

Lab-K Fume cupboard



Introduction

Many of the everyday processes carried out in a laboratory will release harmful substances, which, if inhaled by the laboratory worker, can be harmful to their health. Minimizing and controlling the exposure of people to these harmful substances is therefore of vital importance. Fume cupboards play a most important role in protecting the health of the laboratory worker and are often the only safety control device available. A good fume cupboard, professionally installed, can protect the worker from exposure to harmful fumes. Of equal importance is that the fume cupboard is regularly maintained, the performance monitored and checked, and the worker properly instructed in its use.

Lab-K Fume Cupboard shall be provided to prevent the buildup of fugitive emissions in the laboratory. A general room ventilation system shall be designed such that the placement of supply and exhaust maximize the clearance of contaminants from the room. A range of high efficiency fumecupboards is available with the following features.

- Aerodynamic fascia.
- Conveniently sited service outlets.
- Internal baffles to balance air movements.
- Easy Remove Service Fitting Panels on fascia and service access panels in the interior walls.
- Alarm system fitted with various options to customer requirements.
- Controls for services mounted on and serviced from the front fascia.
- Delivered and installed as a built unit with service tails ready for connection.
- VAV (variable air volume) control system available for energy conservation.
- Safe sash design to operate with timing belt to prevent the sash from falling.
- Air-bypass for velocity compensation designed to avoid leakage of fumes especially when there are thermal rises in the working chamber.

Standard Fumecupboard Sizes

<i>Model</i>	<i>1200</i>	<i>1500</i>	<i>1800</i>
<i>Overall Length</i>	1200 mm	1500 mm	1800 mm
<i>Overall Height</i>	1500 mm	1500 mm	1500 mm
<i>Overall Depth</i>	850 mm	850 mm	850 mm
<i>Opening Length</i>	1100 mm	1300 mm	1600 mm
<i>Discharge Area</i>	90 x 790 mm	90 x 790 mm	90 x 900 mm
<i>Discharge Dia</i>	200 mm	250 mm	250 mm
<i>Open Face Area</i>	0.57 m ²	0.75 m ²	0.93 m ²
<i>Recommended Air Flow</i>	700-900 cfm	900-1100 cfm	1100-1300 cfm
<i>Recommended Duct Size</i>	Dia 200 mm	Dia 200 mm	Dia 250 mm

All fumecupboards are designed and manufactured in close liaison with the customer and their requirements. Factors such as the likely use of the fumecupboard (Acid, Organic chemistry, Radioactivity) and its location all play a part in the overall design and specification of the unit. Our professional team can advise on any aspect of the systems performance whether it be the materials of construction or the airflow performance and the resultant extract system.

Accessories

- Control Board for fan and light
- Electrical Control Board with MCB
- Steel epoxy coated base cabinet
- LED light.
- Remote-control cold-water and outlet
- Remote-control Gas and outlet
- 13 Amp electrical switch socket
- Toughed glass sash c/w Timing Belt Operated Counterweight.
- Chemical & heat resistant worktop
- Oval PP drip cup.

Construction Specification

Front Facial

Manufacture the fume cupboard front fascia from molded sections with airfoil entry on the sides, top and bottom. Fitted with touch screen control for fan, light and other services.



Inner Chamber

The chamber is contoured towards a rectangular suction box extraction outlet to assist in an even extraction rate across the width of the opening.



Rear Baffle

The chamber of the fume cupboards can be fitted with a specially designed back baffle fastened to the fume cupboard with polypropylene bolts, it is removable for cleaning purposes. This special back baffle allows for the whole chamber to be scavenged whether heavy or light corrosive fumes are present. The back baffle is recommended if it is anticipated that a lot of heavier-than-air fumes are to be used continuously in the fume cupboard.



Work Surface

The work surface is phenolic resin worktop. It is sealed to the inner chamber to prevent any leakage. Epoxy Resin and PP worktop was available upon request.



Phenolic Resin Top



Epoxy Resin Top



PP (Polypropylene Top)

Sash

The counter-balanced sash windows are of the vertically sliding sash type supported on timing belt and running on two pulleys. The sash counter-weights run inside a fully enclosed profiled section. Sash windows are 6mm toughened glass. As an option the sash glass can be covered with safety film. Alternatively, clear PVC, acrylic or polycarbonate can be supplied.



Light

The T5 LED light is mounted on inner chamber to. It illuminates the interior of the work area.



Services

Various remote-controlled services can be fitted to the fume cupboard facial. All handles are fitted with color-coding to the International Standard. All internal outlets are mounted on the sidewalls to retain maximum working area and are color coded with an electrostatically applied epoxy finish. Compressed air, gas, nitrogen, vacuum, etc. control valve incorporates on Easy Remove Service Panels for easy maintenances. Services are pre-plumbed within the fume cupboard with ½" flexible hose for easy connection to main service by the site plumber.



Chemical Resistant Centrifugal Fan

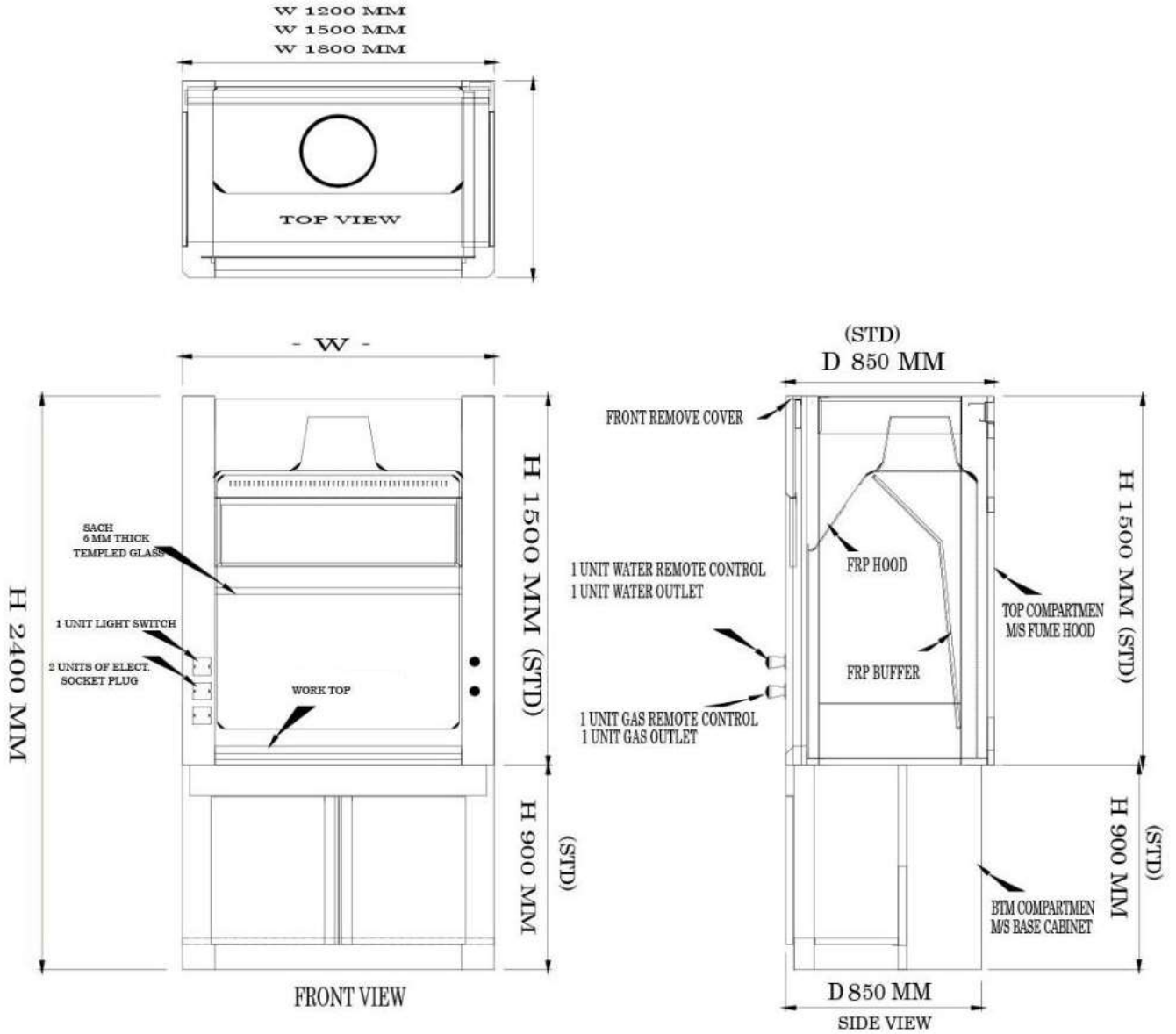
The PP (Polypropylene) Chemical Resistant Centrifugal fan is direct coupled onto a 4 pole, 3 phase 415V 50hz motor. The impeller is a forward curved multi-blade one-piece injection molded Polypropylene incorporating a steel reinforced hub.



Base Cabinet

The base cabinet is made from epoxy powder coated metal, it comes complete with hinged doors, removable service access panels and facial panel to suit services and fittings and kicker strip.





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