

CRUMA2010



The CRUMA storage and filtration system is based on the technology employed in the CRUMA aspiration and filtration fume hoods. They are made up of ventilation and filtration systems which prevent stored inflammable, corrosive or toxic products from accumulating inside the cabinet or being expelled into the laboratory or workroom.

The vented storage cupboard can store liquid reagents removing flammable, corrosive or toxic vapors by absorption in a specific activated carbon filter and without the need of external connection.

*All in compliance with national or international requirements and recommendations:
AFNOR NF X 15-211 (Class II), BS 7258, CSAZ 316.5, EN-1822, EN-141, EN ISO 9001-200

PROTECTION OF AND RESPECT FOR THE ENVIRONMENT –The toxic chemical products are not released outside but retained within the filter.

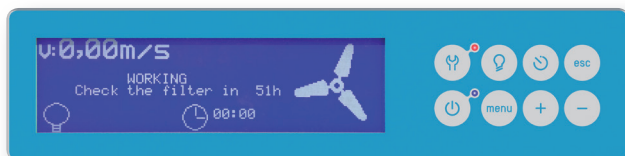
COST SAVINGS AND FAST SET UP –No building work is needed to install ducts to channel the gas outside, which means fewer problems for a laboratory working at full capacity.

FLEXIBLE –It can be used in areas where it is difficult to remove/extract contaminated air, such as from the lower levels in buildings that have a number of floors.

ENERGY SAVINGS –The air that is sucked in is not expelled but recirculated back into the lab after the contaminating substances have been removed. This means that it is not necessary to increase the use of the air-conditioning or heating systems to compensate for the air removed.

CERTIFIED –Manufactured in Spain and certified by an external laboratory according to international standards and applying the criteria of ISO 9001.

NEW FEATURES



More information on the new LCD display

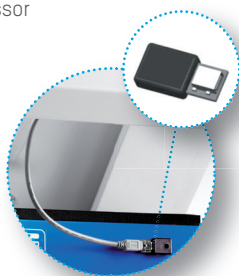
- ✓ New size 127x34mm display
- ✓ Air speed continuously monitored
- ✓ Type of filter installed, working hours, expiration date and next revision date
- ✓ Countdown timer
- ✓ Clock and calendar

New features and components

- ✓ Fault LED
- ✓ Control of air flow through Microprocessor
- ✓ Filters with electronic chip
- ✓ LED illumination

New alarms and scheduled warnings

- ✓ Next validation warning
- ✓ Few hours of filter life warning
- ✓ Countdown timer warning
- ✓ Expired filter alarm (by hours)
- ✓ Expired filter alarm (by date)
- ✓ Equipment without filter alarm



USES

Storage of chemicals under the criteria of incompatibilities. Filters available:

- ✓ **Type A:** adsorption of vapours and organic solvents (ketones, ethers, alcohols and cyclics, etc.). Activated carbon without impregnation.
- ✓ **Type BE:** inorganic gases such as Cl₂, HCl, HNO₃, etc. and volatile sulphur compounds (H₂S, H₂SO₄ and SO_x, etc.). Activated carbon impregnated with metal compounds and neutralising salts.
- ✓ **Type F:** specific to formaldehyde and derivatives. Impregnated with Cu.

TECHNICAL FEATURES

| | | |
|---|-----------------------|--------------------|
| Number of filtration columns | 1 | |
| Number of filters | 1 a 2 | |
| Number of IP44 fans | 1 | |
| Average volume of treated air | 160 m ³ /h | |
| Average face velocity | 0,50 m/s | |
| Internal volume of the cupboard | 0,567 m ³ | |
| Renewals inside the cabinet / min | 4,6 | |
| Total electrical power consumption | 91 W | |
| Voltage-Frequency | 110-220 V - 50-60 Hz | |
| LED light intensity | 800 Lux | |
| Noise level | 48 dB | |
| Packaging: 100% recycled wooden box with international phytosanitary certificate | Volume | 1,1 m ³ |
| | Weight | 150 Kg |

SIZES (MM)

| External | | | Internal | | |
|----------|-------|--------|----------|-------|--------|
| Width | Depth | Height | Width | Depth | Height |
| 800 | 548 | 1845 | 732 | 460 | 1388 |

It is not a typographical error,
7 year warranty

Because we are convinced of the quality of our products.



*More information
www.cruma.es

Well done, well shipped.
Our responsible packaging

Wood box 100% recyclable with international phytosanitary certificate.

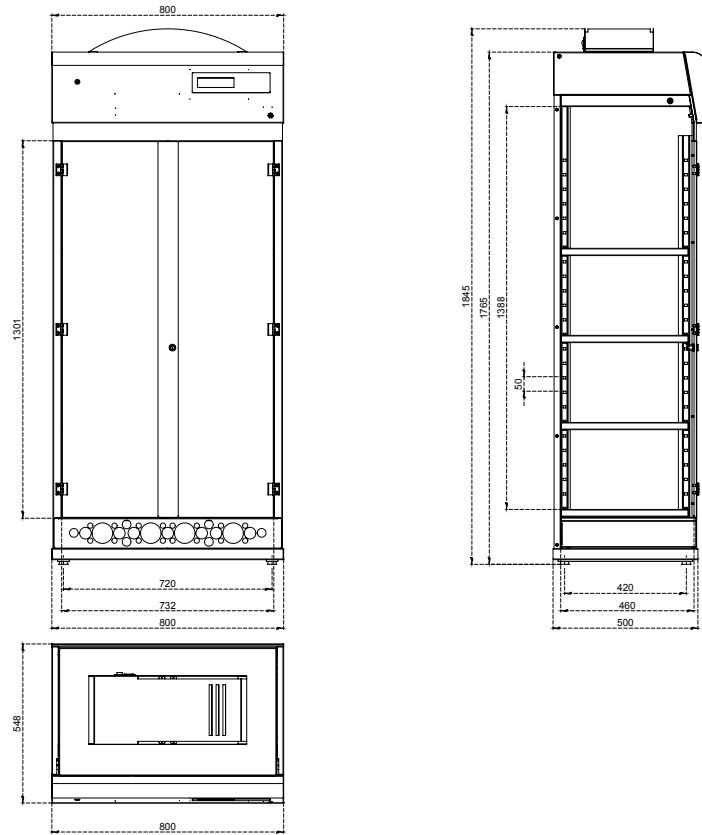


Do you need help or
technical assistance?

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

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DIMENSIONES (mm)



SERIAL EQUIPMENT

| | |
|--|--|
| Electronic circuit with large format LCD screen | Security levels: level 1 for users and level 2 for maintenance users |
| Electronic anemometer device | Electronic sensor monitoring continuously air face velocity |
| Electronic control device for filters replacement | The filters incorporate a microchip with miniUSB connection that identifies the type of filter installed, the expiry date and the serial no. |
| Illumination | 96 LED Tube high light intensity and low power consumption - 16 Watts / 700 Lux |
| Sampling system to analyze the filtered air at the exhaust | To detect the level of filter saturation |
| 60 hours alarm | Countdown timer according to French NF X 15-211:2009 |
| Electronic cronometre with audible alarm | To program the work inside the fume hood |
| Clock and calendar | Display of date and time |
| 64 Prefilter | G4 class pre-filtering blanket of synthetic biofibres (according to EN-779) for the retention of atmospheric dust |
| Chemical Listing | Guide of retained products by type of filter |
| Warranty | 7 years |

OPTIONAL EQUIPMENT

| | |
|---------------------|---|
| Voltage / Frequency | 125 V / 50 Hz |
| Filter test kit | Dräger pump with reactive colorimetric tubes (pack 10u) |

MAIN STRUCTURE



| | |
|---|--|
| Metal parts: base frame, rear wall and head | 1.2 mm galvanized coated steel with anti acid polymer resin powder heat-hardened at 200 °C |
| Front and side panels | Transparent polymethylmethacrylate 6 mm thick (light transmission of 93%) |



CRUMA2010

| FILTER TYPES | |
|----------------|---|
| Type A | For organic vapors such as ketones, ethers, alcohols, xylenes ... Eventually it can be used for inorganic acids, but only if used in small quantities because this activated carbon is not impregnated and the excess of acid vapors could saturate it quickly. |
| Type BE | For inorganic acid vapors as H ₂ S ₀₄ , HCl, HNO ₃ , and volatile sulfur compounds such as H ₂ S, SO ₃ , ... It can be used with organic vapors because the activated carbon incorporates impregnation of metal compounds and neutralizing salts. It is also suitable to filter organic and inorganic compounds when they are in similar proportions. |
| Type F | For formaldehyde vapors and derivatives; also good for other organic compounds. Carbon impregnated with Cu leads, so that it should never be used with inorganic acid vapors. |

MODULAR FILTRATION COLUMN FOR GASES (according to NF X 15-211:2009)

CLASS 2

| | | | |
|---|---|---|---|
| Type G Handling of liquid compounds /products |  | Type GS Handling of liquid and particles compounds/products |  |
|---|---|---|---|

 Fan  Molecular Filter

ACCORDING TO STANDARDS

| | |
|------------------------------|--|
| Cabinets / Fume Hoods | AFNOR NF X 15-211:2009 (France) BS 7258: 94 (UK) BS 7989: 2001 (UK) ANSI/ASHRAE 110-1995 (USA) |
| Filters | CSA Z 316.5-94 (Canada) EN-779: 1996 (HEPA & ULPA Filters) EN-1822:1998 (HEPA & ULPA Filters) EN-141:2001 (Gas Filters) |
| Quality | UNE EN ISO 9001:2008 |

INCOMPATIBILITIES IN THE STORAGE OF CHEMICAL PRODUCTS SEPARATE OR JOINT STORAGE

| | Explosives | Comburents | Inflammable | Toxic | Corrosive | Harmful |
|--------------------|------------|------------|-------------|-------|-----------|---------|
| EXPLOSIVES | YES | NO | NO | NO | NO | NO |
| COMBURENTS | NO | YES | NO | NO | NO | (2) |
| INFLAMMABLE | NO | NO | YES | NO | (1) | YES |
| TOXIC | NO | NO | NO | YES | YES | YES |
| CORROSIVE | NO | NO | (1) | YES | YES | YES |
| HARMFUL | NO | (2) | SI | YES | YES | YES |

INCOMPATIBILITIES SEPARATION METHODS. SEGREGATION CRITERIA.

| NUMBER | CHEMICAL GROUP | DO NOT STORE WITH CHEMICAL NUMBER GROUPS WITH THE INDICATE NUMBERS |
|--------|----------------------------------|--|
| 1 | Inorganic acids | 2-8, 10, 11, 13, 14, 16-19, 21, 22, 23 |
| 2 | Organic acids | 1, 3, 4, 7, 14, 16, 17-19, 22 |
| 3 | Caustic products | 1, 2, 6, 7, 8, 13-18, 20, 22, 23 |
| 4 | Amines and alkanolamines | 1, 2, 5, 7, 8, 13-18, 23 |
| 5 | Halogenated compounds | 1, 3, 4, 11, 14, 17 |
| 6 | Alcohols, glycols, glycol-ethers | 1, 7, 14, 16, 20, 23 |
| 7 | Aldehydes | 1-4, 6, 8, 15-17, 19, 20, 23 |
| 8 | Ketones | 1, 3, 4, 7, 19, 20 |
| 9 | Saturated hydrocarbons | 20 |
| 10 | Aromatic hydrocarbons | 1, 20 |
| 11 | Olefins | 1, 5, 10 |
| 12 | Petroleum oils | 20 |
| 13 | Esters | 1, 3, 4, 19, 20 |
| 14 | Monomers, polymerisable esters | 1-6, 15, 16, 19-21, 23 |
| 15 | Phenols | 3, 4, 7, 14, 16, 19, 20 |
| 16 | Alkytene oxides | 1-4, 6, 7, 14, 15, 17-19, 23 |
| 17 | Cyanohydrins | 1-5, 7, 16, 19, 23 |
| 18 | Nitryls | 1-4, 16, 23 |
| 19 | Ammonia | 1-2, 7, 8, 13-17, 20, 23 |
| 20 | Halogens | 3, 6-15, 19, 21, 22 |
| 21 | Ethers | 1, 14, 20 |
| 22 | Elemental phosphorous | 1-3, 20 |
| 23 | Acid anhydrides | 1, 3, 4, 6, 7, 14, 16-19 |

(1) They may be stored together if corrosive products are not packed in fragile containers.
 (2) They may be stored together if certain measures of prevention are taken. These are general criteria. For any other type of classification of danger levels, the possible storage incompatibilities must be more fully examined.

- ✓ Products that react with water must not be stored in the same area as other inflammable or combustible liquids.
- ✓ Inflammable or combustible liquids must not be stored in conventional refrigerators.



we recognise our responsibility and dependence towards a healthy environment and, therefore, donate 1% of our annual sales to environmental organisations around the world.

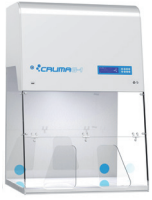
A. Canals

our 1% engagement

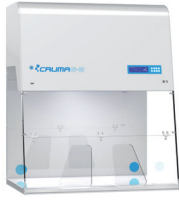
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Laboratory equipment made in Barcelona

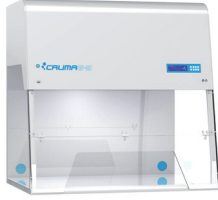
CRUMA
PLUG&PLAY RANGE



G-1



G-2



G-3



G-4



G-5

CRUMA
CLASSIC RANGE



670



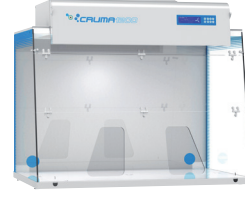
870



990



1010



1200



ECO



CRUMA
VENTED STORAGE
CUPBOARDS

2010

CRUMA
POWDER CABINETS

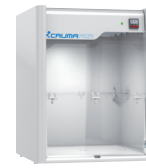


P-1



P-2

CRUMA
PCR CABINET



PCR

CRUMA
CO₂ INCUBATOR



INCUBATOR

CRUMA
LAMINAR FLOW CABINETS



670FL



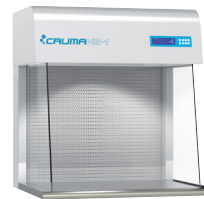
870FL



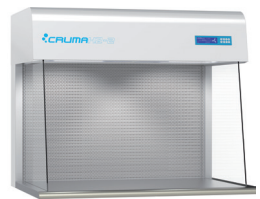
FL1



FL2



H2-1

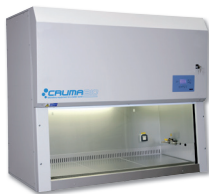


H2-2

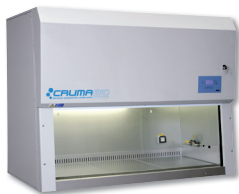
CRUMA
BIOSAFETY CABINETS



BIO-1



BIO-2



BIO-3



VIRUSFREE



CYTO-2&3

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