Fume cupboards

Our aim in developing the BECOME range of fume cupboards is to ensure user safety with maximum levels of energy efficiency. The innovation provided in this range of fume cupboards is based on the knowledge acquired from more than 40 years of experience in the manufacture of fume cupboards, combined with research and development work on the performance of the fume cupboards and each of their critical design elements, at ideal levels (in accordance with standard tests) as well as in real conditions. The international recognition of our customers endorses the innovation and quality provided by our products.

Fume cupboards for general use

Elite
P.66

BECOME ST
P.70

Green Cycle
P.74

BECOME M
P.78

BECOME W
P.82

Fume cupboards for specific use

BECOME AC and ACL
P.88

BECOME ACF and ACFL
P.92

Perchloric
P.96

Solvents
P.100

Beta-ray emitting radioisotopes: RB
P.104

Gamma-ray emitting radioisotopes: RG
P.108

Ikasi
P.112

Accessories for fume cupboards

Other extraction elements

Characteristics

Experience

Burdinola, as an expert company recognised by AENOR for more than 30 years and as a Spanish representative in European standard setting forums, offers its customers its technical resources, experts in fume cupboards and installations and an approved test room, all to produce safe, functional and flexible installations and equipment. Depending on the toxicity characteristics of the work carried out and the specific conditions of the laboratory, we will look for the most appropriate option in collaboration with our customers for capturing emissions and waste so as to:

- Prevent users being exposed.
- Confine the contaminant to prevent its dispersion in the laboratory environment.

To do this, we will assess the risks to be controlled, the level of protection required and we will do an analysis of the structural characteristics of the laboratory, taking into account the available space, the suitability of the place where it is to be installed and the characteristics of the ventilation and air conditioning of the space.

Protection Device

In accordance with UNE EN 14175, a fume cupboard is a: Protection device ventilated by an induced flow of air through an adjustable work opening:

- With an enclosure designed to limit the propagation of airborne contaminants to operators or personnel located outside the device.
- That provides mechanical protection.
- That allows a controlled evacuation of contaminants present in the air.

UNE EN 14175 consists of 7 parts:
Part 1: Terminology and definitions.
Part 2: Safety and operational requirements.
Part 3: Type test methonds in a test room.
Part 4: Testing methonds in situ.
Part 5: Installation and maintenance.
Part 6: VAV – Cariable air volume.
Part 7: Fume cupboards with a high thermal charge and for concentrated acids.

Suitability test as per EN 14175-2

Qualitative suitability criteria in the categorisation of fume cupboards			
Documentation	Manufacturer's declaration.	Sash	Provides protection against splashes.
	Type test on new fume cupboards.		It must prevent liquids that drip from the sash from scaping to the work area.
	Manufacturer's instruction manual: assembly, installation and use. As per UNE-EN 14175-2		Handles must not reduce the operator's field of vision (which would constitute an additional risk).
Materials	Resistant to the mechanical, chemical and thermal stresses to which it may be subjected during use. Not easily combustible.		Must have a sash locking system to prevent it from falling.
Work area	There must not be any sashes on side walls which look out onto the premises. The orifices or pipes in the side walls must be able to be closed.	Air flow	Reference threshold values (NTP 990).
Work surface	Flat with a perimeter rim.		Air flow indicator that unambiguously shows that the fume cupboard is operating correctly. Visual and audible alarm in the event of malfunction.
	Minimum load: 2.000N.		
Deflectors	It should not be possible to modify their original position.	Services	Operating controls on the outside of the fume cupboard, outputs in the work area. The operating controls must be clearly associated with their corresponding output.
	It must be easy to maintain and clean them.		Easily accessible for maintenance.
Overpressure device	Where required, the fume cupboard shall have an efficient blast wave discharge device in the event of an explosion, without endangering operators or personnel in the vicinity of the fume cupboard.		Combustible gas controls protected against accidentally being opened.
Sash	Transparent.		Every sink must have its own siphon.
	Made of laminated or tempered glass (in accordance with EN 12600, type 2B or 2C or EN ISO 12543-1) or a suitable plastic material.		IP 55-rated electrical sockets protected against liquid splashes. Preferably on the outside of the fume cupboard. If they are located in the work area they must be able to be connected from the outside separately and unambiguously.
	The operational or work opening must be clearly indicated and its maximum position should preferably be 500 mm.		Lighting in accordance with UN EN 14175-3 chapter 9.
	Must have a sash stop to prevent it from opening above the operational height, unless it is through a deliberate action by the researcher and it return to its original position automatically.	Marked and labelled	Keep the sash closed whenever possible.
	Maximum travel force for single sash: 30 N. For multiple sashes: 50 N.		Do not work with the horizontal and vertical sashes open simultaneously.
			Manufacturer's trade name and mark.
			Type designation and year of production.
			Conformity with UNE EN 14175-2.

Durability

Our general use fume cupboards are equipped with a 6 mm thick interior cabinet with an acrylic urethane coating, with a work surface made of vitrified stoneware plate with a perimeter rim for retaining 5 l/m2.

With regard to the cabinet interior, our materials respond to the highest chemical resistance, where both the interior of the cabinet and work surface adapt to user activity (see the detailed tables for fume cupboards).

For fume cupboards with specific uses, we have also adapted our materials to the most demanding work that their use may require and these are detailed in each of the corresponding sections.

Sash and windows with extruded aluminium profiles, with an epoxypolyester coating, incorporating guides to facilitate the movement of the 6 mm thick glass panes (3+3 mm laminated safety glass).

Robustness

The construction system of our fume cupboards is exceptionally robust and built to last over time. They are equipped with frames made of steel pipes with a 1 mm sheet metal finish.

To ensure resistance against corrosion, a thermo-hardened powder coating with an epoxy resin base (epoxy-polyester powder) is applied. The service carrying side columns are made of 4 mm extruded aluminium.

Ecodesign

Following the continuous improvement, as philosophy, Burdinola goes further with the implementation of an Ecodesign management system in accordance with the UNE-EN ISO 14006: 2011 standard. The Ecodesign certificate guarantees that Burdinola has adopted a management system to identify, control and continuously improve the environmental aspects of its products and services.

Ecodesign is a methodology that integrates the environmental variable in the design and development of products and services; achieving a reduction of the environmental impacts that they produce throughout their life cycle. In this way, we obtain much more competitive quality products; in addition to being respectful with the environment; which is a differential factor in the current market.

Range

The BECOME range of fume cupboards is made up of more than 40 models, which makes it possible to cover all of the most common applications in laboratories.

Safety systems

In accordance with the regulatory requirement, the fume cupboard incorporates a stop or limit on the travel of the sash at the operational opening. This device acts on both sides, being perfectly integrated into the handle.

The sash is operated by a counterweight, supported by plasticcoated steel cables, which protect it from corrosion. In the event that one of the cables breaks, the sash remains locked to avoid it falling, in accordance with the EN 14175 standard.

The BECOME range of fume cupboards, with the upper part glazed, allow full visibility of the tests being carried out inside.

The EO25 electronic system located on the right side of the fume cupboard based on a micro-controller provides a complete, easy, safe control of the electrical services in the cupboard. In addition to the measurement and alarm elements required by the standard, it incorporates an additional temperature alarm in the event of fire. The BTEC keyboard has control buttons with their respective synoptic symbols for a Sash applied to a fume cupboard. It optimises energy consumption, while significantly improving the safety of users.

The presence detection system using an infrared beam curtain, in which Burdinola sets a new market standard, simplifies the traditional detection system using a motion detector and photoelectric cell on the sash.

Compared to the latter, which only functions when the user is moving, with the risk that the locking movement suddenly starts up, the Burdinola system detects any object that breaks any of the 25 infrared beams that cross the work front.

VAV system: fast action, which allows energy saving by adjusting the extracted flow to the real demand of the fume cupboard, depending on the working conditions. Ecodesign

Safety and aerodynamics

Maximum compliance with the operating parameters of the standard requires an arduous aerodynamic study of the shapes formed in the airflow. The design of the BECOME range profiles is the best example of this premise.

The whole thing was devised with the collaboration of technological institutions to obtain the best aerodynamic response that avoids difficulties at the air inlet.

Selection criteria

The specification of the intended use will make it possible to identify the type of fume cupboard required:

A. Fume cupboards for general use:

Designed for "general use" in a laboratory. They can be used for jobs where large amounts of heat are not released and a wide variety of unconcentrated chemicals are.

B. Fume cupboards for specific use:

Fume cupboards for concentrated acids and large thermal loads: They have specific construction, maintenance and safety characteristics in accordance with EN 14175 part 7. They may be fume cupboards for jobs with high thermal loads or jobs with strong acids (perchloric and hydrofluoric acids). Fume cupboards for solvents. Fume cupboards for radioisotopes.

A correct choice will ensure the protection of the user and the useful life of the product.

1. Elite fume cupboards

The ELITE fume cupboard achieves optimum containment values. Tested in accordance with the provisions of UNE EN 14175 part 3, which sets the general test conditions:

- Air temperature of the room: 23ºC +/- 3ºC. During the measurements, the temperature of the make-up air was the same as the temperature of the air in the room +/- 1ºC, avoiding temperature gradients.
- Make-up air supplied at a distance of more than 2 metres from the front of the fume cupboard.
- Exhaust air through the side symmetrically opposite to the supply of the make-up air and from outside the test area.
- Air velocity < 0.1 m/s in the test area.
- Pressure differential: +/- 5 Pa.

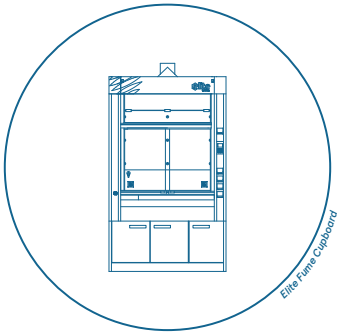
The ELITE fume cupboard achieved optimum containment results, with a flow rate of 250m³/hx mlin complying with the European reference values set by the German conglomerate BG Chemie and the French research institute INRS.

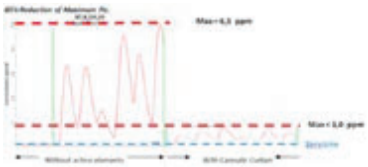
However, what distinguishes the ELITE fume cupboard from other low-flow cupboards is the incorporation of a patented microclimate system:

In accordance with the UNE EN 14175 standard, the performance of a fume cupboard is expressed in qualitative terms, such as the ability to contain and extract one or more pollutants emitted by a source in the work area of the fume cupboards, as well as the ability to minimise the influence of possible disturbances, such as air currents, operator movements or the movement of personnel.

The microclimate system acts on the environment of the fume cupboard, thus minimising the influence of external disturbances and achieving an increase in safety and efficiency.

The effect achieved is shown schematically on the following graph:



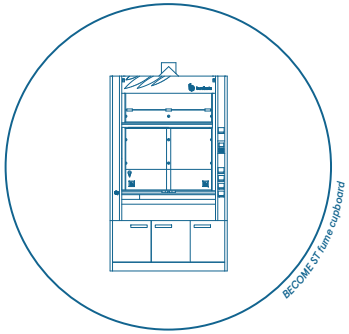


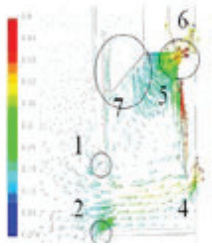
The microclimate created in the environment of the fume cupboard minimises the effect of external disturbances (difference in temperature in the room, air currents, movement of staff), reducing them by more than 70%.

2. BECOME ST fume cupboard

With its BECOME ST fume cupboard, Burdinola provides optimum containment values, without the incorporation of any active drive element.
The results obtained for the fume cupboard by the internal, external and robustness containment tests in accordance with EN 14175 part 3 (reflected in the product certificates) are optimal. The results are below the limit values established by the German conglomerate BG Chemie and the French research institute INRS with a flow rate of 375 m³/hx mlin.

However, it is the design of the BECOME ST fume cupboard that sets it apart in the market, a design which, as well as complying with all the safety aspects established in part 2 of the aforementioned EN 147175 standard, is the result of the meticulous study and detailed design of each of the elements that contribute to better containment and robustness and, therefore, to greater operational safety.





1. Sash handle
2. Airfoil
3. Sides
4. Rear deflector
5. Design of cut-out/recess
6. Trap
7. By-pass

3. Green Cycle fume cupboard

Designed and tested in accordance with the EN 14175 standard. Filtration tests in accordance with NFX 15-211. Containment tests in accordance with EN 14175 part 3.

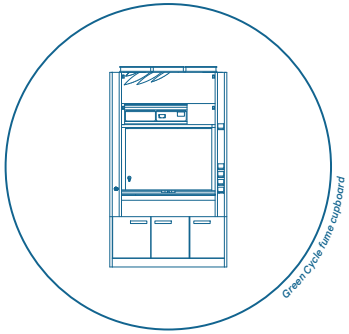
Developed in collaboration with the European leader in air filtration to protect laboratory personnel.

Applicable to the vast majority of ways of handling products in laboratories, with the capacity to handle liquids and powder. Quick and easy reconfiguration of the filtration columns if requirements change.

Energy consumption: 0 m³/h. No air consumption. Does not affect the dimensions of the air conditioning system. Flexibility: Need for changes in the lay-out.

No ventilation ducts required.

Safety: This is a fume cupboard for general use equipped with universal filtration and filter saturation sensors.



Fume cupboards for general

Elite fume cupboards

Application

The Elite fume cupboard is intended for general use in the laboratory. Recommended for evacuating fumes, fine dust and light particles from the work area to avoid contaminating the laboratory atmosphere. Not recommended for use with compounds emitting ionising radiation, concentrated acids with a high thermal load or pathogens. The Elite Low version for low ceilings allows it to be installed in laboratories with a minimum height of 2.700mm.

Safe Product

Range certified under European standard EN 14175 parts 2, 3 and 6 Aerodynamic design that makes it possible to obtain unique results in the containment and energy efficiency market.
Large useful interior capacity with a cabinet which is 1.415mm high inside, with a glazed upper part that allows full visibility of the tests being carried out inside.

Models

1. BECOME Elite

2. BECOME Elite Low

Materials

- Resistant to Chemical Stress: Standard with the best quality on the market in terms of materials, a ceramic worktop and inner lining made of HPL high pressure compact laminate with a coating of urethane acrylic resistant to chemical agents.
- Resistant to Mechanical Stress: Great robustness provided by side structural elements.

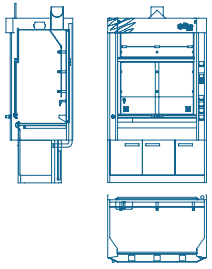
Optional accessories

- Motorised sash.
- VAV crontrol with a valve for a group of fume cupboards.
- Waste collection.
- Power sockets inside.
- Side window.
- Pass box.
- Cable glands.
- Storage under the fume cupboard.

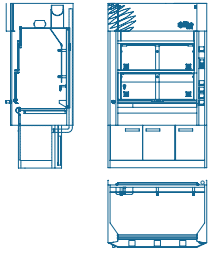
**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME Elite



BECOME Elite Low



Technical data

External dimensions	
Width (mm)	1.200 I 1.500 I 1.800 I 2.100 I 2.400
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for ELITE: 3.000mm. See lower heights.
Minimum recommended laboratory height for ELITE LOW: 2.700mm. See lower heights..

Interior dimensions	
Width (mm)	1.135 I 1.435 I 1.735 I 2.035 I 2.335
Depth (mm)	740/620
Height (mm) (*)	1.415 I 1.215

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	500
Recommended distance from sash (area directly behind the sash)(mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	from 25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical characteristics

Models	ELITE 1200	ELITE 1500	ELITE 1800	ELITE 2100	ELITE 2400
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.				
Worktop	White, 26 mm thick vitrified stoneware panel, with a ridged edge for retaining liquids.				
Interior of the cabinet	6 mm compact high pressure with an acrylic urethane coating. Resistant to impact, humidity, chemical attack and antibacterial in accordance with DIN ES ISO 10545-13 and DIN EN ISO 10545-14. Reaction to fire B-s2-d0, as per EN 438-7.				
Sash	Sash made of 3+3 mm bi-laminar safety glass.				
No. of sashes (Elite/ Elite Low)	1/2				
No. of horizontal rails	2			4	
No. of support for scaffold	9			12	
Maximum load per scaffold support (kg) (*)	5				
Services (**)					
LED lighting (20W)	1	2	2	3	3
230V/16A IP55 power sockets	4				
Magneto-thermal protection	1 x 16A				
Optional services(**)					
Sink	300x120x111mm made of PP.				
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10bar.				
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07bar.				
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.				
Pressure reducers for instrumental gases	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.				
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.				
Power sockets (***)	Socket voltage 230V - 16A.				
	Socket voltage 230V - 13A.				
	Computer socket.				
	Telephone socket.				
	Voice and data socket.				
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.				
	16A three-phase thermal magnetic circuit breaker.				
	20A single-phase thermal magnetic circuit breaker.				
	20A three-phase thermal magnetic circuit breaker.				
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.				
	Single-phase power socket (3 poles) 230 - 32A.				
	Three-phase power socket (5 poles) 400V - 16A.				
	Three-phase power socket (5 poles) 400V - 32A.				
Start / stop for accessories in fume cupboard	Start / stop switch.				
	Emergency stop button.				

(*) Load considered at a distance of 100mm from the support. Higher support loads on the worktop.
(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country.
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	ELITE 1200	ELITE 1500	ELITE 1800	ELITE 2100	ELITE 2400
Height of the extraction outlet from the ground (mm) ELITE / ELITE LOW	2.670/ 2.470				
Diameter of the extraction outlet (mm) (*)	1 x Ø200	1 x Ø250	1 x Ø250	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO25 (For details, see the chapter on accessories).				
Caresafe Curtain	All models have a Caresafe Curtain.				
Active Airfoil	All models have an Active Airfoil.				
Test flow rate (**)	250m³/hx mlin.				
Maximum pressure in the duct	600Pa.				
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.				

(*) The diameters of the outlet may vary depending on the installation.
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 3, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

BECOME ST fume cupboards

Application

The BECOME ST fume cupboard is intended for general use in the laboratory. Recommended for evacuating fumes, fine dust and light particles from the work area to avoid contaminating the laboratory atmosphere. Not recommended for use with compounds emitting ionising radiation, concentrated acids with a high thermal load or pathogens. The BECOME ST Low version for low ceilings allows it to be installed in laboratories with a minimum height of 2.700mm.

Safe Product

Range certified under European standard EN 14175 parts 2, 3 and 6 Aerodynamic design that makes it possible to obtain optimum results for containment and energy efficiency. Large useful interior capacity with a cabinet which is 1,415 mm high inside, with a glazed upper part that allows full visibility of the tests being carried out inside.

Models

1. BECOME ST

2. BECOME ST Low

Materials

- Resistant to Chemical Stress: Standard with the best quality on the market in terms of materials, a ceramic worktop and inner lining made of HPL high pressure compact laminate with a coating of urethane acrylic resistant to chemical agents.
- Resistant to Mechanical Stress: Great robustness provided by side structural elements.

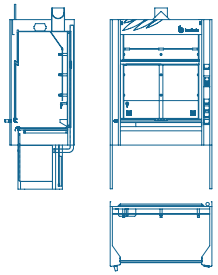
Optional accessories

- Motorised sash.
- VAV crontrol with a valve for a group of fume cupboards.
- Waste collection.
- Power sockets inside.
- Side window.
- Pass box.
- Cable glands.
- Storage under the fume cupboard.

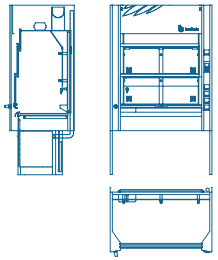
**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME ST



BECOME ST Low



Datos técnicos

External dimensions	
Width (mm)	1.200 I 1.500 I 1.800 I 2.100 I 2.400
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for BST: 3.000mm See lower heights
Minimum recommended laboratory height for BST LOW: 2.700 mm See lower heights.

Interior dimensions	
Width (mm)	1.135 I 1.435 I 1.735 I 2.035 I 2.335
Depth (mm)	740/620
Height (mm) (*)	1.415 I 1.215

Todos los datos dimensionales Tol: +/- 5mm.

BECOME ST 1500 fume cupboard is certified according to the UNE-EN ISO 14006: 2011 standard.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	500
Recommended distance from sash (area directly behind the sash)(mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	from 25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Características Técnicas

Models	BST 1200	BST 1500	BST 1800	BST 2100	BST 2400
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.				
Worktop	White, 26mm thick vitrified stoneware panel, with a ridged edge for retaining liquids.				
Interior of the cabinet	6 mm compact high pressure with an acrylic urethane coating. Resistant to impact, humidity, chemical attack and antibacterial in accordance with DIN ES ISO 10545-13 and DIN EN ISO 10545-14. Reaction to fire B-s2-d0, as per EN 438-7..				
Sash	Sash made of 3+3 mm bi-laminar safety glass.				
No. of sashes (Elite/ Elite Low)	1/2				
No. of horizontal rails	2			4	
No. of support for scaffold	9			12	
Maximum load per scaffold support (kg) (*)	5				
Services (**)					
LED lighting (20W)	1	2	2	3	3
230V/16A IP55 power sockets	4				
Magneto-thermal protection	1 x 16A				
Optional services (**)					
Sink	300x120x111mm made of PP.				
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10bar.				
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07bar.				
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.				
Pressure reducers for instrumental gases	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.				
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.				
Power sockets (***)	Socket voltage 230V - 16A.				
	Socket voltage 230V - 13A.				
	Computer socket.				
	Telephone socket.				
	Voice and data socket.				
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.				
	16A three-phase thermal magnetic circuit breaker.				
	20A single-phase thermal magnetic circuit breaker.				
	20A three-phase thermal magnetic circuit breaker.				
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.				
	Single-phase power socket (3 poles) 230 - 32A.				
	Three-phase power socket (5 poles) 400V - 16A.				
	Three-phase power socket (5 poles) 400V - 32A.				
Start / stop for accessories in fume cupboard	Start / stop switch.				
	Emergency stop button.				

(*) Load considered at a distance of 100mm from the support. Higher support loads on the worktop.
(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country.
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	BST 1200	BST 1500	BST 1800	BST 2100	BST 2400
Height of the extraction outlet from the ground (mm) BST/ BST Low	2.670/ 2.470				
Diameter of the extraction outlet (mm) (*)	1 x Ø200	1 x Ø250	1 x Ø250	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO25 (For details, see the chapter on accessories).				
Test flow rate (**)	350m³/hx mlin.				
Maximum pressure in the duct	600Pa.				
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.				

(*) The diameters of the outlet may vary depending on the installation.
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 3, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates

Green Cycle fume cupboards

Application

The Green Cycle fume cupboard is intended for general use in the laboratory. Fume cupboard with integrated filtration system, no extraction ducts required. Adaptable to the vast majority of ways of handling chemical reagents in laboratories. Not recommended for compounds emitting ionising radiation, concentrated mineral acids with a high thermal load or pathogens.

Specially designed for laboratories where flexibility is a critical aspect, the Green Cycle version with wheels is a unique item on the market.

Safe Product

Designed and tested in accordance with the EN 141756 standard parts 2, 3 and 6. Filtration tests in accordance with NFX 15-211. Large useful interior capacity with a cabinet which is 1,100 mm high inside, with a glazed upper part that allows full visibility of the tests being carried out inside.

Models

1. BECOME GC

2. BECOME GCR

Materials

- Resistant to chemical and mechanical stress
- Filtration system: it has filtration columns applicable to the vast majority of ways of handling products in laboratories, with the capacity to handle liquids and powder.
- Quick and easy reconfiguration of the filtration columns if requirements change.

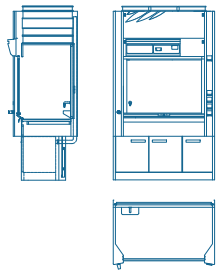
Optional accessories

- Motorised sash.
- Waste collection.
- Power sockets inside.
- Side window.
- Pass box.
- Cable glands.
- Storage under the fume cupboard.

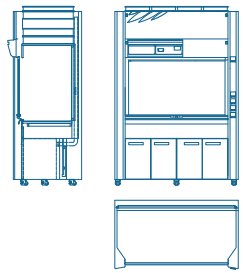
**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME GC



BECOME GCR



Technical data

External dimensions	
Width(mm)	1.500 I 1.800 I 2.200
Depth (mm)	950
Height including filters (mm)	2.670
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height: 3000mm See lower heights.

Interior dimensions	
Width (mm)	1.435 I 1.735 I 2.135
Depth (mm)	740
Height (mm) (*)	1.100

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	400
Recommended distance from sash (area directly behind the sash)(mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	from 25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical characteristics

Models	BGC 1500	BGC 1800	BGC2200
Frame(*)	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.		
Worktop(**)	White, 26mm thick vitrified stoneware panel, with a ridged edge for retaining liquids.		
Interior of the cabinet	6mm compact high pressure with an acrylic urethane coating. Resistant to impact, humidity, chemical attack and antibacterial in accordance with DIN ES ISO 10545-13 and DIN EN ISO 10545-14. Reaction to fire B-s2-d0, as per EN 438-7..		
Sash	Sash made of 3+3 mm bi-laminar safety glass.		
No. of sashes	1		
No. Filtration Columns	3	4	5
Optional: Retractable wheels	They have a retractable system that makes it possible to move the fume cupboard or immobilise it with Silentblock support.		
No. of support for scaffold	9		12
Maximum load per scaffold support (kg) (*)	5		

(*) Optionally, the fume cupboard will be equipped with wheels to facilitate its movement in the laboratory.
(**) Optionally, a glass or Trespa Toplab Plus worktop with epoxy perimeter rim.
(***) Load considered at a distance of 100mm from the support. Higher support loads on the worktop.

Services(**)			
LED lighting (20W)	3	4	5
230V/16A IP55 power sockets	4		
Magneto-thermal protection	1		

Optional services(**)	
Sink	300x120x111mm made of PP.
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.
Pressure reducers for instrumental gases	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.
Pressure reducers for corrosive gases	Diseño compacto, cuerpo de Inoxidable,disponen de llave de corte, regulación y visualización de presión. Presión máxima de entrada 20bar, presión de salida 1,0bar a 8bar. Opcional llave para regulación fina.
Power sockets (***)	Socket voltage 230 V - 16 A.
	Socket voltage 230 V - 13 A.
	Computer socket.
	Telephone socket.
	Voice and data socket.
Thermal-magnetic cut-outs	16 A single-phase thermal magnetic circuit breaker.
	16 A three-phase thermal magnetic circuit breaker.
	20 A single-phase thermal magnetic circuit breaker.
	20 A three-phase thermal magnetic circuit breaker.
Socket power (**)	Single-phase power socket (3 poles) 230 V - 16 A.
	Single-phase power socket (3 poles) 230 V - 32 A.
	Three-phase power socket (5 poles) 400 V - 16 A.
	Three-phase power socket (5 poles) 400 V - 32 A.
Start / stop for accessories in fume cupboard	Start / stop switch.
	Emergency stop button.

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country.
(***) Optionally,electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	BGC 1500	BGC 1800	BGC 2100
Height of output of filtration columns (mm)	2.670		
Minimum laboratory height	3.000		
Fume cupboard control	GFH		
Test flow rate (*)	440m³/hx mlin.		
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.		

(*) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 3 and NFX 15-211 for an operational height of 375 mm, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. The dimensions of the HVAC system are not affected by these fume cupboards, as they recirculate 100% of the flow.

GFH Control System

Monitoring	Control	Operation of each fan.
		Extraction flow rate.
		Temperature measurement.
	Sistema de detección	Solvents.
		Acids.
		Ambient air quality.
Alarms	Ventilation failure	Alarm in the event of failure with an indication of the fan number in question.
	Operational height	Alarm in the event of exceeding the operational height.
	Flow alarm	Alarm in the event of insufficient flow.
	Temperature	Temperature alarm at 60 ºC.
		Temperature alarm at 80 ºC with indication of interruption of ventilation.
	Changing filters	Alarm to change filters with identification of the filter to replace.
Access control	Username	Access to use the fume cupboard.
	Administrator	Access to loom up data and usage parameters.
	Maintenance	Access to all functions of the GC fume cupboard.

BECOME M fume cupboards

Application

La vitrina **BECOME M** está destinada a un uso general en el laboratorio. Específicamente concebida para el acceso total de grandes aparatos. Desaconsejada para su uso con compuestos emisores de radiaciones ionizantes, ácidos concentrados con alta carga térmica o patógenos.

Safe Product

Range certified under European standard EN 14175 parts 2, 3 and 6. Aerodynamic design that makes it possible to obtain optimum results for containment and energy efficiency. Large useful interior capacity with a cabinet which is 1,815 mm high inside. Available for installation with individual or shared ventilation, with optimised VAV systems.

Models

1. BECOME M

Materials

- Resistant to Chemical Stress: Standard with the best quality on the market in terms of materials, a ceramic worktop and inner lining made of HPL high pressure compact laminate with a coating of urethane acrylic resistant to chemical agents.
- Resistant to Mechanical Stress: Great robustness provided by side structural elements.

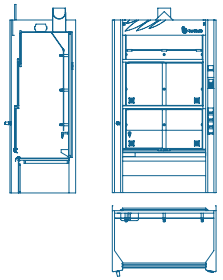
Optional Accessories

- Motorised sash.
- VAV control with a valve for a group of fume cupboards.
- Power sockets inside.
- Side window.
- Pass box.
- Cable glands

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME M



Technical data

External dimensions	
Width (mm)	1.200 I 1.500 I 1.800 I 2.100 I 2.400
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for BM: 3000 mm See lower heights.

Interior dimensions	
Width (mm)	1.135 I 1.435 I 1.735 I 2.035 I 2.335
Depth (mm)	740/620
Height (mm) (*)	1.815

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm) (*)	500
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	from 25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical Characteristics

Models	BM 1200	BM 1500	BM 1800	BM 2100	BM 2400
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.				
Worktop	White, 26 mm thick vitrified stoneware panel, with a ridged edge for retaining liquids.				
Interior of the cabinet	6 mm compact high pressure with an acrylic urethane coating. Resistant to impact, humidity, chemical attack and antibacterial in accordance with DIN ES ISO 10545-13 and DIN EN ISO 10545-14. Reaction to fire B-s2-d0, as per EN 438-7.				
Sash	Sash made of 3+3 mm bi-laminar safety glass.				
No. of sashes (BM/ BM Low)	2				
No. of Horizontal Rails	4			8	
No. Suppor for scaffold	9			12	
Maximum load per busbar support (kg) (*)	5				

(*) Load considered at a distance of 100 mm from the support.
Higher support loads on the worktop.

Services (**)					
LED lighting (20W)	1	2	2	3	3
230V/16A IP55 power sockets	4				
Magneto-thermal protection	1 x 16A				
Optional services (**)					
Sink	300 x 120 x 111 mm made of PP.				
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.				
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.				
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.				
Pressure reducers for instrumental gasess	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.
Power sockets (***)	Socket voltage 230V - 16A.
	Socket voltage 230V - 13A.
	Computer socket.
	Telephone socket.
	Voice and data socket.
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.
	16A three-phase thermal magnetic circuit breaker.
	20A single-phase thermal magnetic circuit breaker.
	20A three-phase thermal magnetic circuit breaker.
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.
	Single-phase power socket (3 poles) 230 - 32A.
	Three-phase power socket (5 poles) 400V - 16A.
	Three-phase power socket (5 poles) 400V - 32A.
Start / stop for accessories in fume cupboard	Start / stop switch.
	Emergency stop button.

(**) The services will be located on the side panels, the configuration will be carried out according to the needs of each customer. Power socket models will be adjusted to the regulations in each country
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Modelos	BM 1200	BM 1500	BM 1800	BM 2100	BM 2400
Height of the extraction outlet from the ground (mm) BM	2.670/ 2.470				
Diameter of the extraction outlet (mm) (*)	1 x Ø200	1 x Ø250	1 x Ø250	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO 25 (For details, see the chapter on accessories).				
Test flow rate (**)	350m³/hx mlin.				
Maximum pressure in the duct	600Pa.				
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.				

(*) The diameters of the outlet may vary depending on the installation.
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 3, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

BECOME W fume cupboards

Application

The BECOME W fume cupboard is intended for general use in the laboratory. Specifically designed for full access of large apparatus or tests to be carried out on mobile tables or on the floor. Not recommended for use with compounds emitting ionising radiation, concentrated acids with a high thermal load or pathogens.

Safe Product

Range certified under European standard EN 14175 parts 2, 3 and 6 Aerodynamic design that makes it possible to obtain optimum results for containment and energy efficiency. Large useful interior capacity with a cabinet which is 2,315 mm high inside. Available for installation with individual or shared ventilation, with optimised VAV systems.

Models

1. BECOME W

Materials

- Resistant to Chemical Stress: Standard with the best quality on the market in terms of materials, interior lining made of HPL high pressure compact laminate with a coating of urethane acrylic resistant to chemical agents.
- Resistant to Mechanical Stress: Great robustness provided by side structural elements.

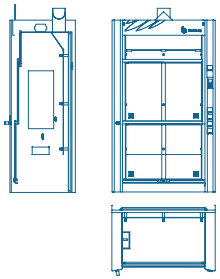
Optional Accessories

- Motorised sash.
- VAV control with a valve for a group of fume cupboards.
- Power sockets inside.
- Side window.
- Pass box.
- Cable glands.

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME W



Technical data

External dimensions	
Width (mm)	1.500 I 1.800 I 2.100 I 2.400 I 2.700
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for BW: 3000 mm See lower heights.

Interior dimensions	
Width (mm)	1.200 I 1.500 I 1.800 I 2.100 I 2.400
Depth (mm)	740/620
Height (mm)	2.315

All dimensional data Tol: +/- 5mm.

Technical Characteristics

Models	BW 1500	BW 1800	BW 2100	BW 2400	BW 2700
Frame	Estructuras laterales realizadas en tubo de acero con tapas chapa, con recubrimiento de resina poliester. Estructura inferior.				
Interior of the cabinet	Laminado compacto de alta presión HPL de 6mm con recubrimiento de uretano acrílico. Resistente al impacto, la humedad, ataque quimico y antibacteriana según norma DIN ES ISO 10545-13 y DIN EN ISO 10545-14. Reacción al fuego B-s2-d0 según EN 438-7.				
Sash	Guillotina de vidrio de seguridad, vidrio bilaminar 3+3mm.				
No. of sashes (BW/ BW Low)	2				
No. of Horizontal Rails	4			8	
No. Support for scaffold	9			12	
Maximum load per busbar support (kg) (*)	5				

(*) Load considered at a distance of 100 mm from the support. Higher support loads on the worktop.

Services (**)					
LED lighting (20W)	1	2	2	3	3
230V/16A IP55 power sockets	4				
Magneto-thermal protection	1 x 16A				
Optional services (**)					
Sink	300 x 120 x 111 mm made of PP.				
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.				
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.				
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.				
Pressure reducers for instrumental gasess	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.				
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20bar, output pressure of 1,0bar to 8bar. Optional tap for fine tuning.				
Power sockets (***)	Socket voltage 230 V - 16 A.				
	Socket voltage 230 V - 13 A.				
	Computer socket.				
	Telephone socket.				
	Voice and data socket.				
Thermal-magnetic cut-outs	16 A single-phase thermal magnetic circuit breaker.				
	16 A three-phase thermal magnetic circuit breaker.				
	20 A single-phase thermal magnetic circuit breaker.				
	20 A three-phase thermal magnetic circuit breaker.				
Socket power (**)	Single-phase power socket (3 poles) 230 V - 16 A.				
	Single-phase power socket (3 poles) 230 V - 32 A.				
	Three-phase power socket (5 poles) 400 V - 16 A.				
	Three-phase power socket (5 poles) 400 V - 32 A.				
Start / stop for accessories in fume cupboard	Start / stop switch.				
	Emergency stop button.				

(**) The services will be located on the side panels, the configuration will be carried out according to the needs of each customer. Power socket models will be adjusted to the regulations in each country
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	BW 1500	BW 1800	BW 2100	BW 2400	BW 2700
Height of the extraction outlet from the ground (mm) BW	2.670				
Diameter of the extraction outlet (mm) (*)	1 x Ø200	1 x Ø250	1 x Ø250	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO25.				
Test flow rate (**)	350 m^3/hx mlin.				
Maximum pressure in the duct	600Pa.				
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.				

(*) The diameters of the outlet may vary depending on the installation
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 3, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a
reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

Fume cupboards for specific

BECOME AC fume cupboards

Application

The BECOME AC fume cupboard is intended for handling concentrated acids and high thermal loads. Recommended for the evacuation of fumes and aerosols generated in reactions with concentrated acids handled in the work area, in order to avoid contaminating the laboratory atmosphere. Not recommended for use with hydrochloric acid, compounds emitting ionising radiation, large amounts of solvents or pathogens.

Safe Product

Range certified under European standard EN 14175 parts 2 and 7. The design of the BECOME AC fume cupboard makes it possible to ensure safety and operating objectives at high temperatures, and avoid dangerous concentrations and deposits of acids or hydroxides in the work area.

Models

1. BECOME AC

2. BECOME ACL

Materials

- Resistant to Chemical Stress: Smooth materials that are easy to clean. Suitable against chemical erosion from acids and thermal deformation at the temperature of use.
- Ceramic worktop and interior lining.
- Resistant to Mechanical Stress.

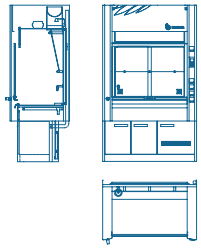
Accesorios opcionales

- Gas scrubber.
- Neutraliser.
- Motorised sash.
- VAV control with a valve for a group of fume cupboards.
- Waste collection.
- Storage under the fume cupboard.

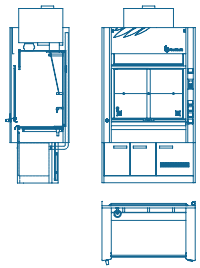
**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME AC



BECOME ACL



Technical data

External dimensions	
Width (mm)	1.500 I 1.800
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for BAC: 3,000 mm See lower heights.
Minimum recommended laboratory height for BACL: 3,300 mm See lower heights.

Interior dimensions	
Width (mm)	1.225 I 1.525
Depth (mm)	740/620
Height (mm)	1.215

TAll dimensional data Tol: +/- 5mm.

Technical data

Dimensiones de trabajo	
Work height (mm)	900
Maximum operational height (mm) (*)	400
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical Characteristics

Models	BAC/ BACL 1500	BAC/ BACL 1800
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.	
Worktop	White, 26 mm thick vitrified stoneware panel, with a ridged edge for retaining liquids	
Interior of the cabinet	6 mm vitrified stoneware. Resistant to chemical account	
Sash	Sash made of 3+3 mm bi-laminar safety glass	
No. of sashes	1	
Trap for concentrated acids (BAC)	Prevents condensate that may be produced during extraction from returning to the fume cupboard.	
Extraction trap Gas Scrubber (BACL)	Adapted for the installation of a gas scrubber in the fume cupboard	
Services (**)		
LED lighting (20W)	2	2
230V/16A IP55 power sockets	4	
Magneto-thermal protection	1 x 16A	
Optional services(**)		
Sink	Ceramic.	
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.	
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.	
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.	
Pressure reducers for instrumental gasess	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Power sockets (***)	Socket voltage 230V - 16A.	
	Socket voltage 230V - 13A.	
	Computer socket.	
	Telephone socket.	
	Voice and data socket.	
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.	
	16A three-phase thermal magnetic circuit breaker.	
	20A single-phase thermal magnetic circuit breaker.	
	20A three-phase thermal magnetic circuit breaker.	
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.	
	Single-phase power socket (3 poles) 230 - 32A.	
	Three-phase power socket (5 poles) 400V - 16A.	
	Three-phase power socket (5 poles) 400V - 32A.	
Start / stop for accessories in fume cupboard	Start / stop switch.	
	Emergency stop button.	

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad..

Technical Installations

Models	AC/ ACL 1500	AC/ ACL 1800
Height of the extraction outlet from the ground (mm) BAC/ BACL	2.470/ 2.850	
Diameter of the extraction outlet(mm) (*)	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO 25 (For details, see the chapter on accessories).	
Test flow rate (**)	467 m^3/hx mlin.	
Maximum pressure in the duct	600Pa.	
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.	
Instalación para captador de condensados	Water flow solenoid valve.	
	Input water flow regulator	
	Ø 32 mm propylene extraction pipe.	

(*) Los diámetros de salida pueden variar en función de la instalación.
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 7, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

BECOME ACF fume cupboards

Application

The BECOME ACF fume cupboard is intended for handling hydrofluoric acid. Recommended for the evacuation of fumes and aerosols generated in reactions with hydrofluoric acid handled in the work area, in order to avoid contaminating the laboratory atmosphere. Not recommended for use with compounds emitting ionising radiation, large amounts of solvents or pathogens.

Safe Product

Range certified under European standard EN 14175 parts 2 and 7. The design of the BECOME ACF fume cupboard makes it possible to ensure safety and operating objectives when handling hydrofluoric acid, and avoid dangerous concentrations and deposits in the work area. Cabinet interior made of polypropylene in one piece, sash made of transparent methacrylate for acids or hydroxides in the work area.

Models

1. BECOME ACF

2. BECOME ACFL

Materials

- Resistant to Chemical Stress: Standard with the best quality on the market in terms of materials. Cabinet made of 10 mm polypropylene welded without joints and with a 20 mm worktop with integrated sink. The worktop has a front ridge to prevent possible spillages.
- Resistant to Mechanical Stress: Great robustness provided by side structural elements.

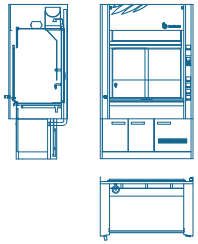
Optional accessories

- Motorised sash.
- VAV control with a valve for a group of fume cupboards.
- Waste collection.
- Gas scrubber.
- Neutraliser.
- Motorised sash.
- VAV control with a valve for a group of fume cupboards.
- Waste collection.
- Storage under the fume cupboard.

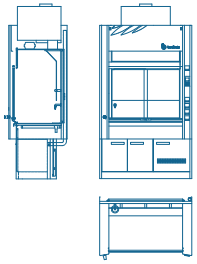
**For more details, see the chapter on "Accessories for fume cupboards".*

Planos

BECOME ACF



BECOME ACFL



Technical data

External dimensions	
Width (mm)	1.500 I 1.800
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for BACF: 3,000 mm See lower heights.
Minimum recommended laboratory height for BACFL: 3,300 mm See lower heights.

Interior dimensions	
Width (mm)	1.225 I 1.525
Depth (mm)	740/620
Height (mm)	1.215

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	400
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical Characteristics

Models	BACF/ BACFL 1500	BACF/ BACFL 1800
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.	
Worktop	White, 20 mm thick worktop, with a ridged edge for retaining liquids. Interior of the cabinet welded without joints.	
Interior of the cabinet	10 mm thick polypropylene. Resistant to chemical account. Interior of the cabinet welded without joints.	
Optional: Interior of the cabinet made of PVDF	Worktop and interior of the cabinet fully welded without joints made of 5 mm thick PVDF.	
Sash	10 mm methacrylate sash.	
No. of sashes	1	
No. of Horizontal Rails	2	
Trap for concentrated acids (BACF)	Prevents condensate that may be produced during extraction from returning to the fume cupboard.	
Extraction trap Gas scaffold (BACFL)	Adapted for the installation of a gas scrubber in the fume cupboard.	
Services (**)		
LED lighting (20W)	2	2
230V/16A IP55 power sockets	4	
Magneto-thermal protection	1 x 16A	
Optional services (**)		
Sink	Made of PP, integrated into the worktop.	
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.	
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.	
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.	
Pressure reducers for instrumental gasess	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Power sockets (***)	Socket voltage 230V - 16A.	
	Socket voltage 230V - 13A.	
	Computer socket.	
	Telephone socket.	
	Voice and data socket.	
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.	
	16A three-phase thermal magnetic circuit breaker.	
	20A single-phase thermal magnetic circuit breaker.	
	20A three-phase thermal magnetic circuit breaker.	
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.	
	Single-phase power socket (3 poles) 230 - 32A.	
	Three-phase power socket (5 poles) 400V - 16A.	
	Three-phase power socket (5 poles) 400V - 32A.	
Start / stop for accessories in fume cupboard	Start / stop switch.	
	Emergency stop button.	

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country.
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	BACF/ BACFL 1500	BACF/ BACFL 1800
Height of the extraction outlet from the ground (mm) BACF/BACFL	2.470/ 2.850	
Diameter of the extraction outlet (mm) (*)	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO 25 (For details, see the chapter on accessories).	
Test flow rate (**)	467m³/hx mlin.	
Maximum pressure in the duct	600Pa.	
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards	
Installation for condensate trap	Water flow solenoid valve.	
	Input water flow regulator.	
	Ø 32 mm propylene extraction pipe.	

(*) The diameters of the outlet may vary depending on the installation.
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 7, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

BECOME Perchloric Acid fume cupboards

Application

The BECOME Perchloric Acid fume cupboard is designed and tested in accordance with the EN 14175 standard. Recommended for the evacuation of perchloric acid fumes. Not recommended for use with compounds emitting ionising radiation, concentrated mineral acids or pathogens.

Safe Product

Range manufactured under European standard EN 14175 parts 2 and 7. The design of the BECOME Perchloric Acid fume cupboard makes it possible to ensure safety and operating objectives when handling perchloric acid, and avoid dangerous concentrations and deposits in the work area. Interior cabinet made of a single stainless steel sheet, sash made of 3 + 3 mm bi-laminate glass. It has a shower and longitudinal sink to avoid the formation of explosive crystals in the work area.

Models

1. BECOME Perchloric

Materials

- Resistant to Chemical Stress: Smooth materials that are easy to clean. Suitable against chemical erosion due to perchloric acid. Cabinet interior made of a single stainless steel (AISI 316) sheet.
- Resistant to Mechanical Stress.

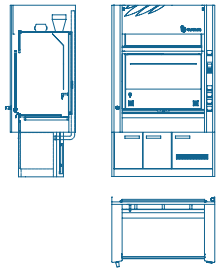
Optional accessories

- Waste collection.
- Storage under the fume cupboard.

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME Perchloric



Technical data

External dimensions	
Width (mm)	1.500 I 1.800
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for Perchloric Acid: 3,000 mm See lower heights.

Interior dimensions	
Width (mm)	1.225 I 1.525
Depth (mm)	740/620
Height (mm)	1.215

All dimensional data Tol: +/- 5mm

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	500
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 to 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption. In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical Characteristics

Models	B Perchloric Acid 1500	B Perchloric Acid1800
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.	
Worktop	Worktop made of a 20 mm thick stainless steel (AISI 316) sheet on a support board. Interior of the cabinet welded without joints.	
Interior of the cabinet	AISI 316 stainless steel sheet made in a single piece with rounded joints. Resistant to chemical account. Interior of the cabinet welded without joints.	
Shower	Shower at the top of the deflector to prevent the formation of explosive crystals. At the back of the work area there is a hole running lengthwise to evacuate the water from the shower.	
Sash	Sash made of 3 + 3 mm bi-laminate glass.	
No. of sashes	1	
No. of Horizontal Rails	2	
Services (**)		
LED lighting (20W)	2	2
230V/16A IP55 power sockets	4	
Magneto-thermal protection	1 x 16A	
Optional services (**)		
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.	
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.	
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.	
Pressure reducers for instrumental gasess	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Power sockets (***)	Socket voltage 230V - 16A.	
	Socket voltage 230V - 13A.	
	Computer socket.	
	Telephone socket.	
	Voice and data socket.	
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.	
	16A three-phase thermal magnetic circuit breaker.	
	20A single-phase thermal magnetic circuit breaker.	
	20A three-phase thermal magnetic circuit breaker.	
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.	
	Single-phase power socket (3 poles) 230 - 32A.	
	Three-phase power socket (5 poles) 400V - 16A.	
	Three-phase power socket (5 poles) 400V - 32A.	
Start / stop for accessories in fume cupboard	Start / stop switch.	
	Emergency stop button.	

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	B Perchloric Acid 1500	B Perchloric Acid1800
Height of the extraction outlet from the ground (mm) BP	2.470	
Diameter of the extraction outlet (mm) (*)	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO 25 (For details, see the chapter on accessories).	
Test flow rate (**)	467 m^3/hx mlin.	
Maximum pressure in the duct	600Pa.	
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.	

(*) The diameters of the outlet may vary depending on the installation
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 7, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

BECOME D fume cupboards

Aplicación

The BECOME D fume cupboard is designed and tested in accordance with the EN 14175 standard. Recommended for evacuating fumes from flammable solvents from the work area to avoid contaminating the laboratory atmosphere. Not recommended for use with compounds emitting ionising radiation, concentrated mineral acids or pathogens.

Producto Seguro

Range certified under European standard EN 14175 parts 2 and 7. The design of the BECOME D fume cupboard makes it possible to ensure safety and operating objectives when handling solvents, and avoid dangerous concentrations and deposits in the work area. Interior cabinet made of a single stainless steel sheet, sash made of 3 + 3 mm bi-laminate glass.

Models

1. BECOME D

Materials

- Resistant to Chemical Stress: Smooth materials that are easy to clean. Suitable against chemical erosion due to solvents. Cabinet interior made of a single stainless steel (AISI 316) sheet.
- Resistant to Mechanical Stress.

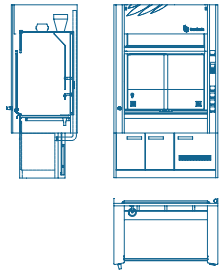
Optional accessories

- Filtration Equipment.
- Motorised sash.
- VAV control with a valve for a group of fume cupboards.
- Waste Collection.
- Storage under the fume cupboard.

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME D



Technical data

External dimensions	
Width (mm)	1.500 I 1.800
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for BD: 3,000 mm See lower heights.

Interior dimensions	
Width (mm)	1.225 I 1.525
Depth (mm)	740/620
Height (mm)	1.215

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	500
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 a 50

(*) When working, keep the sash as low as possible or closed, for th greater protection of the user and lower energy consumption.
In the case of installing bulky equipment inside fume cupboards, it is recommended that in situ tests are carried out to ensure containment in these circumstances.

Technical Characteristics

Models	BD 1500	BD 1800
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.	
Worktop	Worktop made of a 20 mm thick stainless steel (AISI 316) sheet on a support board. Interior of the cabinet welded without joints.	
Interior of the cabinet	AISI 316 stainless steel sheet made in a single piece with rounded joints. Resistant to chemical account. Interior of the cabinet welded without joints.	
Sash	Sash made of 3 + 3 mm bi-laminate glass	
No. of sashes	1	
No. of Horizontal Rails	2	
Services (**)		
LED lighting (20W)	2	2
230V/16A IP55 power sockets	4	
Magneto-thermal protection	1 x 16A	
Optional services (**)		
Water tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body and EPDM seal. Maximum working pressure of 10 bar.	
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.	
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.	
Pressure reducers for instrumental gasess	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.	
Power sockets (***)	Socket voltage 230V - 16A.	
	Socket voltage 230V - 13A.	
	Computer socket.	
	Telephone socket.	
	Voice and data socket.	
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.	
	16A three-phase thermal magnetic circuit breaker.	
	20A single-phase thermal magnetic circuit breaker.	
	20A three-phase thermal magnetic circuit breaker.	
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.	
	Single-phase power socket (3 poles) 230 - 32A.	
	Three-phase power socket (5 poles) 400V - 16A.	
	Three-phase power socket (5 poles) 400V - 32A.	
Start / stop for accessories in fume cupboard	Start / stop switch.	
	Emergency stop button.	

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	BD 1500	BD1800
Height of the extraction outlet from the ground (mm) BD	2.470	
Diameter of the extraction outlet (mm) (*)	1 x Ø250	1 x Ø250
Fume Cupboard Control	EO 25 (For details, see the chapter on accessories).	
Test flow rate (**)	467 m^3/hx mlin.	
Maximum pressure in the duct	600Pa.	
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.	

(*) The diameters of the outlet may vary depending on the installation.
(**) The flow rate data provided refers to that obtained in the tests in accordance with EN14175 part 7, taking the limit values set by the German conglomerate BG Chemie and the French research institute INRS as a reference for containment. It must not be used to calculate the dimensions of ducts or the HVAC system. Check nominal flow rates.

BECOME RB fume cupboards

Fume cupboard for handling radionuclides emitting beta type ionising particles. Meets the requirements for handling high-energy radionuclides. The RB fume cupboard is recommended for low radiotoxicity. Cabinet interior made of fibreglass and polyester, with rounded corners to facilitate possible decontamination. Front shield (mobile window) in 10 mm polycarbonate, overlapping the work area to ensure safety. It has peepholes which allow the user access, without the need for an opening. Not recommended for concentrated mineral acids, solvents or pathogens. It has a triple filter set which combines an impregnated carbon filter with absolute filters, with an efficiency of 99.99%. Equipped as standard with a fixed flow system and frequency converter.

Note: the fume cupboards for handling radium isotopes are outside the scope of the normal fume cupboard standard.

Models

1. BECOME RB

Materials

- Made of smooth materials that are easy to clean. Suitable for facilitating possible decontamination.
- Interior cabinet made of a single piece of fibreglass and polyester.
- Resistant to Mechanical Stress.

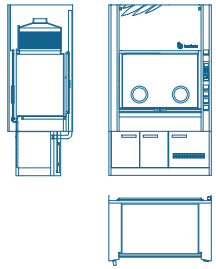
Accesorios opcionales

- Filtration Equipment.
- Storage under the fume cupboard.

** For more details, see the chapter on "Accessories for fume cupboards".*

Planos

BECOME RB



Technical data

External dimensions	
Width (mm)	1.500
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for B RB: 3,000 mm See lower heights.

Interior dimensions	
Width (mm)	1.115
Depth (mm)	700
Height (mm)	900

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	0
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 to 50

(*) When working, keep the sash closed. Only use the vertical sash to insert or remove objects from the fume cupboard.

Technical Characteristics

Models	**BRB 1500**
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.
Interior of the cabinet	The interior cabinet is made of a seamless mould, reinforced with fibreglass and finished with white Gelcoat.
Sash	Polycarbonate sash.
No. of sashes	1
No. of Horizontal Rails	0. There are two openings incorporated for the arms.
Services (**)	
230 V / 16 A IP55 power sockets (**)	4
Magneto-thermal Protection	1 x 16A
Optional services (**)	
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.
Pressure reducers for instru-mental gases	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.
Power sockets (***)	Socket voltage 230V - 16A.
	Socket voltage 230V - 13A.
	Computer socket.
	Telephone socket.
	Voice and data socket.
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.
	16A three-phase thermal magnetic circuit breaker.
	20A single-phase thermal magnetic circuit breaker.
	20A three-phase thermal magnetic circuit breaker.
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.
	Single-phase power socket (3 poles) 230 - 32A.
	Three-phase power socket (5 poles) 400V - 16A.
	Three-phase power socket (5 poles) 400V - 32A.
Start / stop for accessories in fume cupboard	Start / stop switch.
	Emergency stop button.

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country.
(***) Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	**BRB 1500**
Height of the extraction outlet from the ground (mm) BRB	2.490
Diameter of the extraction outlet (mm) (*)	1 x Ø200
Fume Cupboard Control	EO25 (Consultar detalle en capítulo accesorios).
Maximum pressure in the duct	600Pa.
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.

BECOME RG fume cupboards

Fume cupboard for use with radionuclides generating gamma type ionising emissions, for medium and high radiotoxicity. Interior cabinet made of fibreglass and finished in polyester, with rounded corners to facilitate possible decontamination. The radiation shield is reinforced against ionising radiation by the addition of a 2.5 mm thick layer of lead. Front shield (mobile window) in 10 mm leaded glass, overlapping the work area to ensure safety. It has peepholes which allow the user access, without the need for a vertically opening sash window. Not recommended for concentrated mineral acids, solvents or pathogens. Triple filter set which combines an carbon filter with absolute filters, with an efficiency of 99.99%. Equipped as standard with a fixed flow system and frequency converter.

Note: The fume cupboards for handling radium isotopes are outside the scope of the normal fume cupboard standard.

Models

1. BECOME RG

Materials

- Made of smooth materials that are easy to clean. Suitable for facilitating possible decontamination.
- Interior cabinet made of a single piece of fibreglass and polyester.
- Sash made of 10 mm leaded glass.
- Resistant to Mechanical Stress.

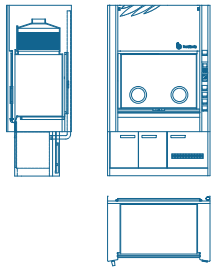
Optional accessories

- Filtration equipment.
- Storage under the fume cupboard.

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

BECOME RG



Technical data

External dimensions	
Width (mm)	1.500
Depth (mm)	950
Height (mm) (*)	2.500

(*) Minimum recommended laboratory height for B RG: 3,000 mm See lower heights.

Dimensiones internas	
Width (mm)	1.115
Depth (mm)	700
Height (mm)	900

All dimensional data Tol: +/- 5mm.

Technical data

Work dimensions	
Work height (mm)	900
Maximum operational height (mm) (*)	0
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 to 50

* When working, keep the sash closed. Only use the vertical sash to insert or remove objects from the fume cupboard

Technical Characteristics

Models	BRG 1500
Frame	Side frames made of steel pipe, with sheet metal lids, coated with polyester resin. Lower frame.
Interior of the cabinet	The interior cabinet is made of a seamless mould, reinforced with fibreglass and finished with white Gelcoat. Reinforced against ionizing
Sash	Leaded glass sash with an equivalence of 1.5 mm in lead.
No. of sashes	1
No. of Horizontal Rails	0. There are two openings incorporated for the arms.
Services (**)	
230 V / 16 A IP55 power sockets (**)	4
Magneto-thermal Protection	1 x 16A
Optional services (**)	
Combustible gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Taps with safety lock. Brass body, ceramic seal with a nitrile gasket. Maximum working pressure of 07 bar.
Instrumental gas tap with remote control	Acid-resistant handle with identification code in accordance with EN 13792. Brass body, fine adjustment valve, PTFE shut-off. Acid-resistant epoxy powder coating.
Pressure reducers for instru-mental gases	Compact design, brass body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.
Pressure reducers for corrosive gases	Compact design, stainless steel body, with shut-off and control valve and pressure display. Maximum input pressure of 20 bar, output pressure of 1.0 bar to 8.0 bar. Optional tap for fine tuning.

Power sockets (***)	Socket voltage 230V - 16A.
	Socket voltage 230V - 13A.
	Computer socket.
	Telephone socket.
	Voice and data socket.
Thermal-magnetic cut-outs	16A single-phase thermal magnetic circuit breaker.
	16A three-phase thermal magnetic circuit breaker.
	20A single-phase thermal magnetic circuit breaker.
	20A three-phase thermal magnetic circuit breaker.
Socket power (**)	Single-phase power socket (3 poles) 230V - 16A.
	Single-phase power socket (3 poles) 230 - 32A.
	Three-phase power socket (5 poles) 400V - 16A.
	Three-phase power socket (5 poles) 400V - 32A.
Start / stop for accessories in fume cupboard	Start / stop switch.
	Emergency stop button.

(**) The services will be located on the side and front panels, the configuration will be carried out according to the needs of each customer. Models will be adjusted to the regulations in each country.
(***)Optionally, electrical outlets will be installed inside the fume cupboard with an externally-operated safety keypad.

Technical Installations

Models	BRG 1500
Height of the extraction outlet from the ground(mm) BRG	2.490
Diameter of the extraction outlet (mm) (*)	1 x Ø200
Fume Cupboard Control	EO 25 (For details, see the chapter on accessories).
Maximum pressure in the duct	600Pa.
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a fume cupboard or group of fume cupboards.

IKASI fume cupboards

Fume cupboard for teaching designed for use in educational establishments. It makes it possible to teach practical classes in the cabinet and allows students to follow instructions safely and with high visibility. Designed and tested in accordance with the UNE EN 14175 and NFX 15-211 reference guidelines.

It incorporates filtration technology and, therefore, does not require extraction to the outside. It is an energyefficient unit and does not consume outside air. It is intended as a plug-in unit that only requires an electrical socket to operate. It is equipped with wheels and its height can be adjusted, which allows this fume cupboard to be moved from one room to another. The height adjustment feature also makes it possible to adjust the height of the working position according to the needs of each user. Ikasi fume cupboards have a stop / go control and the possibility to incorporate electrical and fluid services into the interior with external controls.

Models

1. IKASI fume cupboard

Materials

- Made of smooth materials that are easy to clean.
- Work surface in high pressure laminate with chemical resistance.
- The side and front walls of the cabinet are made of curved safety glass.

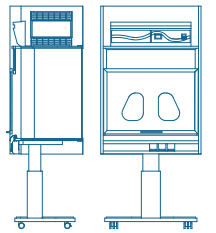
Optional accessories

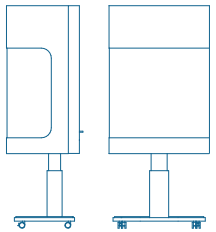
- Filtration equipment.
- Chamber.

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

IKASI fume cupboard





Technical data

External dimensions	
Width (mm)	1.000
Depth (mm)	730
Adjustable height (mm)	1.940/ 2.240
Interior dimensions	
Width (mm)	950
Depth (mm)	645
Height (mm)	900
All dimensional data Tol: +/- 5mm.	
Work dimensions	
Work height (mm)	Adjustable
Maximum operational height (mm) (*)	0
Recommended distance from sash (area directly behind the sash) (mm)	150
Recommended free space between bulky equipment and the interior walls of the fume cupboard (mm)	100
Recommended elevation of large equipment over the surface of the worktop (mm)	25 a 50

(*) When working, keep the sash closed. Only use the vertical sash to insert or remove objects from the fume cupboard

Accessories for fume cupboards

Sash Motorisation

Application

The motorised automatic closure system of the fume cupboard's sash is an automatic device that closes the sash after a certain period of time in the absence of a user in the work area. Detection through curtain by infrared beams. It provides detection even when a user remains motionless in front of the sash, unlike other systems on the market.

Burdinola has integrated components (motor, clutch, control and curtain detector) from top manufacturers, developing a control application that allows these elements to work together, in accordance with point 7.3.4 of the EN 14175-2 standard, making up the new sash motorisation. The configuration of the dragging system allows minimum stress on the supporting cable, so as not to reduce its useful life. The version with manual control may include push buttons or a joystick type lever to operate the raising and lowering operation of the front sash. The motorised closure system combined with the VAV flow rate control system can achieve significant energy savings.

Technical characteristics

Control	
Control unit	Based on a logic module with the possibility of controlling analogue and digital variables, either inputs and/or outputs, it makes it possible to control up to 8 functional variables.
Power source	The module is powered at 24 V DC with a current output of 75 W and is protected by fuses.
Digital inputs	The module has 8 digital inputs.
Digital outputs	The module has 4 relay outputs with galvanic isolation and each relay supports a constant current of 10 A and is capable of disconnecting a maximum of 30 A.
BIRBL infrared curtain	
Power supply	24 Vdc.
Beam source	Infrared IR (940 mm).
Number of channels	7,14,21,28 (depending on configuration).
Active height (mm)	240, 480, 720
Spacing of each channel (mm)	28
Power indicator	White LED.
Connection	8 pin IDC flat cable connector
Cable	3M 8-way flat ribbon cable, width 10.16 mm.
Details of the environment	
Immunity to light at 20° incidence (lux)	> 10.000
Operational temperature	-20 to +55ºC.
Storage temperature	-40 to +80ºC.
Degree of protection of the module	IP 22
Compliance	CE.

Sash motorisation

Detection range	5m.
Parallel beams	16 to 64
Distance between beams	28 or 56mm.
Cable	Flexible..
Connection	From the plug to the controller.
Indicator	Power indicator.
Application	Static and dynamic.

Details / Accessories

Sash motorisation

Accessories. IOTLAB

IIOTLAB allows us to know the state of the laboratory in terms of efficiency, safety and operational status anywhere in the world and be able to act on it. It can be viewed from any device (smartphone, tablet, computer, etc.) and is configurable depending on the requirements of each customer.

It is a simple, efficient and safe application, independent of the company's general systems. The standard units in the BECOME range are ready to be connected to the system without the addition of peripherals.

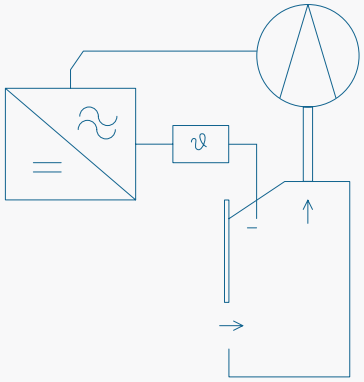
It makes it possible to monitor the operating parameters of the fume cupboard and other ventilated elements, air quality (VOC, CO2), room conditions (P, T^a), the presence of hazardous gases and waste levels, among others.

Characteristics

	Saving a lot of energy by detecting incorrect forms of use in a laboratory.
	Knowledge of unsafe uses of fume cupboards, ventilation and associated equipment in order to take action on them
	Monitor how the equipment works.

The system has a difference of less than one minute in displaying data, but the system is independent of the building's computer network, allows multi-user access in a decentralised manner and the cost of expanding new equipment is much lower than that of a SCADA.

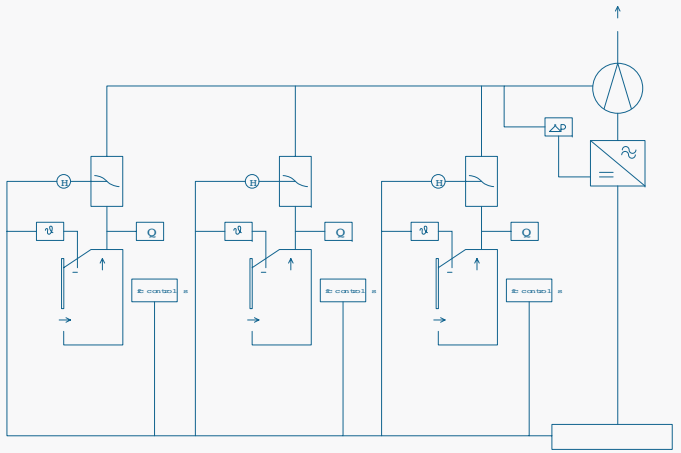
VAV Easy Control

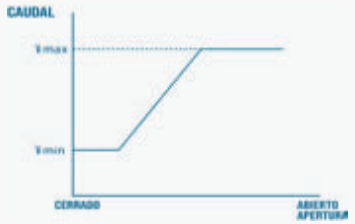


Application

The EASY variable flow control depending on the sash opening is based on a control system by means of a frequency variator, which controls the speed of the motor while keeping the air speed at the front of the work area within the set values. This type of control is applicable to fume cupboards with individual ventilation installations. The application developed by Burdinola makes it possible to control the fan that extracts the air, depending on the measurements made by the BSVA velocity sensor, instantly and precisely adjusting the flow rate that the fume cupboard requires based on the opening of the sash. This system can communicate with room compensation controllers, as it has an analogue output that can give an output signal proportional to the power delivered to the fan. For this technique, the signal from the air velocity sensor is put into an inverter, which has an internal PID controller, so that it increases or decreases the fan speed and, therefore, the flow depending on the set point. The minimum operating flow is set in the inverter itself.

HAKA Control





Application

The flow control systems for associated fume cupboards require a number of successive automatic adjustments. Every fume cupboard must have a control system; at the same time, the set of associated fume cupboards needs a control for the pressure in the common duct; this control can take many forms: In turn, every individual fume cupboard has a proportional valve and a controller. This is the system that we call HAKA. The on-screen speed sensor measures in real time and sends the value to the controller, which will command the valve actuator to open or close based on the reference value. In this way, a constant speed is maintained in the work area, always within maximum and minimum margins.

The VAV system combined with the motorised sash can achieve energy savings of up to 75%.

EO25

EO25 monitor

Fume cupboards are equipped as standard with a monitoring system in accordance with the specifications f EN14175-part 2. The monitor tells the user whether the airflow or speed is adequate and whether there is an alarm. In the event of an alarm, both a visual and an audible indicator will be activated.

Alarms

The monitor is equipped with different alarms that alert the user to different conditions, such as: insufficient flow alarm, insufficient on-screen speed, extraction motor failure, maximum temperature exceeded alarm, etc. The EO-25 electronic system located on the right side of the fume cupboard based on a micro-controller provides a complete, easy, safe tactile control of the electrical services in the fume cupboard, operating at 5V.

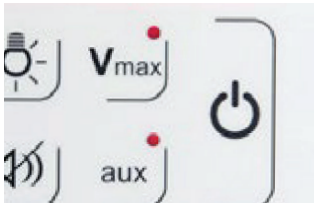
Communications

The EO25 has MODBUS-RTU 2-wire digital communication that allows you to create a network of up to 240 devices. Every fume cupboard has 42 accessible registers that make it possible to see the operating parameters. This facilitates communication with BMS and IoT systems.

EO25 Control

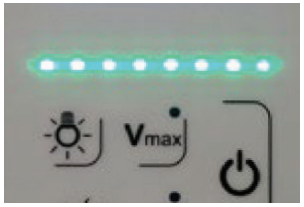
	Operating correctly, the number of segments lit up in green indicates the suction level.
	In these conditions the horizontal bar will light up green.
	Insufficient suction velocity.
	This message should not appear with sash openings lower than the operating height (40 cm), except on power-up.
	In these conditions the horizontal bar will light up red.
	The temperature sensor has detected a duct temperature of over 70°C. In this case the control will automatically switch off, stopping extraction.
	In these conditions the horizontal bar will light up red.
	The variator has detected a fault and is locked. Once reset, if it trips again, check the message displayed on the variator.
	In these conditions the horizontal bar will light up red.
	The sash has been opened above the operating height (50 cm)
	In these conditions the horizontal bar will light up red.
aux	The protection system of the auxiliary has tripped. Once reset, if it trips again, check the installation.
	In these conditions the horizontal bar will light up red.

Details



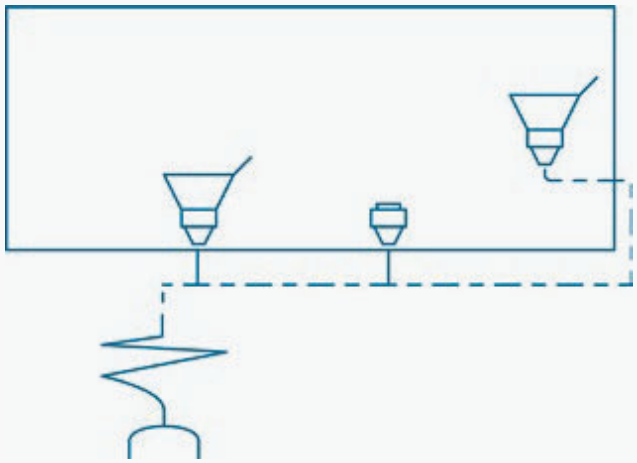
Keyboard

Monitor



Indicator light

SCAT Waste



Application

All chemical waste produced in the laboratories will either be recovered or disposed of by specialist companies expressly authorized by the competent authority for this activity. Prior to sending the waste, it must be suitably disposed of in containers suitable for hazardous materials. These containers for accumulating and transporting waste must be made of the material and size most appropriate to the characteristics of the waste to be transported. They must have a secure locking system, be easily identifiable from each other and be clearly labelled with the type of substance they contain. Burdinola provides a range of solutions for the collection of liquid waste, incorporating different accessories from manufacturers specialising in this sector to cover all the current needs of a laboratory, including systems for waste collection for capillary HPLCs.

Models

1. SCAT service system model

2. SCAT fume cupboard model

Technical characteristics

Funnel with a lid	For direct mounting on worktop		It is made of electro-conductive PE-HD. This funnel has an earth connector by means of a cable and clamp, a hinged lid to lock the system if not in use and a removable sieve to trap dirt particles or magnetic stirrers that pour through it. There is also the option of replacing it with an HPLC capillary plug.
	For mounting in fume cupboards		It is made of electro-conductive PE-HD. It is mounted onto the vertical part of fume cupboards and panels. This funnel has an earth connector by means of a cable and clamp. A hinged lid locks the system when not in use. It also has a removable sieve to trap dirt particles or magnetic stirrers that may be poured through it. Depending on the application, the funnel can be replaced with an HPLC capillary cap.
Collector cap	For direct mounting on benchtops		This electro-conductive PE-HD pipe has a direct benchtop mounting for HPLC with a Ø 32 mm pipe outlet. It can have a Ø2.3 mm and Ø 3.2 mm capillary connection or a Ø 6.4 - 9 mm adjustable angled connector as accessories.
Filling alarm	Capacitive sensor		For applications where acidic liquid residue is stored, there is a capacitive sensor. The sensitivity of the disc sensor can be adjusted for different wall thicknesses. The signal box issues a warning when the fill level is reached, both visually and acoustically. The warding dial can be put either on a turret, conduit, service panel or the front of a fume cupboard. It is fixed by means of a strap adjustable to the drum. Suitable for all types of commercial non-conductive glass or plastic containers. Not suitable for electro-con-ductive stainless steel or plastic containers.
	Electro-conductive		The SafetyWasteCap with an ATEX-compatible electronic level control for operation in explosive areas is made of PEHC- ec. The drum has a an S60/61 screw thread. Recommended for applications requiring drums made of an electro-conductive material.
	Warning dial		The filling warning dial can be integrated into furniture and it can be put on the front of the module, on the service panel, conduit or turret. It has a warning light and acoustic alarm when the drum reaches the critical fill level.
Containers	Electro-conductive		Electro-conductive drums have an earth connection that ensures that they operate properly and prevents possible sparking. It is also made of electro-conductive PE-HD. In order to avoid the accumulation of hazardous waste in the laboratory itself, using drums with a maximum capacity of 10 L, 185 x 265 x 290 mm (width x height x depth) and an S60-61 thread is recommended. They use the UN universal system for classifying, packaging, marking and labelling hazardous goods for safe transportation.
	Non-conductive		Drums are made of non-conductive PE-HD. The general dimensions of these drums are 260 x 390 x 289 mm (width x height x depth) which means they have a capacity of up to 20 litres. They have an S60-61 screw thread. They use the UN universal system for classification, packaging, marking and labelling of hazardous goods, thus making their transportation safe.
Accessories	HPLC capillaries		There are an infinite number of combinations for this type of plug depending on the number and diameter of the capillaries required. The choice of capillary plug will be made depending on the specific need of each application.
	Filter for evacuated air		The SafetyWasteCap filter for evacuated air has splash protection, a capacity of more than 20 litres and a service life of approximately 6 months. Together with the filter, the use of a 90° adapter made of PP material is compulsory for angular connection.
Connection	Discharge point installations		The systems have a 19.8 mm OD, PTFE-ec flexible pipe that connects the funnel to the waste container located under the bench or fume cupboard.
	Installations for centralising discharge points		In cases where there are multiple discharge points on the same bench, installing a system made of the material appropriate to the intended discharge is recommended so that the waste generated converges in a single storage drum. This minimises the

Waste will be managed in accordance with the following regulations.

- All hazardous waste shall have a place for temporary storage, which shall not exceed the provisions of the legislation in force.
- A log of these will be kept up to date.
- All hazardous waste shall be stored under satisfactory conditions and in a segregated manner, so that they do not come into contact with each other, applying the specifications laid out in the legislation in force.
- Containers shall be solid and safe in order to prevent loss and leaks.
- Transportation to the temporary storage area will be carried out in a safe manner, avoiding spillages.

Solvent dispensing

Application

Decentralised solution for dispensing solvents. Dispensing must always be carried out in a wellventilated environment, which ensures the containment of the pollutant generated and protects the user and which includes adequate safety measures in the event of incidents or spillages. It is recommended to put the dispensers in a fume cupboard for solvents, suitable for the intended use. The system consists of the following elements: ventilated safety cabinet for storing drums. System for pressurising drums using N2. Drum emptying alarm system.System for two drums under fume cupboard (1+1).
The system is based on an automatic pressurised dispenser with a nitrogen line and on the supply of solvent from a central point (1+1) that switches between supply drums when they run out.

Solvent dispensing operation

Installation: the system will consist of 3 stainless steel tubes, two of which are for dispensing from each of the solvent drums to the dispensing guns located inside the fume cupboard, and the third to the inert gas pressurisation line.

Dispensign gun: the olvent dispensing gun is based on a valve that only opens when pressure is applied and the trigger of which is locked by an additional safety system that prevents it from accidentally opening.

The gun is made of stainless steel and the shut-off valve incorporates Kalrez elements to ensure optimum chemical compatibility with the most common chemicals in the laboratory.

The flexible steel metal hose with a PTFE interior attached to the gun is 1.5 - 2 metres long (by default).

Flexible hoses with different lengths can be supplied upon request.

Stoppers for solvent barrels: Stoppers for solvent barrels are attached to the barrel by means of a 2" thread and include quick connect couplings for connecting the pressurisation line and for the solvent outlet.

These quick connect couplings incorporate self-closing valves (in case of disconnection) made of KALREZ that prevent the depressurisation of the drum or the fume outlet when disconnected.

A manually operated valve is also included to depressurise the drum if necessary.

In addition, the hoses used for the connection between the stopper and the pipe system are made of flexible stainless steel mesh on the outside and PTFE inside.

Technical characteristics

	Description
Ventilated safety cabinet External measurements: 1102 x 574 x 600 mm	90-minute type in accordance with UNE EN 14 470-1
Pipeline	Made of stainless steel (AISI 316). The connection to the solvent drums is carried out using Swagelok connections.
It includes a proportional release valve to avoid overpressure accidents.	
Dispensing gun	Made of AISI 316 stainless steel and equipped with a safety valve that will only remain open while pressure is being exerted. It has an additional safety system that prevents it from opening accidentally.
Stopper for solvent drum	Attaches to the drum with a 2" thread. Includes quick connect couplings to connect the pressurisation line and for the solvent outlet. Also includes a manually operated valve to depressurise the drum if necessary.
Please ask for information about centralised solvent dispensing installations.	

Details / Accessories

Drum + stopper

Dispensing gun

Guns + Support

Pass Box

Application

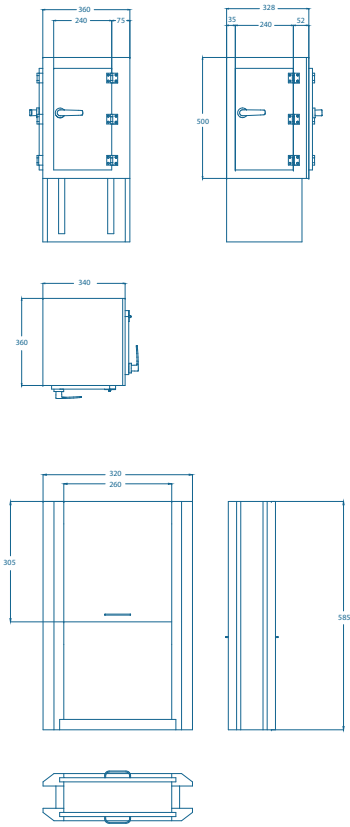
The fume cupboard can be fitted with an SAS (safety access system) on the side for exchanging materials with the outside. The SAS is made of PMMA (transparent methacrylate), which allows total visibility from outside and inside the fume cupboard. Exterior dimensions of 360 x 340 x 500 mm. For side-mounting on fume cupboards with a 90º opening by means of two watertight hatches with safety seals. It is also possible to pass materials from one fume cupboard to another through a communication window located on its side.
It allows materials to be passed through from one work area to another without coming into contact with the general environment of the laboratory. Made of high-pressure laminate with resistance to chemical attack, and polyethylene guides.

Models

1. SAS pass box

2. Communication window

Drawings



Technical data

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
AVG-SAS	SAS pass box	360	340	500
AVG-VC	Communication window	320	-	585

Filters

Application

Filtration unit to be incorporated in fume cupboards with external extraction. The filter may be located directly at the top of the fume cupboard or upstream before the fan. The filter should preferably be located in a place which allows it to capture the contaminant as close as possibleto the point of emission. Recommended for applications where air purification is required prior to release into the atmosphere. The filter will be defined depending on the application to be carried out. Polypropylene housing with access from the front.
Not recommended for use in fume cupboards working with high concentrations, large quantities or high thermal loads. In the case of compounds emitting ionizing radiation, see the chapter on RB and RG model fume cupboards.

Models

1. Housing

2. ST with Housing

Materials

- Filters for particulates.
- Filters for gas/vapour molecules.
- Pre-filter.

Optional accessories

- Alarm for particulate filter.
- Hour meter.

Technical data

Applicable to general purpose fume cupboards provided there are no large amounts of contaminant, high concentrations or high thermal loads.

The appropriate filter for every application will be selected depending on the products to be handled:
- Particulate filters.
- Filters for organic solvents.
- Filters for acids.

In the case of molecular filters, the contaminant will be retained by an absorption mechanism with active carbon. Every application will have a specific active carbon depending on the products handled.

The saturation of the particle filters will be carried out by measuring the differential pressure increase. In the case of active carbon filters, methods will be applied periodically to evaluate filter efficiency.

Gas scrubber

Application

Decentralised solution for eliminating acid and base residues from emissions into the atmosphere from fume cupboards. Its compact design allows the scrubber to be incorporated into the top part of the fume cupboard, cleaning the effluent at the point of emission. Gases pass through the suction nozzles, to the absorption chamber where the diffuser pump is located, which draws wash water from the bottom of the integrated tank and through injectors, causing a dense fog in the absorption chamber. In this way, an optimum mixture of harmful gases with wash water is obtained and, as a consequence, very efficient absorption. The wash water level is regulated by means of floats. The wash water is replaced automatically by the equipment itself.

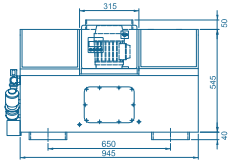
Models

1. C54 and C90

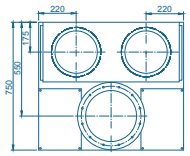
2. C180

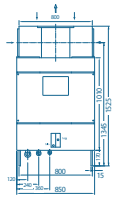
Drawings

C54 and C90



C180





Technical characteristics

	C54 gas scrubber	C90 gas scrubber	C180 gas scrubber
Layout	**Installation in the top part of the fume cupboard.**		**Beside the fume cupboard or**
Materials used (parts in contact with effluent)	Housing and spray wheel: Polypropylene; Accessories: PVC-U; Joints: EPDM / PTFE.		
Ventilation			
Flow rate (m^3/h)	480-900	600-1.400	600-1.800
Pressure loss (Pa)	200-530	260-1.140	160-1.020
Air intake	2 DN 200 tubes (lower part)	2 DN 200 tubes (lower part)	DN 250 flange
Air outlet	1 DN 250 tube	1 DN 250 tube	1 DN 315 flange
Dimensions and weights			
Width (mm)	950	1220	850
Depth (mm)	710	710	750
Height (mm)	550	550	1535
Volume of water (l)	45	60	70
Weight (empty)	90	110	120
Total weight (kg)	135	170	190
Water connections			
Power supply	DN 10	DN 10	DN 10
Outlet	DN 32	DN 32	DN 20
Overflow	DN32	DN 32	DN 32
Inspection			
Inspection cover	2	2	2
Front inspection window	Yes	Yes	No
Electrical control			
Control unit	Plastic housing with programmable logic controller (PLC), switching unit for the spray wheel motor, operating mode selector switch, repair switch, plug-in connector for accessory operating module with membrane keypad.		
Power supply	Three-phase 400/230 Volt, 50 Hz, 3L/NE/PE, 0.55 kW. Connection by means of quick connect couplings.		
Level control	2 level switches for minimum and maximum fill level.		
Sanitary equipment	1 solenoid valve with dirt collector and manual ball valve, 1 outlet solenoid valve.		
Change of flushing fluid	Time-dependent control, times can be set within a wide range, optionally by means of a conductivity measurement.		
Optional accessories	Probe with integrated measuring amplifier for measuring electrical conductivity, preheating unit for flushing liquids. Additional accessories in the corresponding chapter.		
Protection type	IP 54 motor, IP40 back rear control unit, IP54 front with closed hood.		

Neutraliser

Application

Neutraliser specially designed for incorporation under a fume cupboard. It can also be used as a stand-alone unit for automatically neutralising acid and alkaline wastewater. Complies with current European regulations. Acid or alkaline discharges are collected in the mixing chamber of the neutralising equipment. When the maximum level is reached, the neutralisation process begins:

— Waste water is mixed intensely.

— The pH value is measured.

— Alkaline or acid solution is injected from integrated tanks until a neutral pH value is reached.

— Neutralised discharges are pumped outside. Complies with the most current European standards in force with an electronic control system.

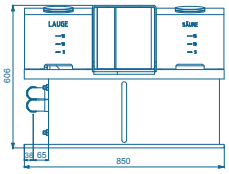
— The equipment is compact, easy to maintain and extremely robust.

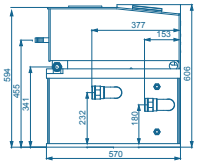
Models

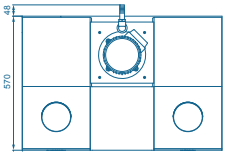
1. C100

Drawings

C100







Technical characteristics

	C100 neutralisation unit
Layout	**For installation in fume cupboards, in the lower part of the cupboard or standalone.**
Materials used (parts in contact with effluent)	Polypropylene, Polyvinyl Chloride (PVC) Polytetrafluoroethylene (PTFE) and ethylene polypropylene rubber (EPDM).
Neutralisation performance	Maximum 200 l/h (depending on the level of contamination of the wastewater).
Capacity	
Mixing tank (l)	Approx. 90
Acid tank (l)	Approx. 25
Alkali tank (l)	Approx. 25
Dimensions and weights	
Width (mm)	850
Depth (mm)	570
Height (mm)	620/ 640
Empty weight (kg)	55
Connections	
Intake (")	G 1 1/2
Outlet	DN 15
Overflow (")	G1 1/2
Control	
Electrical connection	Three-phase 400/230 Volt, 50 Hz, 3L/NE/PE, 0.55 kW. Connection using quick connect coupling.
pH measurement	High resistance voltage measurement, pH measuring range 0-14, floating. 0.1 pH resolution.
Alarm	Voltage free contact, max. 250 V AC. 2 A max. 50 V DC 2 A.
Operational Unit	Keyboard with 128 x 64 pixels backlit graphic screen and 43 operation keys.
Interface	Optional: analogue interface 0-20 mA, RS-232.
Temperature range	Ambient/average temperature: +5- +35ºC.

Electrical and fluid services

Application

BECOME fume cupboards offer great capacity and flexibility for the provision of electrical and fluid services. This makes it possible to locate services on the sides or the front under the worktop indistinctly. The image shows a BECOME 1800 fume cupboard with a total of 22 service connections – 12 electrical sockets and 10 fluid connections. General use fume cupboards also allow the installation of IP55 electrical sockets inside with an external switch. This configuration will not be possible for fume cupboards with specific uses, given the risk associated with these by high temperatures and the presence of solvents or concentrated acids.

Models

1. BECOME Elite, BECOME Elite Low, BECOME ST, BECOME ST Low

Electricity

Electric sockets	
Socket voltage, BUR	Socket voltage 230 V - 16 A.
	Socket voltage 230 V - 13 A.
	Computer socket.
	Telephone socket.
	Voice and data socket.
MK socket	13 A MK socket with switch
Magneto	16 A single-phase thermal magnetic circuit breaker.
	16 A three-phase thermal magnetic circuit breaker.
	20 A single-phase thermal magnetic circuit breaker.
	20 A three-phase thermal magnetic circuit breaker.
Socket power	Single-phase power socket (3 poles) 230 V - 16 A.
	Single-phase power socket (3 poles) 230 V - 32 A.
	Three-phase power socket (5 poles) 400 V - 16 A.
	Three-phase power socket (5 poles) 400 V - 32 A.
Start/stop	Start / stop switch.
Berker	16 A, 250 V Berker socket
Displays and control	Fluid control sensor.
	Emergency stop button.

Taps

MDS water

MDFS water

Combustible gas

Combustible gas

Technical gas

Technical gas

Instrumental gases with handle and fine control

Instrumental gases with handle

Pressure reducer with shut-off valve

PDG pressure reducer

Storage under fume cupboards

Application

The range of BECOME modules is designed, manufactured and certified in accordance with EN 14727, UNE-EN 16121 and UNE-EN 16122. It meets all their requirements, making it an ergonomic, safe product. Socket made of moisture-resistant material. It has a height-levelling system.

Models

1. VG54/60 (PI, PD)

2. VG84 (P)

Finishes

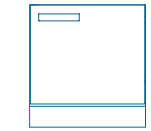
- Melamine.
- Fire resistant melamine.
- Water resistant melamine.
- Compact fronts.

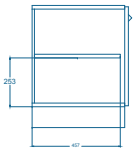
Colours

- White.
- Grey.

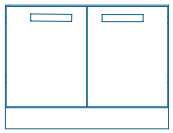
Drawings

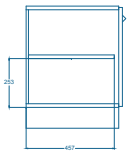
VG54/60





VG84





Technical Characteristics

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
VG54-PI	Left door	540	500	635
VG54-PD	Right door			
VG60-PI	Left door	600		
VG60-PD	Right door			
VG60-C3A	3 drawers			
VG84-P	Doors	840		

Storage for acids under fume cupboards

Application

The range of BECOME modules is designed, manufactured and certified in accordance with EN-14727, UNE-EN 16121 and UNE-EN 16122. It meets all their requirements, making it an ergonomic, safe product. Cabinets for acid under fume cupboards have a removable shelf with polypropylene trays for a maximum load of 15 kg. The installation of a forced ventilation system by means of a polypropylene anti-corrosive extraction system is recommended.

Modelos

1. A27 VG54/60 (PI, PD)

2. A26 VG84 (P)

Finishes

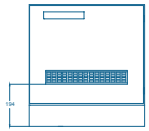
- Melamine.
- Fire resistant melamine.
- Water resistant melamine.
- Compact fronts.

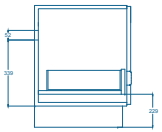
Colours

- White.
- Grey.

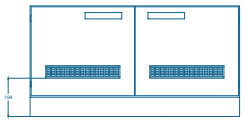
Drawings

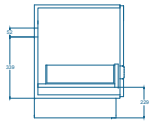
A27 VG





A26 VG





Technical characteristics

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
A27 VG54-PI	Left door	540	500	635
A27 VG54-PD	Right door			
A27 VG60-PI	Left door	600		
A27 VG60-PD	Right door			
A26 VG84-P	Doors	840		

Extraction diameter of 50 mm.

Storage for acids in PP under fume cupboards

The range of BECOME modules is designed, manufactured and certified in accordance with EN 14727 standard. It meets all their requirements, making it an ergonomic, safe product. Made of solid panels and polypropylene components.. Removable storage shelf with polypropylene trays with a maximum load of 30 kg. Capacity to retain fluids in the event of spillages. 5 litres. The installation of a forced ventilation system by means of a polypropylene anti-corrosive extraction system is recommended.

Models

1. A27 PP VG54/60 (PI, PD)

2. A27 PP VG84 (P)

Finishes

- Polypropylene.

Colours

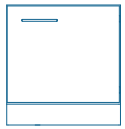
- Grey.

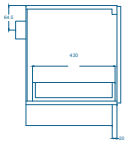
Accessories

- Extraction equipment.
- Filtration - ventilation box.

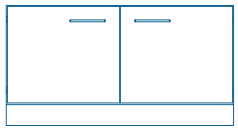
Drawings

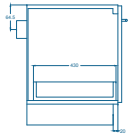
A27 VG PP





A26 VG PP





Technical data

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
PP A27 VG54-PI	Left door	540	500	635
PP A27 VG54-PD	Right door			
PP A27 VG60-PI	Left door	600		
PP A27 VG60-PD	Right door			
PP A26 VG84-P	Doors	840		

Extraction diameter of 75 mm.

Storage for solvents under fume cupboards

Application

The range of safety cabinets is designed, manufactured and certified in accordance with EN-14727. It meets all their requirements, making it an ergonomic, safe product. Type 90 classification in accordance with EN 14470- 1. Metal body made of steel plate with a plastic paint powder coating. Insulating filler composed of several layers of mineral materials Intumescent gaskets for sealing all of the gaps and spaces between the door and the body, which expand in the event of fire and prevent the entry of heat into the cabinet. Series earth connection on the rear wall of the cabinet.

Models

1. S 30A pull-out drawer

2. S 31/33A with two

3. S 32A with three

Finishes

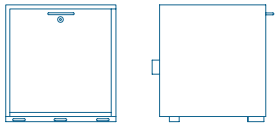
- Metal.

Colours

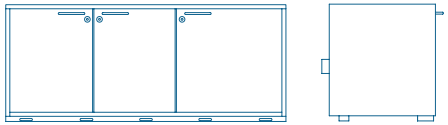
- Grey.

Drawings

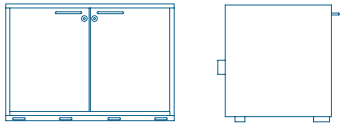
S 30



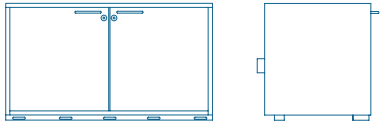
S 32



S 33



S-31



Technical data

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
S 30	Pull-out drawer	600	595	635
S 31	2 doors	1.100		
S 32	3 doors	1.400		
S 33	2 doors	888		

Storage for waste under fume cupboards

Application

Storage module designed and certified in accordance with EN-14727, UNE-EN 16121 and UNE-EN 16122, for safe, ergonomic storage of waste. This model has a hinged door to access the waste container inside. It is recommended to incorporate a filling warning control system.

Models

1. MRA 60VG with a hinged door (PI, PD)

Finishes

- Melamine.
- Fire resistant melamine
- Water resistant melamine.
- Metal.
- Compact fronts.

Colours

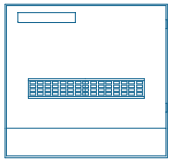
- White.
- Grey.

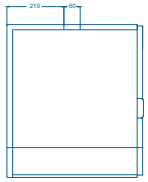
Acces-

- 10 l / 25 l container.
- Funnel for 10 l PP 4505 container
- Electronic filling control.

Drawings

HRE 60BV with a hinged door





Technical data

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
MRA VG54-PI	Left door	535	500	635
MRA VG54-PD	Right door			
MRA VG60-PI	Left door	600		
MRA VG60-PD	Right door			

Waste collection system	
Waste module	Bottom module adapted for the safe, ergonomic storage of waste. It has a polypropylene (PP) tray, with a rim to contain liquids with dimensions of 445 x 345 x 90 mm.
Drum/container	10 l drum/container made of electro-conductive / non-electro-conductive PE-HD. With UN-Y approval for the transportation of hazardous goods.
Capillary collector cap	Safety cap for waste. To connect capillaries, air filter and indicator level. There are several models depending on needs.
Filter	Air evacuation filter, recommended in the event that the module is not ventilated.
Filling Alarm	Filling alarm control with dial located on the front of the module. Light and acoustic warning.
Connection	Flexible pipes, couplings and shut-off valves made of conductive material (PE-EL) or PTFE.

Storage under fume cupboards for vacuum pump

Application

The range of BECOME modules is designed, manufactured and certified in accordance with EN-14727, UNEEN 16121 and UNE-EN 16122. It meets all their requirements, making it an ergonomic, safe product. Interior lined with polyurethane ether acoustic insulation foam. This foam panel is 50 mm thick, which allows an average sound absorption coefficient of 65%. It has a thermostat which, when the temperature reaches 35 °C inside the module, activates the fan to avoid overheating. It has ventilation grilles in the doors to encourage good air circulation.

Models

1. MBV VG54/60 (PI, PD)
2. MBV VG84 (P)

Finishes

- Melamine.
- Fire resistant melamine.
- Water resistant melamine.
- Metal.
- Compact fronts.

Colours

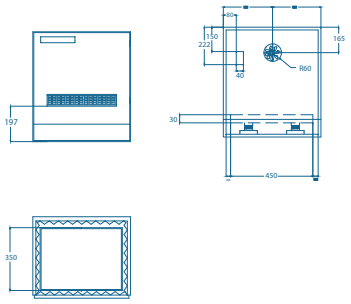
- White.
- Grey.

Accessories

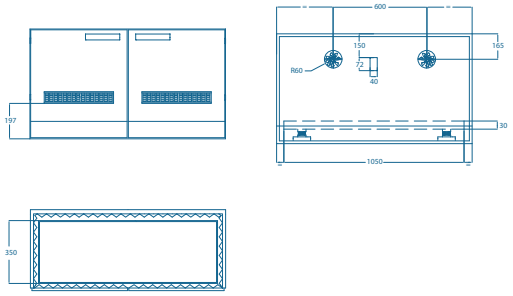
- Interior tray made of PP with metal spring insulators suitable for isolating all types of dynamic equipment from 2 to 25 kg.

Drawings

MBV VG54/60



MBVVG 84



Technical data

Reference	Model	Dimensions (mm)		
		Width	Depth	Height
MBV VG54-PI	Left door	540	500	635
MBV VG54-PD	Right door			
MBV VG60-PI	Left door	600		
MBV VG60-PD	Right door			
MBV VG84-P	Doors	835		

Other extraction elements

Enclosure

Application

They apply for the same uses as fume hoods, additionally providing a physical barrier for noise reduction. They make it possible to confine extensive work areas, avoiding cross-contamination between different analytical techniques. Recommended for evacuating non-toxic fumes and heat from the work area to avoid dispersion to the laboratory atmosphere. Not recommended for use with toxic compounds emitting ionising radiation, concentrated acids with a high thermal load or pathogens.

Safe Product

It is presented in standard modulations of 900-1500 mm, with three configuration options: Sash, hinged or sliding. It incorporates lighting and a start-stop control on the side. From an energy consumption point of view, we recommend the VAV version, which is available in variable flow and constant flow versions.

Models

1. E. Hinged

2. E. Sash

3. E. Sliding

Materials

- Made of 40 x 40 mm anodised aluminium structural profiles, panelled with bi-laminate glass and a high pressure laminated roof resistant to chemical agents.

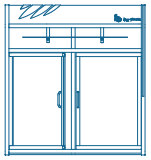
Optional accessories

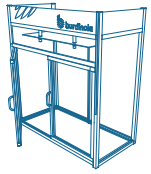
- VAV easy control for individual installations.
- VAV control with a valve for groups of fume cupboards.
- Ceiling finish.
- Cable glands.
- Storage under benches.

**For more details, see the chapter on "Accessories for fume cupboards".*

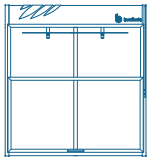
Drawings

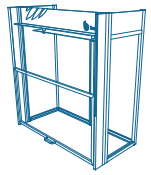
E. Hinged



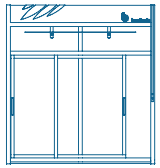


E. Sash





E. Sliding



Technical data

External dimensions	
Width (mm)	900 I 1.200 I 1.500 I 1.800 (*)
Depth (mm)	740 I 890
Height (mm)	1.600
Interior height (mm)	1.390
Open measurements	
Hinged doors	900 I 1.200 I 1.500 I 1.800
Offset sash window	800 I 750
Sliding windows	1.050

All dimensional data Tolerance: +/- 5 mm.

(*)Hinged enclosure not available for 1800 mm modules.

Details / Accessories

Image of finish to ceiling

Imagen of cowling on bench with underbench storage

Technical Characteristics

Models	C 900	C 1200	C 1500	C 1800
Frame	Frames made of 40 x 40 mm aluminium sections. It does not have a lower frame - this will correspond to the support bench.			
Interior of the cabinet	3 + 3 mm laminated glass for the sides. Rear and ceiling made of high pressure laminate (HPL).			
Hinged / sliding doors	Sash made of 3+3 mm bi-laminar safety glass.			
Sash Door	2 doors made of 2 + 2 mm bi-laminate safety glass.			
No. of sashes	1			
Services				
Lighting	20 W IP 65 LED			
Start / Stop	Capacitive actuation to start extraction.			
Optional services	Ceiling finish.			

Technical Installations

Models	C 900	C 1200	C 1500	C 1800
Height of the extraction outlet from the ground (mm) Considering enclosure on a bench 900 mm high	2.350			
Diameter of the extraction outlet (mm) (*)	1 x Ø250	1 x Ø250	1 x Ø250	1 x Ø250
Control	ECC01			
Recommended flow rate (**)	Minimum of 150 renovations/hour.			
Maximum pressure in the duct	600Pa.			
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a enclosure or group of enclosures.			

(*) The diameters of the outlet may vary depending on the installation.
(**) The flow rate data provided refers to the manufacturer's recommendation, based on experience in the use of this type of ventilated element. This data should not be used for HVAC design calculations without having previously made a calculation adjusted to the user's specific usage procedure.

Ventilated hood

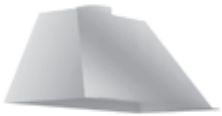
Application

Recommended for capturing fumes and gases from hot oil or water baths, heating plates, muffles, stoves and chromatography, as well as any application that generates heat or non-toxic vapour. Not recommended for use with toxic compounds emitting ionising radiation, concentrated acids with a high thermal load or pathogens.
Wall- or ceiling-mounted.

Safe product

It comes in standard modules of 900-1500 mm, with two choices of material made of PP or stainless steel: Optionally they can be equipped with a side enclosure to optimise air consumption.

Models



1. Trapezoidal Hood

2. Hood with deflector

Materials

- PP Hood: Made of 10 mm thick PP, with top outlet into a PP pipe.
- Stainless Steel Hood: Made of 1 mm thick AISI 304 stainless steel.

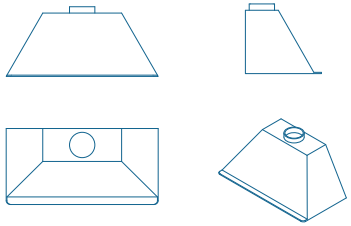
Optional accessories

- Side enclosure.

**For more details, see the chapter on "Accessories for fume cupboards".*

Drawings

Trapezoidal hood



Technical data

External dimensions	
Width (mm)	900 I 1.200 I 1.500 I
Depth (mm)	600
Height (mm)	350

All dimensional data Tol: +/- 5mm

Technical characteristics

Models	900	1200	1500
Material	PP Hood: Made of 10 mm thick PP, with top outlet into a PP pipe. Stainless Steel Hood: Made of 1 mm thick AISI 304 stainless steel.		
Services			
Start / Stop	Capacitive actuation to start extraction.		
Optional services			
Sides	Made of laminated glass with aluminium frames.		

Instalaciones Técnicas

Models	900	1200	1500
Diameter of the extraction outlet (mm) (*)	1 x Ø160	1 x Ø200	1 x Ø250
Recommended flow rate	The flow rate will be calculated according to the configuration and position of the hood.		
Maximum pressure in the duct	600Pa.		
Electricity	The installation of shielded hoses and super-immunised protection is recommended for the feed to a hood or group of hoods.		

(*) The diameters of the outlet may vary depending on the installation.