LABAIRE

Extraction Fume Cabinets

Introducing the High Performance

Low Flow Hood

Incorporating Laminar Topography

By-Pass Cabinets
Standard, Distillation & Walk-in Ranges
Side Control or Front Control

The ***LAMEX*** By-Pass Extraction Fume Cabinet range with Laminar Flow Topography is designed to meet and is tested in accordance with EN 14175 and ASHRAE 110-1995 standards. The Labarie range exceeds these stringent standards. These standards employ a set of rigorous tests to evaluate performance. They include airflow visualization tests, face velocity measurements and tracer gas containment. The face velocity tests include an inner and outer grid where velocities are taken at specific positions. A tight set of tolerances have to be met on an ongoing production basis. All this to ensure that what fumes are emitted in the work area of the fume cupboard do not escape.

Fume Cabinets are highly energy-intensive, each one consuming more energy than two to three homes (this in a controlled environment). While still employing a By-Pass system, many other features have been included to achieve the phenomenal energy savings. The **LAMEX** High Performance Low Flow Hood operates at a face velocity as low as 0.25m/s as against a Conventional Hood of 0.5m/s. This means a 50% saving and when equated to cost it is substantial.

Our fume cabinets are manufactured in various heights and widths to accommodate the different processes. There are two ranges- Front Control or Side Control. The decision for which will be largely due to your process of whether you wish to maximise your work area width. The Front Control with outlets in the rear baffle has an extra 200mm width per fume cabinet. In many instances two operators can work in an opening of 1100mm but not in 900mm the internal work area widths of the Front & Side Control cabinets. Gaining 200mm per fume cabinet quickly mounts up to an extra fume cabinet. The cabinets range in size from 1200-2400mm and there are three heights for the bench mounted cabinets 1500, 1800 & walk-in.

The Front Control Range has the wet & dry service control panel positioned below the work surface on the under bench support cabinet. The outlets are positioned recessed in the rear service module mounted in baffle panel out of the way of the work area. Electrical sockets maybe mounted in the rear service modules or on the inner side panels.

The Side Control Range has the wet & dry service control panel positioned on the front of the side panels. Outlets are recessed in the inner side wall or recessed in the rear baffle panel.

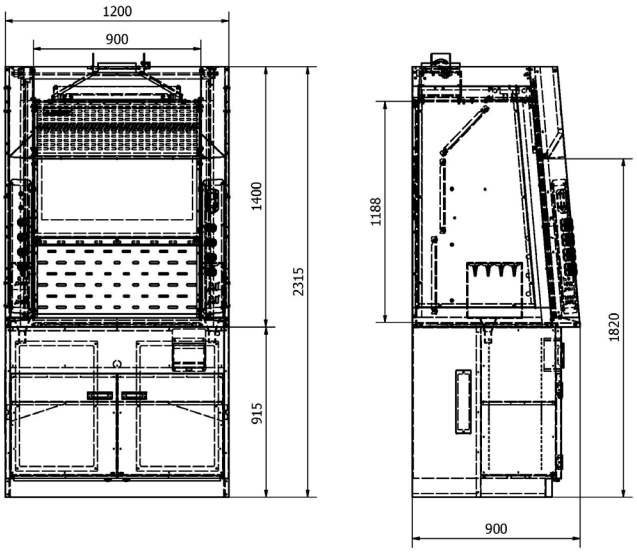
A drip cup maybe fitted inside the recess on the left, right or rear depending where your water outlet nozzle is positioned. Both cabinets have recessed outlets allowing for an uncluttered work area and electrical sockets positioned inside and outside the work area (IP55 rated if inside). Provision is made for distillation racking mounted onto rear baffle panels.

Extraction Fume Cabinet with Side Control panels on either side of work area and recessed side outlets.

Extraction Fume Cabinet with Front Control panel below the work surface with recessed rear outlets.

Features and Benefits of Side Control Cabinets

- All service control faucets are mounted on the front side service panels.
- The electronic controls are mounted in the external side panels.
- All outlets are mounted in or on the internal side or rear panels. Supply piping never enters contaminated zone.
- Drip cups and drainage maybe mounted in the work surface or preferably in the recessed service modules in the internal rear panels.
- Electrical or any other socket maybe mounted on the internal side or rear panels or in the rear service modules.
- Extra height giving line of sight at 2100mm & 2400mm.
- 5° pitch of the face for comfortable ergonomics.
- Three baffles for complete purging of work area.
- Lower baffle has strategic perforations positioned to ensure a uniform work opening intake with the sash in the 200-500mm range.
- Middle baffle has a thermal heat relief zone for immediate removal of hot rising air.
- Front and internal access panels in each side allows for easy maintenance when cabinets external access panel are inaccessible (more than one cabinet standing alongside one another).
- Exhaust cowl stretches across the entire length of the interior thus ensuring an even intake of air.
- By-Pass air moves underneath work surface and through the top. By-Pass air volume is balanced and increases when sash moves down.
- Inlet By-Pass air moves through a perforated front panel at the top creating a controlled movement before mingling with the exhaust air.
- External light housing with LED lighting.
- Hinged light housing flaps open in the unlikely event of an explosion within the work area.
- Front sliding sash is guided by chain and sprockets with anti-slip mechanism. Motorised or manual sash with limit switches indicating when sash is out of safe working height zone.
- Front sliding sash can be lifted with one finger to maximum opening height (900mm standard and 1200mm distillation) when loading objects. Sash will gently return to working height of 500mm when free to do so.
- Sliding sash can have two or three horizontal panes if required.
- Alarm system can be installed to monitor and initiate all operations and functions.



Side Control with service outlets recessed on the sides or rear panels.

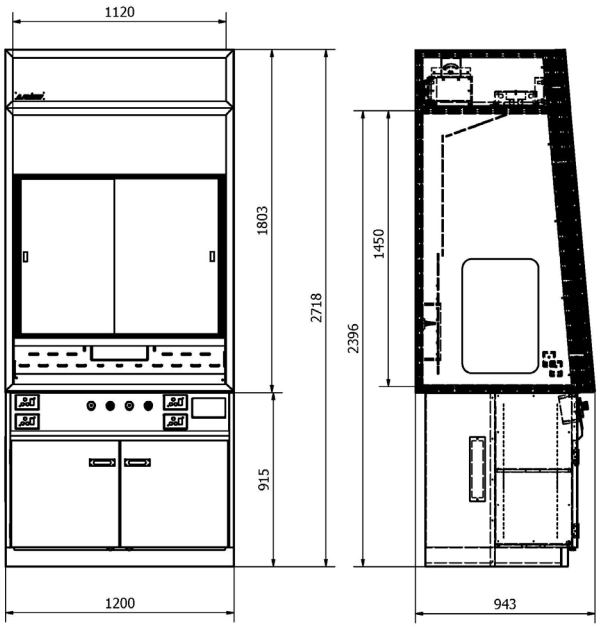
Summary Side Control vs Front Control

- Service outlets can be mounted internally on the side panels where access is easier
- Work space width is compromised
- Service supply and drainage lines are housed in the side panels and not the base cabinet.
- Extraction fume cabinet can be mounted on existing work bench.

Note: When ordering 1200 or 1500 wide extraction fume cabinets the choice of front or side is very important. For every 4 or 5 cabinets equates to an extra fume cabinet.

Features and Benefits of Front Control Cabinets

- All service control faucets are mounted on the angled front **base cabinet panel mounted below the work surface.**
- The electronic controls are mounted in the side external front panel.
- All outlets are mounted in or on the rear panel. Supply piping never enters contaminated zone.
- Drip cups and drainage maybe mounted in the work surface or preferably in the recessed service modules in the internal rear panels.
- Electrical or any other socket maybe mounted on the external front control panel, internal side or rear panels or in service modules.
- A glass window pane can be mounted in either of the side walls depending on then installed services.
- Extra height giving line of sight at 2100mm & 2400mm.
- 5° pitch of the face for comfortable ergonomics.
- Three baffles for complete purging of work area.
- Lower baffle has strategic perforations positioned to ensure a uniform work opening intake with the sash in the 200-500mm range.
- Middle baffle has a thermal heat relief zone for immediate removal of hot rising air.
- Exhaust cowl stretches across the entire length of the interior thus ensuring an even intake of air.
- By-Pass air moves underneath work surface, through the top and between sash and sides. By-Pass air volume is balanced and increases when sash moves down.
- External light housing with LED lighting.
- Hinged light housing flaps open in the unlikely event of an explosion within the work area.
- Front sliding sash is guided by chain and sprockets with anti-slip mechanism. Motorised or manual sash with limit switches indicating when sash is out of safe working height zone.
- Front sliding sash can be lifted with one finger to maximum opening height (900mm standard and 1200mm distillation) when loading objects. Sash will gently return to working height of 500mm when free to do so.
- Sliding sash can have two or three horizontal panes if required.
- Alarm system can be installed to monitor and initiate all operations and functions.



Front Control with service outlets recessed in the sides or rear panels.

Summary Front Control vs Side Control

- Service outlets can only be mounted internally on the rear panels
- Work space width is maximised
- Service supply and drainage lines are housed in the base cabinet and not in the side panels.
- Extraction fume cabinet operation depends upon the base cabinet where the services are mounted.
- Side window panes can be installed,

Note: When ordering 1200 or 1500 wide extraction fume cabinets the choice of front or side is very important. For every 4 or 5 cabinets equates to an extra fume cabinet.

Accessories

- Factory fitted wet and dry services
  - Water
  - Gas
  - Vacuum
  - Nitrogen
  - Oxygen
  - Compressed Air
  - Argon
- Drip cup, bottle trap and drainage
  - See our plumbing features brochure
- Electrical sockets-
  - Type must be specified
  - Mini Distribution Box with protection
- Distillation grid
- Electronic alarm system
- Exterior construction:
  - Mild steel epoxy powder coated
  - Stainless steel epoxy powder painted
  - Polypropylene construction
- Work surfaces
  - Phenolic resin LabChem.
  - Epoxy resin
  - Stoneware
  - Stainless steel
  - Polypropylene
- Interior liners
  - Phenolic resin LabChem.
  - Stoneware
  - Stainless steel
  - Polypropylene

Walk-in Side Control fume cabinet

Standard Options

- Variable Air Volume (VAV) Damper for multiple cabinets installed on the same extraction system.
- Horizontal combination sliding sashes
- Colour of unit and panels
- Acrylic or Polycarbonate front sash
- Stainless steel aerofoil fascia panels

Energy Efficiency

The prime objective of the Fume Cabinet design is to ensure an energy efficient cabinet that is safe and comfortable to operate. The LAMEX cabinet is ergonomically designed with the 5° slope and achieves the energy savings through the Laminar Flow Topography and the various other design features. The table below compares Conventional Cabinets, VAV cabinets and the LAMEX Low Flow Cabinet.

	Conventional Fume Cabinet	Variable Air Volume (VAV) Fume Cabinet (no By-Pass)	LAMEX Low Flow Fume Cabinet
Working Operation	0.5m/s @ 500mm sash open position	0.5m/s @ all sash positions with VAV control system	0.25m/s @500mm sash opening position
Initial Cost	Low	High	Medium
Running cost	Very High	Medium (VAV maintenance)	Low
Ease of installation, commissioning & maintenance	Easy	Difficult	Easy

Technical Data Side Control

MODEL	Total Exhaust [m^3/hr]² and Static Pressure [Pa]						Shipping…..
	0,25m/s	S.P.	0,35m/s	S.P.	0.5m/s	S.P.	Weight [Kg]
L4EFC	405	20	570	30	810	55	250¹
L5EFC	585	20	755	30	1080	60	300¹
L6EFC	765	20	940	30	1350	75	350¹
L7EFC	945	20	1125	30	1620	55	400¹
L8EFC	1125	20	1310	30	1890	65	450¹

Note:

1. Approximate mass
2. Volumes calculated with sliding sash 500mm open

Technical Data Front Control

MODEL	Total Exhaust [m^3/hr]² and Static Pressure [Pa]						Shipping…..
	0,25m/s	S.P.	0,35m/s	S.P.	0.5m/s	S.P.	Weight [Kg]
L4EFC	495	20	695	30	990	55	250¹
L5EFC	630	20	880	30	1260	60	300¹
L6EFC	765	20	1100	30	1530	75	350¹
L7EFC	900	20	1260	30	1800	55	400¹
L8EFC	1035	20	1450	30	2070	65	450¹

Note:

1. Approximate mass
2. Volumes calculated with sliding sash 500mm open

Side Control Stainless Steel interior fume cabinet

Side Control Perchloric Acid fume cabinet

Electronic Control Panel

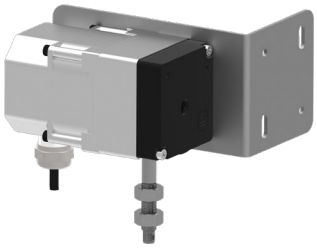
All our fume cabinets are fitted with an electronic control panel to monitor the real-time functioning of the fume cabinet. These alarm systems and controls are very complex and are explained and defined in separate brochures. The standard control & alarm monitors the air velocity through the work area front opening and the sliding sash position (motorised or manual). This is accompanied by an audible and visual alarm. This alarm system is upgradable to control the exhaust volume with a Variable Air Volume (VAV) damper with many other inputs and outputs available. This is a multi-functional unit that allows the operator to set parameters. It has an override facility to manually start the exhaust fan and lighting.

Features

- Non-contact detection (Sensor Detection) of sash height equates to no wear.
- Alarm indicates when sash is too high. This can be time delayed for loading.
- Monitoring of the inward velocity through the front opening.
- Operating modes for standard operation and special operation.
- Motion sensor to indicate when room is empty and inward velocity can be reduced.
- Reduce this velocity by controlling the exhaust air volume.
- Control of a motorised sash.
- Adjustable controller behaviour in case of electrical failure (including voltage fluctuation).
- Fume Cabinet Control unit for status display, alarm suppression, sash monitoring, operating mode, sash open and close, lighting, local control and velocity flow status (0.25m/s)
- Liquid crystal display and function pad for Fume Cabinet and Room Control
- Room exhaust and supply air volume control.
- Plug-and-play installation and plug-in communication cable to Building Management System (BMS).
- Expansion modules linking multiple systems to BMS.

Control Panels and VAV damper controller.

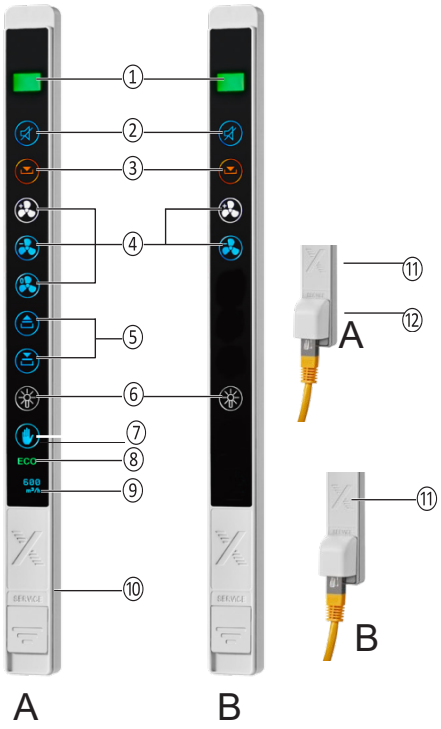
A typical Fume Management System schematic with sash, velocity control and monitoring of the cabinets functions.



Sash Motion sensor

Fume Cabinet Control and Monitoring

The Labaire BE-SEG-02 control panel is a multi-functional controller that links to various other sensors, controllers and modules to control and monitor the fume cabinet and the exhaust air from it. The two main items are the Fume Monitoring System module (Type FMS) and the Total Air Management module (Type TAM).



A BE-SEG-02

B. BE-SEG-03

① Status display (green, yellow, red) with text HIGH and LOW
② Alarm acknowledgement
③ Sash monitoring warning display
④ Selection of operating mode
⑤ Automatic sash device
⑥ Fume cupboard lighting
⑦ Manual control
⑧ ECO display
⑨ OLED display showing actual volume flow rate, face velocity and status (BE-SEG-02 only)
⑩ Connection socket for FMS controller (at rear)
⑪ Alarm sounder
⑫ Connection socket for service and commissioning

The Type BE-SEG-02 and BE-SEG-03 control panels are used to display and control the most critical aerodynamic and safety-related functions of a fume cupboard. Users obtain information regarding the condition of the fume cupboard and can set various operating modes. The individual display elements and controls are as follows:

BE-SEG-02

- Three-colour status display
- Warning display
- OLED display
- Alarm sounder
- 8 function button fields: 1 acoustic alarm acknowledgement, 3 operating mode buttons, 2 buttons for the automatic sash device, 1 button for the fume cupboard lighting, 1 button for manual control
- Service socket
- ECO display
- Selecting an operating mode
- Automatic sash device
- Fume cupboard lighting on/off

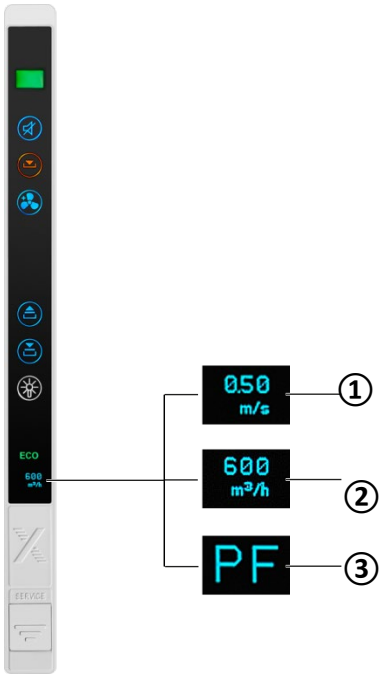
The selected, active function is highlighted in white. The OLED display (BE-SEG-02 only) shows system messages or, if enabled, the actual face velocity or volume flow rate.

BE-SEG-03

- Three-colour status display
- Warning display
- Alarm sounder
- 4 function button fields: 1 acoustic alarm acknowledgement, 2 operating mode buttons, 1 button for the fume cupboard lighting

The range of functions of the control panel can be adapted to project-specific requirements using the configuration software. The range of functions may vary for different fume cupboards. The function button fields are used for display and for operation. The available functions are highlighted in blue.
A required function can be selected by pressing the corresponding button.

Both diagrams below are BE-SEG-02 controllers indicating typical configuration and display example.



① Face velocity
② Volume flow rate
③ Error messages (e.g. power failure)

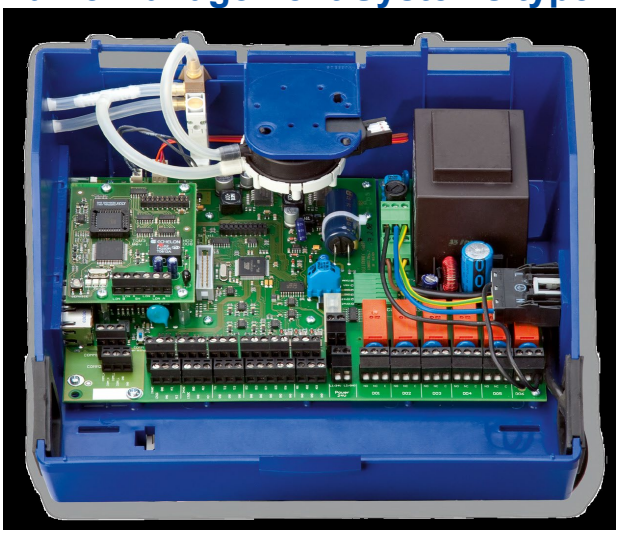
	Alarm acknowledgement	Pressing this button switches the acoustic alarm off.
	Activate increased operation	Pressing this button activates the increased volume flow rate set for the controller (e.g. for emergency operating mode). The symbol colour changes to white.
	Activate reduced operation	Pressing this button activates the reduced volume flow rate set for the controller (e.g. for night setback). The symbol colour changes to white.
	Shut-off	Pressing this button activates the SHUT-OFF mode. The symbol colour changes to white.
	Open the sash	These buttons are used to open and close the automatic sash device. The buttons can be used only if an automatic sash device has been configured.
	Close the sash	
	Fume cupboard lighting	Pressing this button switches the fume cupboard lighting on or off. The button can be used only if this function has been configured.
	Manual control	Pressing this button activates or deactivates manual control. As long as manual control is active, you can override default operating modes.

BE-SEG-03			
		Alarm acknowledgement	Pressing this button switches the acoustic alarm off.
		Change monitoring value	This button is used to switch between two monitoring values.
		Monitoring on/off	Pressing this button activates or deactivates the monitoring function.
		Fume cupboard lighting	Pressing this button switches the fume cupboard lighting on or off. The button can be used only if this function has been configured.

Service Socket

The service socket is used to connect the control panel to a personal computer. This is required for configuring the control panel with the configuration software. You can use the configuration cable or the BlueCON Bluetooth adapter.

Fume Management Systems type FMS



Electronic, self-powered monitoring system for fume cupboards

- Easy installation, expansion and commissioning due to plug connections
- Sockets for the most important connections are located on the outside of the casing
- Monitoring hardware can be expanded with modules
- Adaptable control panels for fume cupboards
- Innovative operation to support bespoke project requirements
- Control input signal for fans
- Configurable monitoring functions and alarm signaling
- Easy installation due to interactive configuration software
- Power supply unit for supply voltage 90 - 250 V
- 2 control panels can be connected, e.g. for fume cupboards with sash windows on two sides

Expansion options

- Expansion modules, to be mounted into or onto the base casing
- Easy installation and electric connection of the monitoring system
- Expansion modules can be factory mounted or fitted at a later stage
- Optional monitoring of supportive flow in fume cupboards

Equipment functions

- Differential pressure monitoring
- Volume flow rate monitoring
- Face velocity monitoring
- Monitoring of supportive flow fans, and of volume flow or differential pressure signals from external units or devices
- Optical and acoustic alarms as well as alarm signaling to higher-level systems (central BMS) with BE-SEG-02 or BE-SEG-03
- Complete configuration, commissioning and diagnosis with interactive software for personal computers; the computer can be connected either directly to the unit or to the room control panel
- For use in laboratories, clean rooms in the pharmaceutical and semiconductor industries, operating theatres, intensive care units and offices
- For new installations, retrofit and refurbishment projects
- Monitoring of the sash window opening to EN 14175

Variants

- FMS-1: Monitoring system with integral diaphragm pressure transducer and measuring probe
- FMS-2: Monitoring system for external signals of 0 (2) to 10 V DC, e.g. from a face velocity transducer, volume flow controller or external differential pressure transducer

Parts and characteristics

- Power supply unit for supply voltage 90 - 240 V AC
- 2 control panels can be connected, e.g. for fume cupboards with sash windows on two sides
- Interactive software for configuration, commissioning and diagnosis of the monitoring system
- Bluetooth module that can be connected to the monitoring system, for wireless connection to the configuration computer

Attachments

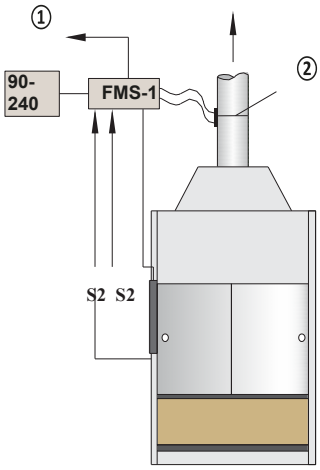
Expansion modules are factory mounted or can be fitted at a later stage

- S: EM-LIGHT-F – The monitoring system allows for switching a light on/off using the control panel. This expansion module is a wired socket for the connection of lighting. Maximum switch rating: 230 V AC 500 W.
- G: EM-CPL – Mating connector for the EM- LIGHT module. If EM-LIGHT is installed, a mating connector can be supplied to allow for plugging in the lighting.
- V: EM-VENT – Combined insulation piece and wire clamping bracket for digital output DO1, fan activation. The monitoring system can be used to activate or deactivate a fan. In case of 230 V AC power supply, this combined insulation piece and wire clamping bracket is provided.
- D: EM-DDT – Differential pressure transducer for monitoring a supportive flow. This expansion module may be used as an additional differential pressure transducer to monitor a supportive flow or similar additional fan.

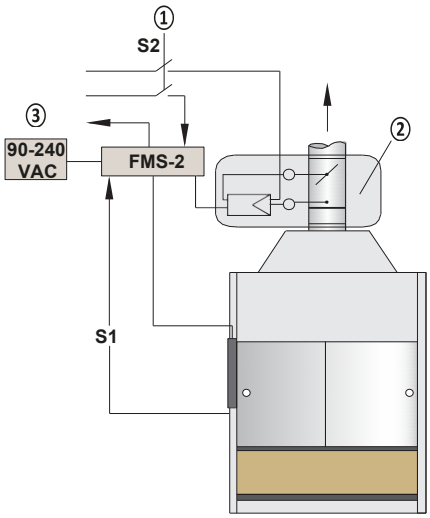
Optional transducers for FMS-2

- VS-TRD: Face velocity transducer
- PT699: Differential pressure transducer, –100 to 100 Pa

FMS-1 & FMS-2 configuration



① Alarm signaling to the central BMS
② Effective pressure sensor
S1 Sash window opening, EN 141175
S2 Volume flow rate 1/2



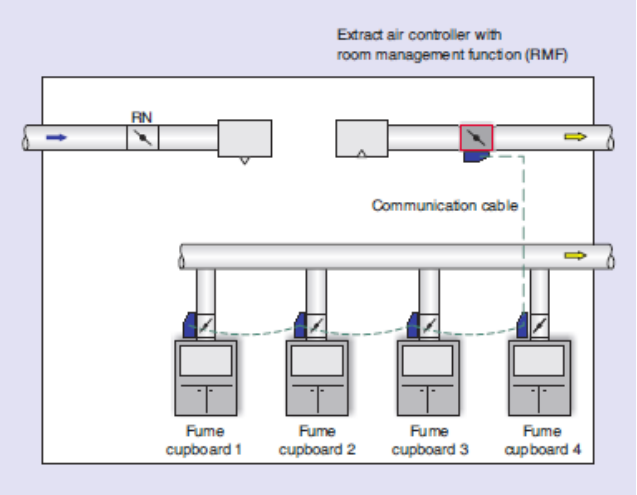
① Switching
② Volume flow controller
③ Alarm signaling to the central BMS
S1 Sash window opening, EN 14175
S2 Volume flow rate 1/2

Variable Air Volume (VAV) Devices

No matter what type of fume cabinet you may order a VAV device maybe fitted. It is important to understand that this device can be interfaced with the room supply air, usually air-conditioned, and the exhaust air to get maximum benefit. The VAV system with the electronic control pad has great advantages as real time information linked to a Building Management System (BMS) can be monitored. Override features for manual activation can be applied and a very sophisticated set of parameters worked within. This sophistication is as good as the control measures that exist with the management infrastructure of the BMS.

Features

The VAV damper is motorised to open and close according to the sash height. While the exhaust air from the Fume Cabinet is increased or decreased so is the exhaust air from the room decreased or increased and the supply air similarly varied to maintain temperature and pressure inside the laboratory room. A VAV is very seldom installed without an integrated system as the resultant fluctuating parameters within the laboratory will render non-compliance.



All components are chemical resistant within the VAV damper. The external controller (TCU3 or TAM) has components mounted in a resistant casing.

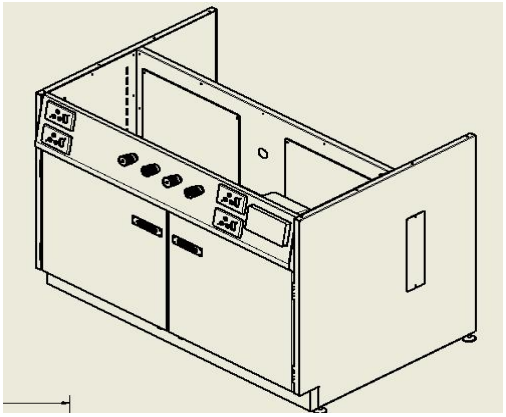
Please see our detailed brochure on the integrated VAV systems. There are many factors to consider that require interlinking with the mechanical and air-conditioning contractor/consultant.

Summary of Electronic Control & Monitoring

Do you need an alarm system:

1. The new EN 14175-3: 2019 states that certain monitoring has to be complied with so your minimum criteria has to be in line with this- if not you leave yourself /institution vulnerable in the event of an accident.
2. To meet EN 14175 you must monitor the velocity

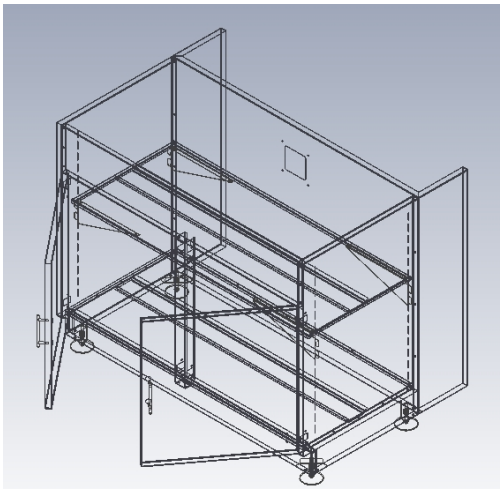
Base Cabinetry



Each fume cabinet is usually ordered with a base cupboard unless it is surface mounted or a walk-in type. The cupboard maybe required to:

- House front controls & electrics
- Store acidic and base chemicals.
- Store solvents.
- House the re-circulation tank and plumbing for a scrubber.
- Store glass ware, consumables etc.

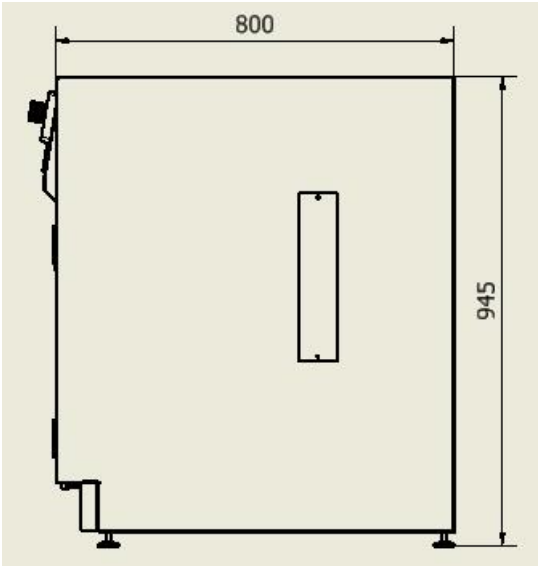
Strength
We ensure that the cupboard is structurally built to withstand the load of the Fume Cabinet and the contents within.



Features

- The cupboard is manufactured from electro-galvanised, phosphate and finished in baked epoxy-polyester powder coated paint or Polypropylene.
- This provides long term resistance to chemical, abrasion and weathering.
- Easy access to levelling feet to ensure stability.
- Rear, side and internal access panels to plumbing.
- Ships assembled or unassembled with rapid and easy on site assembly if required..
- Sized to suite Fume Cabinet ordered.

Aesthetics & Ergonomics
Concealed door hinges with soft close feature.
Adjustable shelf to select height for upper and lower storage.



Ventilation
The cupboard uses the exhaust air from the fume cabinet to remove fumes and ensure no build up that could result in corrosion or explosion hazard with solvents.

Accessories

- Electrical protection device during sudden voltage or current fluctuation.
- Ventilation kit to keep cupboard free of fume build up.
- Filler panels between ceiling and Fume Cabinet.
- Lined with polypropylene or polyethylene.
- Length of base cabinet according to size of fume hood.

Note: The control panel above the doors is angled upwards towards the operator in a front controlled fume cabinet.

LABAIRE Resonate Liners

The LABAIRE Resonate is a composite material designed for use as an internal liner. It has excellent chemical resistance, structural strength and a smooth attractive finish that is easy to clean. The main advantage of internal liners as against a fully moulded interior is that a specialised work surface can be installed. The work surface needs additional properties to the internal liners as they are subjected to more hazardous procedures. It can also be replaced in the event of damage.

Chemical Resistance of LABAIRE Resinate Internal Liner

	Chemicals	Result
Acids	99% Acetic Acid	No effect
	40% Hydrochloric acid	No effect
	40% Hydrofluoric acid	No effect
	50% Nitric acid	1st Grade
	65% Nitric acid	2nd Grade
	85% Phosphoric acid	No effect
	85% Sulphuric acid	No effect
	95% Sulphuric acid	1st Grade

	Chemicals	Result
Solvents	Acetone	No effect
	Carbon Tetrachloride	No effect
	Chloroform	No effect
	Ethyl Acetate	No effect
	Ethyl Alcohol	No effect
	Ethyl Ether	No effect
	40% Formaldehyde	No effect
	Isopropyl Alcohol	No effect
	Naphthalene	No effect
	Phenol	No effect
	Styrene	No effect
	Toluene	No effect
	Xylene	No effect

	Chemicals	Result
Alkalis	Ammonium Hydroxide	No effect
	10% Copper Sulphate	No effect
	10% Iron Chloride	No effect
	65% KOH	No effect
	40% Sodium Hydroxide	No effect
	15% Sodium Sulphide	No effect

	Chemicals	Result
General Reagents	Copper Sulphate	No effect
	34% Hydrogen Peroxide	No effect
	Iodine	No effect
	50% Magnesium Sulphate	No effect
	Urea	No effect

	Chemicals	Result
Stains & Indicators	Crystal Violet	
	1% Gentian Violet	
	Methylene Blue	
	Methyl Red	
	Methyl Orange	

Note: LABAIRE Resonate may not be suitable increased percentage acid and heat loads.

Test Method: One drop of chemical placed & covered for 24 hours. Results thereafter determined.
1st Grade: Slight effect on colour. No change physical properties.
2nd Grade: Clear effect on colour. No change physical properties.

Alternative Liners

- Stainless steel
- Polypropylene
- Stoneware
- Electro-galvanised, phosphated and finished in baked epoxy-polyester powder coated paint

Work Surface Selection

Type	Phenolic Resin	Epoxy	Stoneware	SS304	SS316	Polypropylene
Chemical Resistance	Better	Better	Best	Good	Better	Best
Temperature Resistance	Good (110°C)	Good (165°C)	Best (1200°C)	Better (300°C)	Better (300°C)	Poor (50°C)
Cost	Mid Price	Mid Price	Premium	Low Price	Mid Price	Mid Price

Ordering a LABAIRE Fume Cabinet

1. LAMEX 1 Type
   - ☐ Front Control
   - ☐ Side Control
2. LAMEX 1 Fume Cabinet width and height

   Width: ☐ 1200mm ☐ 1500mm ☐ 1800mm ☐ 2100mm ☐ 2400mm

   Height ☐ 1400mm (Standard) ☐ 1800mm (Distillation) ☐ 1800mm (Walk-in)
3. Fume Hood Internal Liner Material
   - ☐ Phenolic Resin ☐ Stainless Steel
   - ☐ Stoneware ☐ Polypropylene
4. Sash Type
   - ☐ Safety Glass ☐ Horizontal sliding
   - ☐ Vertical sliding ☐ Motorised
   - ☐ Combination sliding
5. Electrical Outlets- sockets per cabinet (Country……)
   - ☐ 2 ☐ 4
   - ☐ Rear ☐ Side
   - ☐ 50Hz ☐ 60Hz
   - ☐ 110V ☐ 220V
   - ☐ Electrical Protection
6. Services (A maximum of 8)
   - ☐ Water ☐ Nitrogen
   - ☐ Gas ☐ Oxygen
   - ☐ Vacuum ☐ Compressed air
   - ☐ De-Ionised water ☐ Argon
7. Alarm System
   - ☐ BE-SEG-03 ☐ BE-SEG-02
8. Distillation Grids ☐
9. Work Top
   - ☐ Phenolic Resin ☐ SS304
   - ☐ Epoxy ☐ SS316
   - ☐ Stoneware ☐ Polypropylene
10. Base Cabinet
    - ☐ Solvent ☐ Acid/Base
    - ☐ Standard ☐ Ventilation Kit

Ordering a LABAIRE Extraction System

1. LAMEX 1 Type
   - ☐ Front Control
   - ☐ Side Control
2. LAMEX 1 Fume Cabinet width and height

   Width: ☐ 1200mm ☐ 1500mm ☐ 1800mm ☐ 2100mm ☐ 2400mm

   Height ☐ 1400mm (Standard) ☐ 1800mm (Distillation) ☐ 1800mm (Walk-in)
3. Single fan system
   - ☐ Yes ☐ No
4. Quantity of 90 degree bends required
   - ☐ Quantity
5. Number of transition pieces
   - ☐ Quantity
6. Electrics from cabinet to fan motor (Country……)
   - ☐ Quantity
7. Length of ducting
   - ☐ Meters/Feet
8. Must ducting be painted?
   - ☐ Y/N ☐ Colour
9. Is a fan motor Variable Speed Device (VSD)
   - ☐ Y/N ☐ Type/description
10. Is a VAV or damper required?
    - ☐ Y/N ☐ Type/description

Please give a brief description of the exhaust system you require:

Labaire
129 5th Street, Wynberg, Sandton
Gauteng, South Africa
Web page: www.labaire.co.za
Email: sales@labaire.co.za
Phone: 27 10 007 5782
Cell: 27 79 397 9038

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