

RFC Series

RECIRCULATING FUME CABINET



Description

RFC Series cabinets have been developed to protect laboratory staff and the environment from toxic vapours, gases, fumes and particles. The cabinets are designed and manufactured to fully comply with Australian Standard AS2243.9: Recirculating Fume Cabinets.

The RFC cabinets are suitable for benchtop use and supplied with a stainless-steel work tray. When supplied without the work tray, the cabinet may be installed over a sink or an item of equipment. RFC cabinets can be supplied with a special trolley or stand which allows a separate trolley to be wheeled into the containment enclosure. The mobility of trolley-mounted RFC cabinets is a significant advantage in hospitals or large research institutions, where materials such as glutaraldehyde are handled at multiple locations. These applications include endoscope sterilisation.

The RFC cabinet has an inward air velocity that is maintained at $> 0.5 \text{ m/s} \pm 20\%$ for both benchtop and trolley-mounted installations. In most applications, filtered exhaust air may be discharged to the room. This avoids the air supply system problems that arise with ducted cabinets. In special cases, where the nature or concentration of the contaminant indicates, the cabinet exhaust may be connected to an exhaust fan/duct system that discharges to atmosphere. RFC cabinets are produced in two (2) sizes, with 900 or 1200 mm nominal work zone width.

Filtration

Air exhausted from the top of the cabinet is filtered by a two-stage filtration system. A prefilter protects the final filter system from particulates $> 5\mu\text{m}$. The final activated carbon filter incorporates carbon granules with a selected chemical impregnation to optimise the arrestance of specific vapours. Specific impregnations are available for the handling of a wide range of contaminants, including formaldehyde and glutaraldehyde, Alkaline odours, Ammonia and amines, Inorganic acids and acidic odours, H₂S and mercaptans and HCN.

Special adsorption filters are fitted for the capture of a wide range of vapours. Chemical impregnation of the carbon produces a chemical reaction similar to an oxidation process when the contaminant is adsorbed. This process extends filter life as the surface of the catalyst will not be covered by molecules trapped on it, thus enabling the process to be repeated. These filters will operate effectively in environments with temperature up to 70°C, and with relative humidity up to 80%.

Filtration

AES Environmental continues to push the design boundaries of its Recirculating Fume Cabinet range; the RFC-P series has been developed for the safe containment of volatile compounds. The special P series features an explosion proof fan and can be configured with a dual bed of carbon or activated alumina to provide a wider range of contaminant removal.

Filtration (Cont.)

The P series is available in 1200mm and 1700mm widths to accommodate for the larger filtration surface area and specially selected fan and operating controls.

Construction

CABINET

Outer casing of the RFC is constructed from galvanized steel, powder-coated to AS2700. The work zone is constructed in Grade 304 stainless steel. A removable aluminium screen is fitted in front of the prefilter at the rear of the work zone.

FAN

A direct drive motor/blower is regulated by a variable speed controller to enable airflows to be maintained through filter life.



Prefilters

An easily-accessed, disposable polyester prefilter arrests not less than 90% of particulates > 5µm, thus prolonging carbon filter life. A warning light in the control panel signals the need for prefilter service.

Electrical

Cabinets operate on single-phase 240V, 50 Hz power via a 10A outlet. A low voltage touch control panel with function status indicated by LEDs is located on the front of the cabinet. Glare-free fluorescent lamps provide a minimum lighting intensity of 800 lux at the work surface.

ON-SITE TESTING

Products produced by AES are factory-tested to ensure compliance and performance targets are met.

Additional testing and certification is recommended as follows:

- On-site prior to use
- After any electrical or mechanical maintenance
- After filter replacement
- After re-location
- At least annually
- In special circumstances, e.g. if faulty operation is suspected.

On Site Testing (Cont.)

AES Environmental is a NATA registered laboratory that provides comprehensive on-site maintenance, testing and certification services of safety cabinets, laminar flow work stations, cleanrooms, operating theatres and HEPA filter installations.

Standard Features

- Stainless steel work zone
- Low voltage touch controls
- Glare-free fluorescent lighting
- Comprehensive operation manual
- Quiet, low vibration operation

PHYSICAL DATA (MM)	OVERALL DIMENSIONS			WORK ZONE DIMENSIONS			
	CABINET MODEL	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
RFC 90 Benchtop	975	750	1180	880	500	585	115
RFC 90 Trolley Mounted	975	750	2100	880	500	585	155
RFC 120 Benchtop	1280	750	1180	1180	500	585	138
RFC 120 Trolley Mounted	1280	750	2100	1180	500	585	185
RFC 170-P Benchtop	1700	820	1400	1600	719	650	192
RFC 170-P Trolley Mounted	1700	820	2321	1600	719	650	262

Options

- Floor stand
- Trolley
- Carbon filter for specific contaminants
- 'Wheel-in' configuration for endoscope trolleys

Other Products

- UltraSafe™ Cabinet Series
- Class II Safety Cabinets
- CG2000™ Cytotoxic Drug Safety Cabinets
- Laminar Flow Work

