

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.

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.

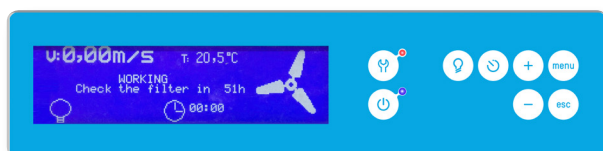
FLEXIBLE –It can be used in areas where it is difficult to remove/extract contaminated air, such as from the lower levels in buildings that have a number of floors.

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

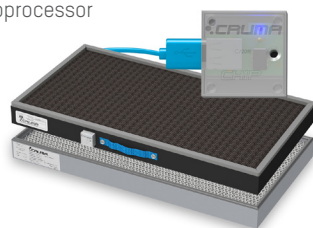
- ✓ New size 127x34mm display
- ✓ Air speed continuously monitored
- ✓ Type of filter installed, working hours, expiration date and next revision date
- ✓ Countdown timer
- ✓ Clock and calendar

New features and components

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

New alarms and scheduled warnings

- ✓ 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 Cl_2 , HCl , HNO_3 , etc. and volatile sulphur compounds (H_2SO_4 , H_2S , SO_2 , NO_2 ,...). Activated carbon impregnated with metal compounds and neutralising salts.
- ✓ **Type D:** Specific to dust and smoke particles.
- ✓ **Type F:** specific to formaldehyde and derivatives. Impregnated with KI.
- ✓ **Type K:** Specific to NH_3 vapours and amines.

TECHNICAL FEATURES

Number of filtration columns	1
Number of filters	1 a 2
Number of IP44 fans	1
Storage capacity (litres)	80L. max. (20L. per shelf)
Internal volume of the cupboard	0,567 m ³
Total electrical power consumption	91 W
Voltage-Frequency	110-220 V - 50-60 Hz
LED light intensity	1500 lm
Noise level	55 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	500	1845	760	468	1295

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.

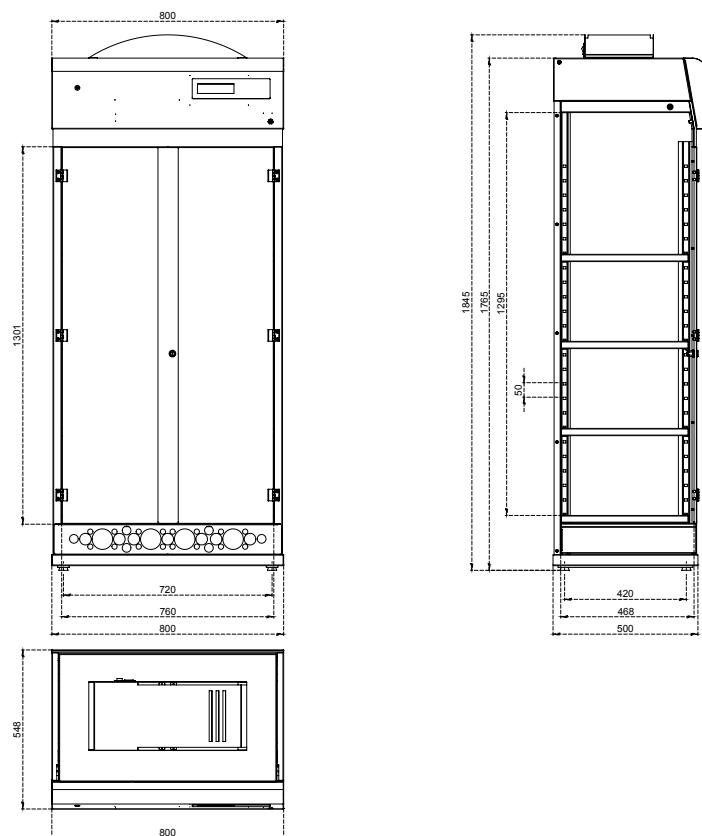


Do you need help or
technical assistance?

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

+34 93 370 61 62

SIZES (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 chip with USB connection that identifies the type of filter installed and the expiry date
Illumination	LED Tube high light intensity and low power consumption - 16 Watts / 1500lm
Sampling system to analyze the filtered air at the exhaust	To detect the level of filter saturation
Electronic cronometre with audible alarm	To program the work inside the fume hood
Clock and calendar	Display of date and time
Lock	Key lock
Shelves	4 shelves with holes that support up to a weight of 20l / 25kg each
Inert absorbent mat	Absorbent mat for liquid absorption in case of spillage
G4 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)
Additional shelves	2 additional shelves with holes that support up to a weight of 20l / 25kg each

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%)

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 K	For NH₃ vapors and amines ; also good for other organic compounds. Carbon with metal salt complexes impregnation.
Type BE	For inorganic acid vapors as H ₂ SO ₄ , HCl, HNO ₃ , and volatile sulfur compounds such as H ₂ S, SO ₂ , ... 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 D	HEPA H-14 filter (High Efficiency Particulate Air, according to EN-1822:2010) for filtering dust and smoke particles.
Type F	For formaldehyde vapors and derivatives; also good for other organic compounds. Carbon impregnated with KI leads, so that it should never be used with inorganic acid vapors.		

MODULAR FILTRATION COLUMN FOR GASES (ACCORDING NFX 15-211:2009)

CLASE 2

Type G Storage of liquid compounds/products		Type GS Storage of liquid products with double filtration	
 Fan  Molecular Filter			

ACCORDING TO STANDARDS

Cabinets / Fume Hoods	AFNOR NF X 15-211:2009 (France) BS EN 14175:2012 BS 7989: 2001 (UK)
Filters	UNE EN ISO 16890:2017 UNE EN 14387:2004 A1:2008 EN-1822:2010 (HEPA & ULPA Filters)
Quality	UNE EN ISO 9001:2015

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

(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.

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	Alkylenes oxides	1-4, 6, 7, 14, 15, 17-19, 23
17	Cyanohydrins	1-5, 7, 16, 19, 23
18	Nitrils	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

We recognise our responsibility
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

CRUMA
PLUG&PLAY RANGE



G-1



G-2



G-3



G-4



G-5

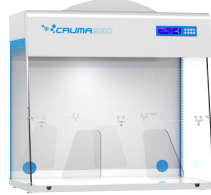
CRUMA
CLASSIC RANGE



670



870



990



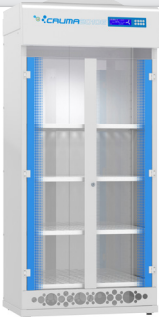
1010



1200



ECO



CRUMA
VENTED STORAGE
CUPBOARDS

2010

CRUMA
POWDER CABINETS

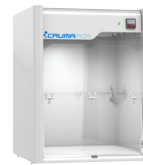


P-1



P-2

CRUMA
PCR CABINET



PCR

CRUMA
CO₂ INCUBATOR



INCUBATOR

CRUMA
LAMINAR FLOW CABINETS



670FL



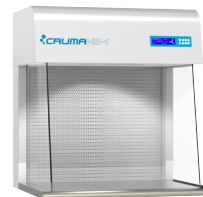
870FL



FL-1



FL-2



H2-1



H2-2

CRUMA
BIOSAFETY CABINETS



BIO-1



BIO-2



VIRUSFREE



CYTO-2&3

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Heinkelstr. 4
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