Johndec Safetyflow
Non-Hazardous Fume Cupboards

Johndec Safetyflow fume cupboards provide maximum containment and safety in the laboratory. Smooth aerodynamic performance. One piece moulded chamber eliminates joints and provided for easy wash down and decontamination.

Especially suitable for radioactive and perchloric acid use. Available with the Johndec perchloric acid Fume Scrubber and recycle tank system. Complete system design, manufacture, installation and testing service can be arranged. Wholly Manufactured in Australia to comply with AS2243.8.

Specification
Design

Johndec Safetyflow non-hazardous aerodynamic fume cupboards meet exacting standards and recommendations for safety and containment in the laboratory.

The Safetyflow Fume Cupboards comply with the Australian Standards 2243.8 and is wholly manufactured in Western Australia.

Materials of construction, depending on what hazardous acids are being used within the fume cupboard, will be specially determined. Johndec Safetyflow Fume Cupboards can be manufactured in:

- Polyvinyl chloride sheet (PVC)
- Polypropylene sheets flame retardant (PP)
- Polyvinyldene fluoride sheet (PVDF)
- Fibre Reinforced plastics (FRP)

Johndec Engineering Plastics have adapted the worlds most up to date technology in the design and manufacture of Johndec Safetyflow Fume Cupboards

Specification Continued

Chamber
The chamber has an aerodynamically shaped roof which is contoured towards a rectangular extraction outlet to assist in an even extraction rate across the width of the opening. It has radius corners and is fully plastics welded to the fume cupboard.

Light
The completely sealed fluorescent light is mounted in a purpose made moulded cover on the exterior of the chamber. It illuminates the interior of the work area via a transparent acrylic panel, which is set flush with the interior of the chamber to avoid disturbing the smooth air flow inside the chamber. This moulded cover, complete with the light fitting, can be removed without disturbing the interior of the fume cupboard or the transparent panel.

Facia
The fume cupboard's facia is aerodynamically shaped to ensure an even flow of air in the chamber. The light and
fan switches are contained in an electronic module with LED status. The module is flush mounted on the facia.

Workbeds
The specially designed removable workbed is flat and, due to its special design, does not require drip-cups troughs for the draining of liquids. This gives a maximum available working surface.

The worktop can be removed to reveal a full width moulded sump fitted with a waste outlet. The standard worktop is made from chemical resistant, epoxy resin and is moulded on buffers above the full width sump. Alternative worktops together with sinks and covers can be supplied on request.

Sash
The counter-balanced sash windows are of the vertically sliding sash type supported on stainless steel cables and
running on two acetyl pulley's. 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.

Services
Various remote controlled services can be fitted to the fume cupboard facia. All handles are fitted with colour coding to the International Standard. All internal outlets are mounted on the side walls to retain maximum working area and are colour coded with an electrostatically applied epoxy finish.

Compressed air, gas, nitrogen, vacuum, etc. Control valve incorporate floating brass needles which are self aligning on the seat.

Services are pre-plumbed within the fume cupboard with copper tube, approved by the water board and the Australian Gas Association. A tail is left for easy connection to main service by the site plumber.

Bypass
All fume cupboards are normally fitted with an air by-pass system fixed to the front facia, to control the velocity at the lower sash operating position. With the sash fully raised, the by-pass system is completely sealed off to give all the available extraction through the sash opening for maximum safety. The extraction rate from the fume cupboard remains constant irrespective of the position of the sash.

Back Baffle
The chamber of the fume cupboards are fitted with a specially designed back baffle fastened to the fume cupboard with polypropylene bolts which 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.

Options

Johndec Support Cupboards

The support units can be manufactured to suit customer requirements, commonly manufactured from epoxy coated steel, timber laminated finish .

They can be open or fully enclosed with polypropylene or PVC complete with doors, handles and adjustable shelf. It has a removable back for access to any service mounted on the wall behind it. The support cupboards are also specially designed to house the Johndec recirculating tank, pump etc on specially moulded spillage tray when used in junction with the Johndec Fume Scrubber.

Wash Down Spray

The cupboards can be fitted with a spray bar, mounted behind the back baffle and with ductwork. The spray bar is operated manually via the Johndec FE2000 Fume Control System.

This wash down spray assists in the decontaminating of the chamber behind the back baffle and ductwork after using perchloric acid, etc. It can also be made to operate automatically via the Johndec FE2000 Fume Control System, in pre-purge, normal and post purge cycles.

Hand Held Wash Down

The fume cupboards can also be supplied with a hand held wash down spray, mounted on the side of the fume cupboard to assist the operator in washing the internal surfaces of the fume cupboard when perchloric acid or other dangerous acids are being used. The spray outlet is activated by a remote controlled valve mounted on or adjacent to the fume cupboard. The spray may also be used as a safety shower in cases of splashes reaching the operator.

Additional Sink

The fume cupboard base can be fitted with a sink moulded into the standard full width concealed sump. The epoxy resin worktop is cut to expose the sink and a replaceable cover can be supplied to retain the uncluttered worktop when not in use.

Johndec Fe2000 Fume Control System

The fume cupboard can be supplied with Johndec FE2000 Fume Control System which is an intelligent microprocessor controlled device. The majority of the functions are controlled by the software stored in the unit EPROM and hosted by the microprocessor. The use of the software controls allows significant operational flexibility, with scope for tailoring operation to particular user requirements and to implement future upgrades.

The Johndec FE2000 Fume Control System incorporates normal functions for operation of fume cupboard light, exhaust fan spray bar and fume scrubber pump. The system also incorporates pre purge, post purge, emergency isolation of services as required to comply with AS2243.8, AS3000, AS2430.3. The system has an alarm to indicate power failure to the fume cupboard.

Pre Wiring

All electrical controls and components are pre wired to AS3000 to input and output terminals for site electricians. This avoids a site electrician working under cramped conditions on a product which he may not be conversant with.

Airconserver Energy Saver System

The Johndec Airconserver Energy Saver System will maintain a constant velocity across the fume cupboard sash of 0.5m/s at all opening positions. The Airconserver is fitted with a special sash sensor which is connected electrically and mechanically to the fume cupboard sash balance mechanism. This synchronises the volume of airflow via a variable speed drive or bypass damper to the sash opening. The Airconserver will give immediate response to any sash movement.

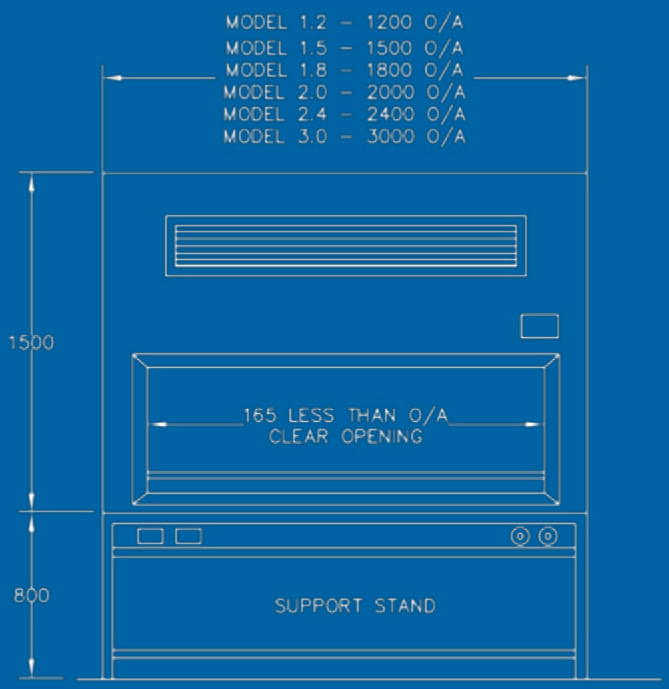
Automatic Sash

The fume cupboard can be fitted with an electronic automatic sash “Autosash” which is controlled via the Johndec Fume Control System, incorporating up, down and stop control buttons. The Autosash also incorporates an attendance sensor which controls the fume cupboard sash when left unattended. If the sash is left open or unattended for a period of two (2) minutes, the attendance sensor will command the sash to close automatically.

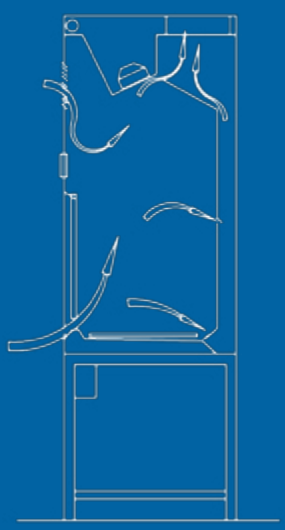
Optional Fume Scrubbing

Efficient fume scrubbers are essential fittings on fume cupboards. Designed for work with such substances as perchloric acid. Their installation may be desirable or mandatory on other fume cupboards where highly corrosive substances are in use, or where there are problems with safe discharge of gaseous effluent. Johndec Engineering Plastics manufacture a superior range of fume scrubbers. Information on this range will be supplied on request.

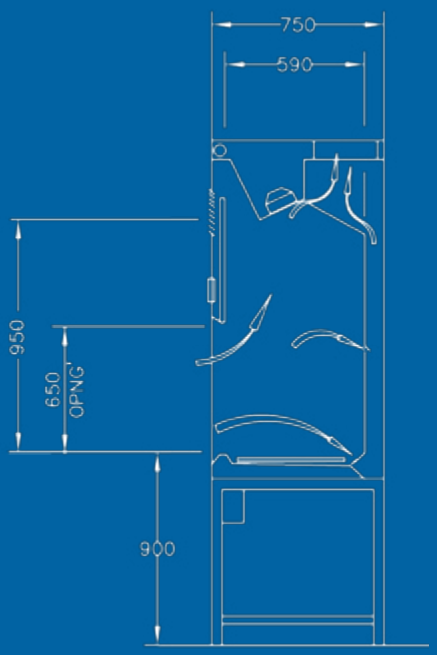
Dimensions



FUMECUPBOARD
FRONT ELEVATION



FUMECUPBOARD
WITH SASH CLOSED



FUMECUPBOARD
WITH SASH OPEN

Johndec Fume Cupboard technical Specifications.						
Model	1.2	1.5	1.8	2.0	2.4	3.0
Width	1200	1500	1800	2000	2400	3000
Height	1500	1500	1500	1500	1500	1500
Depth	750	750	750	750	750	750
Exhaust l/s	365	470	580	650	795	1008
Throat Size	530 x 230	680 x 230	780 x 230	880 x 230	2 x 420 x 250	2 x 600 x 250
Weight Kg.	110	130	150	170	210	250

Special Requirements

Johndec Engineering Plastics Pty Ltd will manufacture fume cupboards to suit customer requirements:

- Extra width and depth fume cupboards
- Doubled sided fume cupboards
- Walk-in fume cupboards
- Down draught fume cupboards
- Recirculating fume cabinets (ductless fume cabinets)
- Radioactive Materials
- Perchloric Acid
- Hydrofluoric Acid
- Flammable Reagents
- High Temperature Work
- Flammable Liquids Distillation
- Glutaraldehyde Fume Cupboards
- Endoscopy Fume Cupboards
- Heavy Vapour Work
- Purpose Made Depth, Width Fume Cupboards

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