



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.

Description

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.

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, H_2S and mercaptans and HCN.



RFC Series

Recirculating Fume Cabinet

Construction

Cabinet: Outer casing of the RFC is constructed from galvanized steel, painted with laboratory-grade enamel paint. 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.

Activated carbon filters: 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%.

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.

Physiscal Data

Cabinet model and type	Overall dimensions (mm)			Work zone dimensions (mm)			Weight
	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

On-site testing

RFC Series cabinets are factory-tested by a NATA-registered laboratory.

Additional testing and certification is recommended as follows:

- (a) On site prior to use.
- (b) After any electrical or mechanical maintenance.
- (c) After filter replacement.
- (d) At least annually.
- (e) In special circumstances, e.g. if faulty cabinet operation is suspected.

AES Environmental provides comprehensive on-site maintenance, testing and certification services for safety cabinets, laminar flow work stations, cleanrooms and HEPA filter installations. This service is available from fully-equipped laboratories in major Australian centres.

Standard Features

Stainless steel work zone
Low voltage touch controls
Prefilter service indicator
Glare-free fluorescent lighting
Quiet, low-vibration operation

Options

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

Important note: Specifiers and intending users should see AS2243.9, Clause 1.2 which sets out the intended applications and limitations of these cabinets.

Addresses

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