REGAL FANS LTD

AIR CHALLENGE 1000

Fume Cupboard

The Air Challenge 1000 fume cupboard has been specifically designed to meet the requirements of present day educational establishments.

It has been manufactured to **CONFORM WITH RECOMMENDATIONS CONTAINED in BUILDING BULLETIN 88 "FUME CUPBOARDS IN SCHOOLS" (Revision of design note 29)** produced by Architects and Building (A&B) branch of the Department for Education and Employment (April 1998). Where the installation of the fume cupboard is undertaken by our own engineers its performance will comply fully with the **CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS 1988 (COSHH REGS 1988)**

DIMENSIONS

OA width 1000mm - Internal 920mm
OA Depth 710mm - Internal 660mm
OA Height to clear sash guides 2220mm
Internal height of hood (maximum) 1100mm

MATERIALS

Framing
Formed from aluminium extruded profiles, finished in white stove chemically resistant paint finish to the following standards: Mainframe to international 9910 Side Frames and Sash Components to BS4842 and BS6496. sash balanced by a totally concealed single counter weight which incorporates a fail safe mechanism which activates should any malfunction occur, this ensures that the sash will jam in the open position. The maximum sash opening for normal use (400mm) is limited by electronic solenoids, a key operated switch allows the sash to be opened beyond this limit to allow for the loading of large apparatus etc.

Chamber - Top Section
Manufactured from a one piece section of chemical and heat resistant white glass reinforced plastic (GRP), the roof section is aero-dynamically shaped to provide a smooth and uniform extraction flow thus reducing any major variations to the sash velocity. The top is preformed to accept a fluorescent light unit.

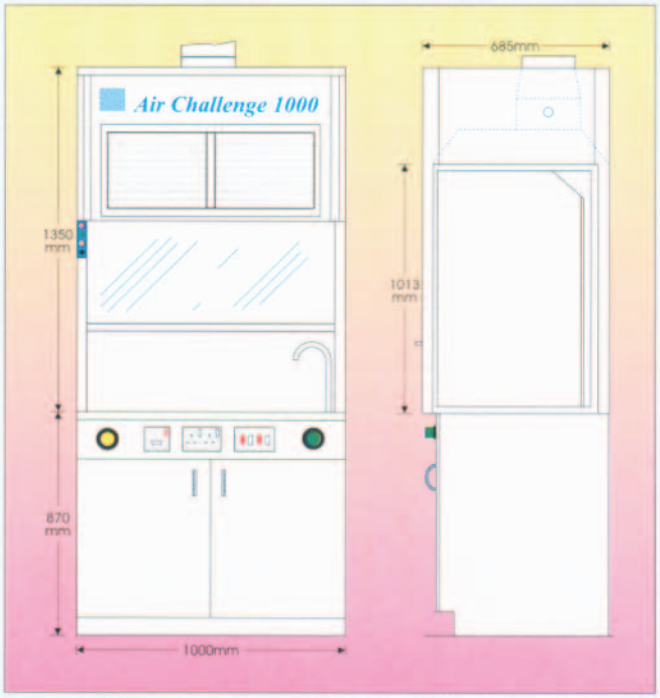
Back
Formed from either 6mm toughened glass to BS6206 or 6mm white trespa laminate to DIN16926

Glazing
The cupboard is glazed to both sides and sash with 6mm clear toughened glass to BS6206.

SUPPLIED AS STANDARD

- Fully Integrated Alarm System
- Sash Cable Failure Protection System
- Interior Light
- Drip Cup
- Water & Gas Outlets Plus Controls
- Double Electric Outlet Socket
- Switched Neon Indicators for Fan & Light Controls
- Back Baffle
- Air By-pass

AIR CHALLENGE 1000



Air By-pass

An "eggcrate" type grille measuring 804 x 348mm finished in acid resistant paint is fitted into the 10mm gauge white PVC front facia panel, providing the cupboard with an air by-pass velocity compensator. This ensures that when the sash is lowered the rate of air entering the progressively narrowing sash aperture is countered by the air flow passing into the chamber via the by-pass grill. This avoids any adverse effects on e.g. Bunsen burners.

Workbed

Our standard workbed is formed from cast epoxy resin and is fully dished to retain any possible spillage. We offer a range of alternative materials, these include the following:-

- 13mm black 'Volkern Grade Type L' Trespa laminate to DIN16926
- Stainless Steel 18 gauge (316 grade)
- Vitrified Acid resistant tiles
- PVC or Polypropylene (3mm, 4.5mm or 6mm)

Baffle

Formed from 4mm white Trespa laminate. The addition of a baffle ensures an even airflow within the chamber and also reduces noise levels.

SERVICES

Where the fume cupboard is installed onto a base unit, the controls for gas, water and electricity are set into the 'dummy drawer' front facia-panel. Where the cupboard is supported by a free standing frame, a facia panel formed from rigid 10mm white PVC is supplied to house the controls

GAS AND WATER

Consists of a British Standard approved range of Broen laboratory fittings epoxy resin coated laboratory equipment. All controls are colour coded to the European Standard DIN12920

- 1 Control valve for cold water
- 1 Bench mounting outlet for water
- 1 Control valve for gas
- 1 Bench mounting outlet for gas
- 1 102mm dia. Vulcathene drip cup

ELECTRICS

- 1 MK 2 gang 13 amp. switched socket outlet to BS1362 (1984)
- 1 MK 4 gang grid system with switched Neon indicators for control of fan and interior light to BS3676 part 1 (1989)
- 1 Phillips (FOR.118) 660mm fluorescent interior light unit to BS4533 (I.P. 65)

ALARM SYSTEM

The Air Challenge range of educational fume cupboards are fitted with a fully integrated electronic alarm system which gives an audio and visual warning in the event of an extract air flow failure or if the sash is opened beyond the normal operating limits.

Alarm Panel

The alarm panel contains 3 indicator lamps, green to indicate a compliant air flow rate through the sash, red, which is linked to an audio alarm, to warn of a low flow rate, and orange which indicates when the sash has been opened beyond the normal operating range, i.e. for the loading of large apparatus etc.

Method

A percentage of the air that is extracted from the cupboard passes over an electrically heated thermal sensor causing a drop in the sensor temperature this temperature is measured electronically to produce a signal which is directly proportional to the air flowing through the sash, this signal is then compared with a reference level signal which will give an alarm should the airflow fall below the desired level.

The maximum sash opening height for normal operation is limited to 400mm by electronic solenoids, however to allow for the loading of large apparatus into the containment chamber the control panel incorporates a key operated switch which allows the sash to be opened to a height of 570mm.

The Air Challenge range of educational fume cupboards are supplied in 3 standard widths:- 1m, 1.2m, & 1.5m. We are however are able to manufacture fume cupboards in any width from 900mm to 1.8m, this will involve certain modifications to our standard model range which we will be happy to discuss if the need arises.

THE AIR CHALLENGE 1200-M

The letter 'M' denotes a partially mobile fume cupboard, the design of the mobile range is almost identical to that for the fixed models, however all mobile fume cupboards are manufactured with a fully glazed back panel complete with a baffle formed from 6mm clear Perspex, ensuring complete visibility from all sides when the fume cupboard is used for demonstration purposes.

All services are connected via appropriately approved flexible connections complete with regulation length restricting chain, the duct work used in the installation of mobile fume cupboards is generally 250mm diameter plasticised flexi-duct, which is a light plasticised PVC over PVC coated wire spiral.

The mobile range of fume cupboards are installed upon a wheeled frame, the frame is formed from 25mm square cold rolled and seam welded tube finished in black phosphated double coated paint and is stove enameled. The wheels are 100mm diameter, chrome body, grey with rubber tyre, the front 2 wheels incorporate a foot operated brake facility, the maximum load per set of 4 is 160 kilos. As with the fixed models, sizes available are 1m, 1.2m & 1.5m, if other widths are required please contact us where we can discuss the modifications that will be required.

BASE UNITS

Our standard base units are manufactured from either solid timber, M.D.F or laminated high density chipboard, vented storage units can be supplied and protective trays for acid or solvent storage are also available, specifications and prices available on request.

FUME EXTRACT SYSTEMS & ACCESSORIES

All Regal Fans extract systems are designed to meet the specific requirements of our clients whilst also complying with current regulations. All fans are of a centrifugal type, with the fan motor positioned outside of the airstream thus avoiding any possible corrosive action via fumes. All fan units are fitted with corrosive resistant PVC multi blade impellers fitted with a cast nylon center boss, this special light weight component has been designed and manufactured by ourselves to ensure that minimal wear to the bearing or bearing housing occurs if, after prolonged use, an impeller becomes unbalanced.

Our standard duct material is rigid circular PVC but duct work manufactured from square or rectangular PVC, polypropylene or stainless steel can be supplied if required.

In addition to our range of fixed and mobile fume cupboards for educational requirements we also manufacture our **FUME MASTER** range of fume cupboards which are designed in accordance with **BRITISH STANDARD BS7258 PART1,** these cupboards are manufactured in three standard widths 1.2m, 1.5m & 2m and can be supplied with up to ten service outlets, specifications and prices are available on request, we will be pleased to offer a complete package for laboratory planners, either fully installed or on a supply only basis.

ADDITIONAL SERVICES

Laboratory Furniture
Design and type to suit customer requirements.

Gas, Water and Electricity
Installation of all types.

Fume Hoods
In PVC, Polypropylene or GRP, details on request.

Centrifugal Fan Units
In PVC, Polypropylene or GRP, details on request.

Extraction System
Design and type to suit customer requirements.

Full Maintenance Programs
Including examination and testing in compliance with COSHH Regs 1988

Regal Fans are continuously improving their products and therefore reserve the right to change any specification without prior notice.

REGAL FANS LTD
Tel:01376 342914 / 552205 Fax: 01376 348208
Ventris House, Lakes Road, Braintree, Essex CM7 3SS

Fume Extraction Engineers
Fume Cupboard Manufacturers
PVC Fabricators
Laboratory Service Installations
Testing & Commissioning Services

DESIGNED & PRINTED BY PRINTCARE TEL: 01376 325707