VERTICAL LAMINAR FLOW FOR SAMPLE PROTECTION

# CRUMA FL-1




Cruma breaks with the tradition of removable laminar flow cabinets offering the new **Cruma FL-1**, an innovative cabin whole body.

- √ Digital control display
- √ Programmable stopwatch / timer
- √ Larger dimensions in the front working area
- √ Switchable internal socket

Furthermore, the new cabin **Cruma FL-1** combines a striking and unique exterior design with the best technology and internal development. However, to meet the operator in his everyday work and protect it in their work caring for the environment.

In vertical laminar flow cabinets, the air flow passes through a HEPA H-14 filter (manufactured according to EN-1822 standard) at a constant speed, runs through the cabinet in a laminar flow and in a vertical direction, generating a sterile **ISO Class 5** area according to the UNE EN ISO 14644 standard, protecting the product, from external contamination and cross contamination between samples.

## USES

- √ Laboratory food industries in general
- √ Transfer of drugs in the pharmacy department
- √ Hematology and clinical analysis
- √ Filled with antibiotics and injectable drugs (except cytostatic) microscopic analysis
- √ Tissue culture bags reconstitution of parenteral methods of assisted fertilization techniques
- √ Micropropagation techniques. Plant cell cultures.
- √ Water quality control
- √ Manufacturing of electronic devices...

## NEW FEATURES

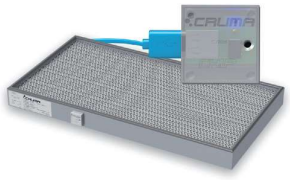


**More information on the new LCD display**

- √ New size 127x34mm display
- √ Type of filter installed, working hours, expiration date and next revision date
- √ Countdown timer
- √ Clock and calendar

**New features and components**

- √ Initial cycle flow adequacy and final purge cycle
- √ Fault LED
- √ Control of air flow through Microprocessor
- √ HEPA 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

## MAIN FEATURES

- √ **Manufacture**: outer surfaces made of cold rolled steel gray / ocher coating, stoveenamelled, resistant to the chemical compounds used for sterilization
- √ **Worktop**: the surface of the working chamber is in secured safety glass
- √ **Absolute HEPA H-14 filter** with flow equalizer, efficiency greater than 99.995% on 0.3 micron particles.
- √ **Fan**: centrifugal double suction, suitable to provide laminar flow in the workspace
- √ **Control panel with soft-touch keyboard** and switch for LED and UV lamps; the air speed is kept at a constant rate thanks to the HEPA filter which is electronically self- regulated, electronic control air speed and control key to slow it down
- √ **Lighting**: LED lamp placed in the central part of the cabinet, for a better light distribution over the working surface

## TECHNICAL INFORMATION

| | | |
|---|---|---|
| Number of filtering columns | | 1 |
| Number of IP44 fans | | 1 |
| Average face velocity | | 0,45 m/s |
| Total electrical power consumption | | 226 W |
| Power supply [1] | | 220-240 V ~ 50-60 Hz |
| Illumination level LED | | 850 lm |
| UV germicidal lamp | | 15W |
| Noise level | | 55 dB |
| **Packaging:** 100% recyclable Wood box with international phytosanitary certificate | Volume | 0,74 $m^3$ |
| | Weight | 112 Kg |

[1] On request available for 110 V / 127 V.

### It is not a typographical error, *10 year warranty*

Because we are convinced of the quality of our products.

10 YEARS GUARANTEE / 10 AÑOS GARANTÍA

*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

FL1-EN-2025-Rev.01

CRUMA 50 years — Laboratory equipment made in Barcelona — 1974-2024

SERFLAM — Service et Fournitures pour Laboratoires

CE · ISO 9001 · 2015 · our 7% engagement

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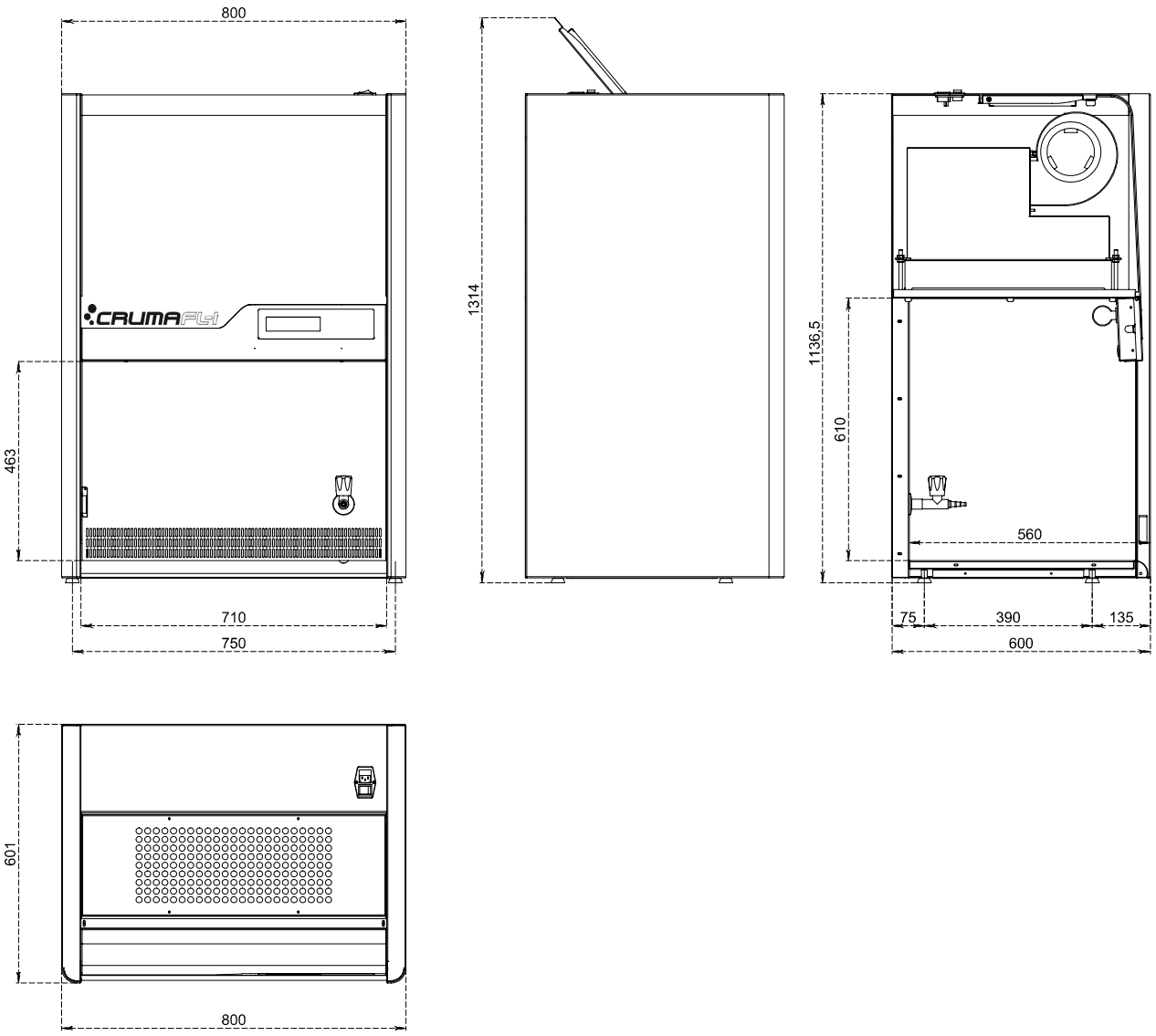
## SIZES (mm)




## SIZES (mm)

| Exterior | | | Interior | | |
|---|---|---|---|---|---|
| Width | Depth | Height | Width | Depth | Height |
| 800 | 600 | 1136,5 | 710 | 560 | 610 |

## STRUCTURE

| | |
|---|---|
| Metallic parts | 1.2 mm galvanized steel, coated with antiacid polymer powder resin thermo-hardened at 200 °C |
| Front Panel | **Transparent polymethylmethacrylate** 6 mm thick (light transmission of 93%) |

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## STANDARD EQUIPMENT

| | |
|---|---|
| Electronic circuit with large format LCD display | Security levels: level 1 for users and level 2 for maintenance users |
| Filters controlled by microprocessor | The filters are provided with a chip with USB connection identifying the type of filter installed and the expiry date |
| Illumination | LED high light intensity and low consumption 9W / 850lm |
| UV Lamp | Germicidal UV lamp 15W |
| Digital timer with audible warning | Hourmeter for the control and warning of the work in the cabinet |
| Electrical plug | Placed in the internal roof of the cabinet and conmuted with the electronic circuit |
| Clock and Calendar | Display of date and time |
| Gas tap | Placed in the internal of the cabinet |
| Work surface | Liquid retention tray (2-10 liters) with working surface in white tempered glass |
| G4 prefilter | Pre-filtering class G4 biofibre synthetic blanket |
| Warranty | 10 years |

## OPTIONAL EQUIPMENT

| |
|---|
| Tubular stand |
| Stand with wheels Movilair |
| Double gas tap |
| Vacuum tap |
| Double vacuum tap |
| Double electric socket |

## ACCORDING TO STANDARDS

| | |
|---|---|
| Filters | UNE EN ISO 16890:2017<br>EN-1822:2010 (HEPA & ULPA Filters) |
| Quality | UNE EN ISO 9001:2015 |

