


Fume Cupboards and Extraction

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**Fume Cupboards and Hoods
Ducting in PVC and Polypropylene
Centrifugal Fans
Custom Designed Scrubber systems**

ECL EXTRACTION FUME CUPBOARDS

THE *FFFC* FUME CUPBOARD RANGE

The Free Flow *FFFC* range of robustly built, fully featured fume cupboards provides a reliable and safe working environment. The range has been built according to and supersedes the BS7258 standard.



FFFC standard widths, External/Internal (mm): 1300/1000, 1500/1200, 1800/1500, 2100/1800, 2300/2000.
Depth, External/Internal (mm): 990/650
Height: 2435mm with optional steel support frame (+optional infill panel)

Bench Mounted standard features:

- Internal Chamber height of 1300mm
- Bypass feature to reduce face velocities when sash is lowered
- Counter balanced polycarbonate sash with guides for smooth movement – option of 6mm thick toughened glass sash
- Sash cords and weights accessible for routine inspections
- Optional removable heat shields
- 2 power sockets and light switch as standard
- Solid Grade Laminate lining (G-COM)
- LIPPED Black G-LAB phenolic resin work surface resists staining while the integral bund contains spills

Options:

- Water and gas outlets - Broen.
- Fume Cupboard epoxy powder coated steel support frame.
- Under-bench storage cupboards
- Chemical Under-bench storage cupboards
- Solvent Under-bench storage cupboards
- Optional Control Panel with digital airflow read out, visible and audible low air flow alarm
- Alternative liner materials: Polypropylene,
- Removable matching infill panels to ceiling height to hide ductwork connection

Optimum fume cupboard performance relies on correct design of a suitable fume extraction system. We design and manufacture fume extraction systems in PVC or polypropylene, incorporating a range of centrifugal fans, to comply fully with the latest standards. ECL's ability to offer a complete system means that the project is coordinated from a single source and there is a clear line of responsibility.

FFFC AUXILIARY AIR FUME CUPBOARDS

Auxiliary Air fume cupboards reduce the loss of expensive tempered air from the laboratory. Ideal for laboratories with inadequate make-up air supply. Equipped with an auxiliary air louvered module box to introduce added air flow to the face opening of the fume hood.



Supply air ducting & remote add air fan will be required. Auxiliary Air hoods are based on a 50% supply air to make up for room supply deficiency.

The module box can be incorporated on any of the FFC range in the corresponding material to that of the fume cupboard.

FFC-PP PERCHLORIC AND ACID DIGESTION FUME CUPBOARDS

This specialized fume cupboard is designed to be used when handling hot perchloric acid, hot nitric acid, or for routine use of perchloric acid. The unit is built with a complete polypropylene construction and a wash-down system of water spray nozzles, piping, valve and rear drain trough for rinsing wash down after usage. When heated, perchloric acid vaporizes and condenses on hood, duct and fan components. In addition to being highly corrosive, condensed vapors can react with organic materials to form explosive perchloric salts and esters. Chemically resistant polypropylene surfaces allow for easy cleaning and a water wash-down removes any explosive compounds that might have formed on the internal surfaces.



FFC-PSS TRACE METALS FUME CUPBOARDS

Trace Metals fume hoods are designed for applications where no metal can be present, these hoods feature a totally non-metallic construction

FFC-FM FLOOR MOUNTED FUME CUPBOARDS

Fume Hood is designed to provide comfortable space when users have to deal with large apparatus and hazardous containers. This fume hood is built with horizontal or vertical sliding sashes for ease of access when transporting apparatus into the hood. Although this type of fume hood is sometimes denoted as a walk-in fume hood, it is a misnomer. The user must not enter the hood while an activity generating hazardous fumes exists or when suspected concentration of fumes exists inside the chamber.



FFC-RI RADIOISOTOPE FUME CUPBOARDS

The Radio Isotope units are designed to be used when handling radioactive materials. This specialized fume hood is built with stainless steel internal surfaces (including the work surface) with covered seamless welded corners for easy cleaning and decontamination. Internal chamber constructed of stainless steel 304 with coved corners with the option to upgrade to 316 stainless steel.

FFC-ED EDUCATIONAL FUME CUPBOARDS



The **FFC-ED** Educational Fume Cupboard is ideal for a teaching environment. The cupboard is fitted with glass sides so that students can easily see the demonstration.

The single wall construction allows for optimal space and unobstructed viewing. The range come standard with two plug sockets and one light switch.

Broen gas and water services are available as an option.



ECL EXTRACTION POLYPROPYLENE DUCTING

ECL Manufactures all our ducting components in house which allows us greater control over ensuring the ducting configuration is optimised for your extraction needs. The benefits of using polypropylene ventilation ducting over traditional PVC ducting include:

Chemical Resistance

Owing to proven high resistance, polypropylene ducting is particularly well-suited for industrial applications in the chemical industry, and the pharmaceutical industry and guarantee a high level of security and long operating life, depending on the concentration of chemicals, the temperature and the pressure.

Corrosion Resistance

Thanks to the corrosion resistance and the excellent properties of the individual materials, a ventilation duct made of Polypropylene has a much higher service life.

Operating Efficiency

Operating efficiency is particularly emphasized by the long service life, easy processing and the simplified manufacturing process of the individual components. Plastics engineering also makes it very easy to expand and repair existing systems. Consequently, this results in a clear advantage over a metal solution.

Low Weight

The low dead weight of Polypropylene makes it easy to transport and handle during assembly.

Less Danger to Humans & The Environment

The individual components are bonded using a suitable welding process which demonstrates a 100% leak tightness when done professionally, thus causing less dangers to humans and the environment.

Lower Maintenance Costs

Incrustations (deposits) are the result of carried suspended solids. The surface of the polypropylene formed parts is smooth, which reduces the adhesion of such substances and also reduces the necessity of cleaning and servicing entire plants at frequent intervals.

Environmental Protection

Thermoplastics are 100% recyclable. All waste matter is ground finely and homogeneously before being recycled. Polypropylene Ducting can be easily recycled in many different ways with minimum power consumption. Hence, natural resources are used multiple times. This is one of the reasons why plastics are used in many new areas of application, representing all ranges of material of the 21st century. From an ecological and economical perspective Polypropylene is one of the substances of the future.



PVC DUCTING



The benefits of using polypropylene ventilation ducting over traditional PVC ducting include:

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STAINLESS STEEL DUCTING

Specially fabricated 304 stainless steel ducting is suitable for any low pressure gases. Perfect for non-static and non-corrosive fume extraction.



ECL EXTRACTION POLYPROPYLENE CANOPY HOODS

Canopy hoods are designed to collect and exhaust corrosive vapors, heat, steam, and odors when mounted over areas with water baths, hot plates, or portable equipment. The hoods have a built in plenum to increase air flow around perimeter of hood to improve capture.



Canopy hoods can be fitted with additional side panels to further isolate the extraction area.

Plenums can be added to extract at bench top level or floor level to remove fume or vapors that are denser than air.





ECL EXTRACTION

EXTRACTION ARMS

Extraction arms for every type of application

Nederman extraction arms are easy adjustable, simple to position and compact

All Nederman extraction arms are highly flexible, and simple to position, extend and retract. Different attachments are available for wall, ceiling or extension bracket mounting as well as a number of accessories, including hoods and dampers to improve efficiency. The arms are connected to a vacuum and filter system removing the contaminants from the extracted air so that it can be returned to the atmosphere or recycled without negative effects.





ECL EXTRACTION FUME SCRUBBERS

Fume Scrubbers are an effective means of removing many types of airborne contamination. There are various designs which are used in different applications, however they all operate on a similar principle – passing contaminated air through a system which encourages contamination to be left behind in a liquid. The liquid acts as a filter capturing the harmful substance, allowing purified air to leave the scrubber. The liquid may then be recirculated back through the scrubber to capture more contaminants. Due to the way scrubbers operate they can handle large concentrations of pollutants continuously, and may offer lower lifetime running costs than filtration systems since there is no need to replace filtration media.

ECL offers a complete service for the design, manufacture and installation of fume scrubbers to handle corrosive fumes, moist gases and dust laden air flows.









The fume scrubber systems can be configured as either a manual or automated system. The Manual configuration is a lower cost option in which the scrubbing solution is checked manually at pre-determined intervals to assess pH and determine if additional caustic needs to be added. The automated system automatically checks the pH and adjusts the levels of scrubbing solution to caustic concentration and dumps neutralized waste into a holding tanks. The unique control panel is preprogrammed to the correct dosing and dumping cycle at the predetermined pH Level and at the same time allows for full control over each of the components that make up the automated system.