resolution
- √ Air and aerosol-tight sliding sash, electrically operated by finger touch
- √ Alarms for low airflow and wrong front window position
- √ Sloped front and back wall for the most comfortable access
- √ Front access for filter maintenance and service
- √ C-shaped support stand for the easiest one man installation procedure
- √ Easy retrofit option kits

TECHNICAL SPECIFICATIONS

Number of filters HEPA-H14		2
Number of IP44 fans		1
Average volume of treated air		±400 m^3/h
Average face velocity		0.50 m/s
Total electrical power consumption		360 W
Voltage-Frequency		110-230 V / 50-60 Hz
Fluorescent Lamp / Light intensity		2x30W / 1200 Lux
Noise level		50 dB
Packaging: Palletized cardboard box	Volume	2,39 m^3
	Weight	280 Kg

2 year *warranty*

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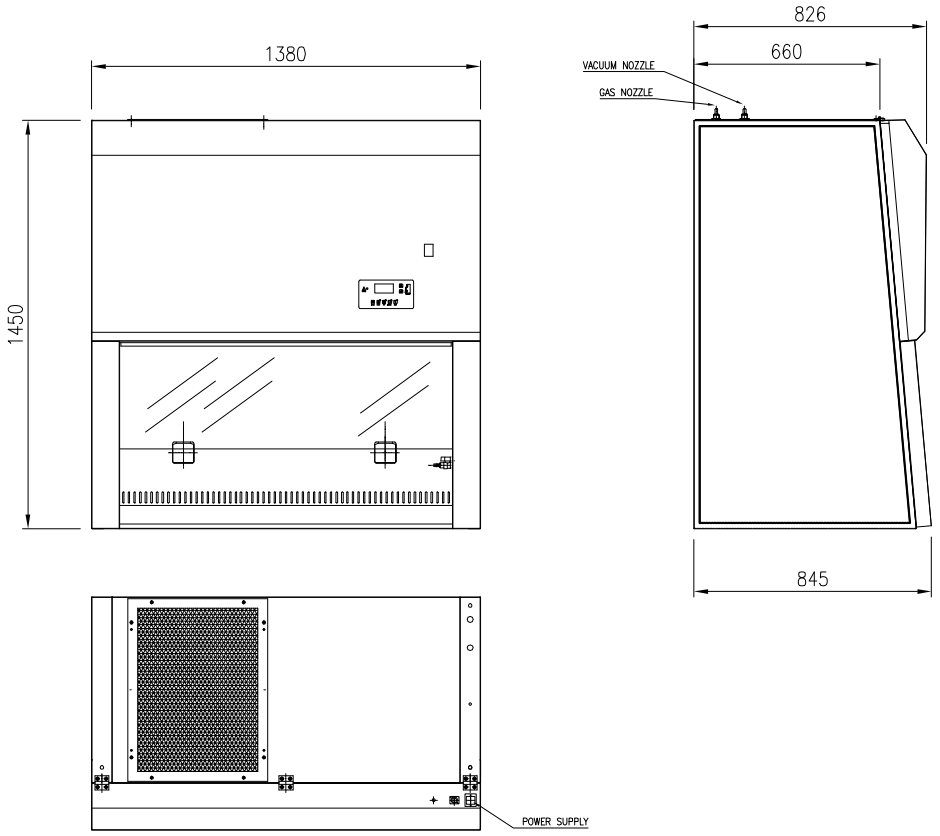
MICROBIOLOGICAL SAFETY CABINETS

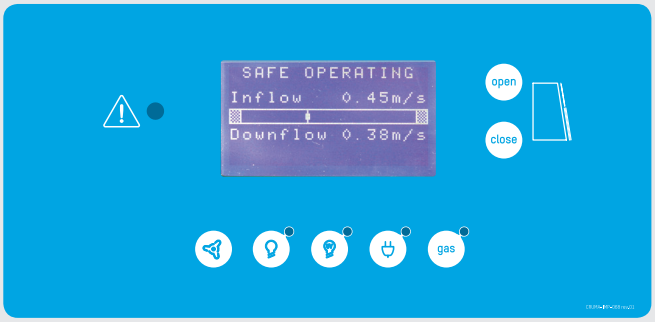
CRUMA BIO-2

SIZES (mm)



SIZES (mm)

External Dimensions			Internal Dimensions		
Widht	Depth	Height	Widht	Depth	Height
1380	840	1450	1230	600	700



MAIN STRUCTURE

External metal parts	1.2 mm galvanized steel, coated with antiacid polymer powder resin thermo-hardened at 200 °C
Internal metal parts	Stainless Steel internal surfaces with 2B finishing (including spillage tray). Solid work surface in 3 sections and special designed front grill at the air barrier that cannot be obstructed by the operator's arms
Front door	Electrically operated from control panel sliding multilayer safety glass window

KEYBOARD MEMBRANE

Membrane keyboard commands for opening and closing the front window, activation of service outlets, electrical socket, gas solenoid valve, lighting and predisposed key to activate the connector kit germicidal lamp under the condition of complete closure of front of the machine, given the presence of the relevant position sensors.

All available accessories can be mounted without any structural modification of the cabin.

Provision for possible expulsion for channel adapters or additional filters.

ACCORDING TO STANDARDS

Cabinet	CEN-12469
Filters	EN-779: 1996 (HEPA & ULPA Filters) EN-1822:1998 (HEPA & ULPA Filters)
Quality	UNE EN ISO 9001:2015

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CRUMA BIO-2

MECHANICAL AND FUNCTIONAL SPECIFICATIONS

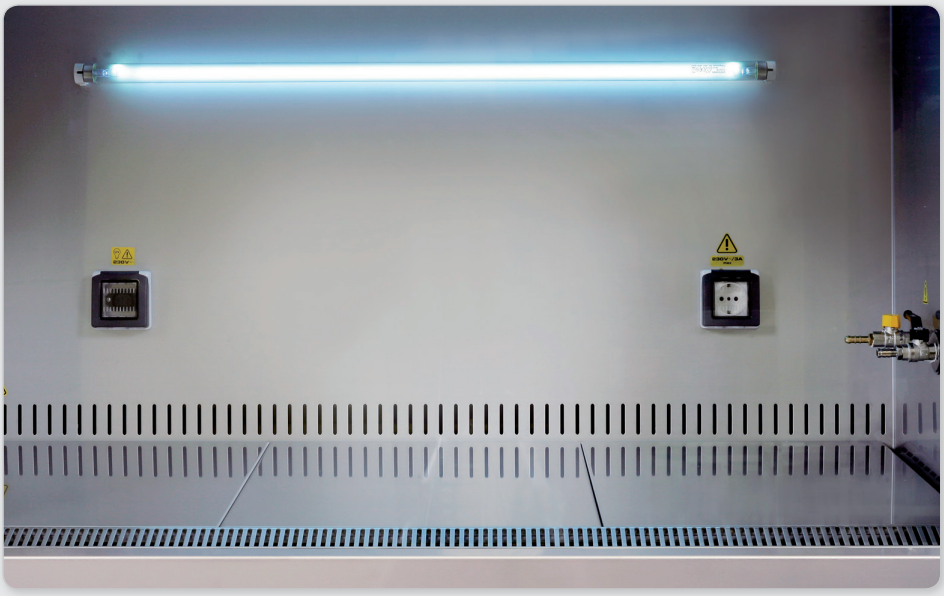
- Sloped front design for the highest operational comfort. Sloped back side of the working chamber for the best down flow disbution (cabinet carcass EN12298 tested and certified for air tightness)
- Utilities inlets from the top of the cabinet
- Stainless Steel internal surfaces with 2B finishing (including spillage tray). Solid work surface (3 sections) and special designed front grill
- Electrically operated sliding multilayer safety glass window (max opening at 120°)
- Comfortable 200mm front opening
- Easy to install retrofit options through lateral sides.
- Exposed exhaust HEPA filter for easy visual integrity check
- H14 class High Efficiency Particulate Airfilters with 99.995% efficiency on.3micron particles (most penetrating particle diameter) (EN 1822-1 and EN 13091:1999 tested and certified)
- Both exhaust and Main Filters are equipped with a micromesh membran elocated downstream which acts as airspeed equalizer expansion plenum, as well as a clear indicator of filter damages
- Filter change and maintenance from the front of the cabinet
- Exhaust transitions easily installable
- Key operated. The key can be removed when the unit is in SAFE mode, in order to avoid unwanted operation. In case of power failure, the cabinet is reset to original working conditions
- Self calibration cycle performed when cabinet is switched on
- High speed rinse and set up cycle performed, before reaching the SAFE operating mode.
- Visual display of SAFE conditions. Pre-warning before actual alarm conditions are reached (visual and acoustic alarms)
- Soft touch control with keys for standard service utilities. Interconnected UV and fluorescent lights
- Exhaust and recirculating flow rates ensure 25 air changes/min in the working area (30% 70% split)
- Front barrier air speed ≥0.5mt/sec
- Aperture protection Factor (Apf)≥1.5 x 10 exp5
- Cleanability Index CC grade. (EN 12296 tested and certified)

SERIAL EQUIPMENT

- DOP test port
- 2 Electrical sockets
- UV lamp
- Vacuum tap
- Gas tap

OPTIONAL EQUIPMENT

- Taps additional gaseous fluids.
- Acces for different electrical equipment put on the car.
- A second line of fuel gas.
- Spray formalin and related accessories to cycle semi-automatic decontamination.
- Passive extraction kit for external expulsion.
- Kit motorized bike extraction fan remote for external expulsion.
- Tubular table support



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CLASS III MICROBIOLOGICAL SAFETY CABINET

CRUMA VIRUS-3

Class III MICROBIOLOGICAL SAFETY CABINET
The recent emergence of Ebola virus in West Africa risks to be a growing worldwide threat!

Despite years of research on Ebola virus it is still not possible to deliver vaccines or treatments to the at-risk population or medical aid teams. Therefore there is currently no prophylaxis or treatment for Ebola virus infection.

This is the reason why the World Health Organization classifies Ebola virus as a pathogen of Risk Group Level 4. A Risk Group Level 4 pathogen must be manipulated, according to WHO, in a Containment Level 4 environment, wearing specific protective clothing and working with a Microbiological Safety Cabinet of Class III.

MAIN SPECIFICATIONS

- √ Controls comfortably located at eye level
- √ Fan speed and aeraulic controlled by Microprocessor
- √ Three operating modes: normal, stand-by, calibration
- √ High speed rinse at start up
- √ Self calibration and internal Watch-dog cycle before "SAFE" condition is reached
- √ Visual display of "SAFE" conditions and "UNSAFE" conditions (LED and bar graph)
- √ Elapsed time meter
- √ Microprocessor control with following specifications:
  - Multilevel alarms, with redundancy functions.
  - Permanent display of working conditions.
  - High air flow stability both in case of transitional disturbances or to progressive filter clogging
  - Power failure alarm
- √ Volt-free contact for remote monitoring of exhaust fan.
- √ Automatic reset of initial conditions in case of power failure
- √ C-shaped support stand for easy one man installation procedure
- √ Anti blow back valve (optional) for ducted configuration
- √ Magnehelic Gauge for internal chamber pressure constant monitoring
- √ One (1) Electrical Socket as standard option
- √ UV-Light installed on top (standard option)

TECHNICAL FEATURES

Order number	LT20000
N° of glove ports	2
Exhaust air flow rate (m3/h)	> 180 m3/h
Internal Differential pressure (Pa)	< -220
Weight (kg)	210
Power Supply	220/240V 50Hz
Power (W)	500 W
Noise level	< 58dB(A)
Lighting lux	>1000

SIZES (mm)

External Dimensions			Internal Dimensions		
Widht	Depth	Height	Widht	Depth	Height
2105	822	1300	1200	660	700

2 year *warranty*

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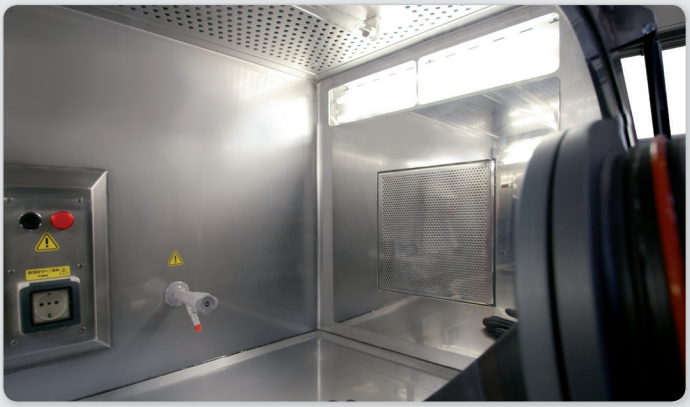
CLASS III MICROBIOLOGICAL SAFETY CABINET

CRUMA VIRUS-3

TECHNICAL SPECIFICATIONS

- √ Manufactured in accordance with EN12469:2000 standard
- √ State of the art microprocessor control system
- √ Main switch with removable key
- √ Soft touch keyboard
- √ Bar graph for exhaust air flow conditions; permanent display
- √ Alarms for low air flow
- √ Sloped front for the most comfortable access
- √ Front and side access for filter maintenance and service
- √ C-shaped support stand for easy one man installation procedure
- √ Transfer hatch with interlocked doors (right or left positioned)
- √ Class III cabinet with exclusive three filter design and Class 100 inner chamber.



MECHANICAL AND FUNCTIONAL SPECIFICATIONS

- √ Sloped front design for the highest operational comfort.
- √ Stainless Steel internal surfaces with 2B finishing
- √ Liquid retaining work surface (Stainless Steel 2B finishing)
- √ Total visibility air and aerosol-tight front window equipped with robust gloves (Class III) for the safest operation when working with Risk Group 4 pathogens.
- √ Class III: Exclusive four filter design for the highest safety of the environment and the operator (Risk Group 4 pathogens): one (1) prefilter, one (1) HEPA H14 In-Let, two (2) HEPA H14 Exhaust Filters.
- √ H14 class High Efficiency Particulate Air filters with 99.995% efficiency on MPPS (most penetrating particle size) (EN1822-1 and EN 13091:1999 tested and certified)
- √ Filter change and maintenance from the front of the cabinet.
- √ Exhaust transitions easily installable.
- √ Anti-blow-back valve available as add-on option
- √ Key operated. The key can be removed when the unit is in SAFE mode, in order to avoid unwanted operation. In case of power failure, the cabinet is re-set to original working conditions.
- √ Self calibration cycle performed when cabinet is switched on.
- √ High speed rinse and set up cycle performed, before reaching the SAFE operating mode.
- √ Visual display of SAFE conditions. Pre-warning before actual alarm conditions are reached (visual and acoustic alarms)
- √ Soft touch control with keys for standard service utilities. Interconnected UV and fluorescent lights.
- √ 100% air exhaust.
- √ Light intensity on work surface > 1000 lux.
- √ Noise level ≤58 dB(A)
- √ Work surface displacement (vibration) <0.005mm RMS between 20Hz and 20,000Hz (ISO 5349 tested and certified)
- √ 230V, 50Hz (230V,60Hz also available)
- √ Max power (for each power point): 3Amps.
- √ Microprocessor equipped with analogical watch-dog.
- √ Leakage tested in agreement with EN 12469 and ISO10648.2
- √ CE certification according to Machinery Directive 2006/42/CEE

CLASS III MICROBIOLOGICAL SAFETY CABINET

CRUMA VIRUS-3

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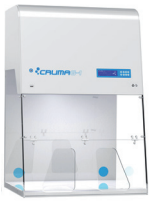
CRUMA
PLUG&PLAY RANGE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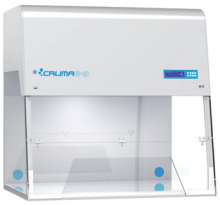
G-2


G-3

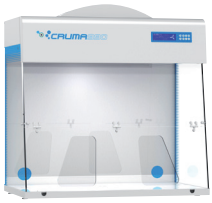

G-4


G-5

CRUMA
CLASSIC RANGE


670


870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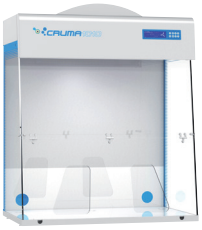
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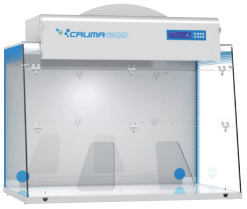
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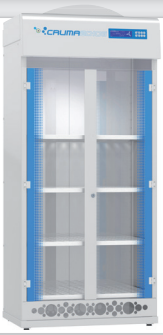
ECO



CRUMA
VENTED STORAGE CUPBOARDS

2010

CRUMA
POWDER CABINETS


P-1


P-2

CRUMA
PCR CABINET


PCR

CRUMA
CO_2 INCUBATOR


INCUBATOR

CRUMA
LAMINAR FLOW CABINETS


670FL


870FL


FL-1

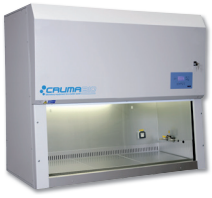

FL-2


HZ-1


HZ-2

CRUMA
BIOSAFETY CABINETS


BIO-1


BIO-2


VIRUSFREE


CYTO-2&3

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LAT Scientific Instruments

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