



## **CytoFast cytotoxic drug safety cabinets**

Protection for products, operators and service personnel



Compliance, protection and reliability

## Gelaire CytoFast cabinets

### APPLICATIONS

#### Pharmaceuticals

Cytotoxic drug safety cabinets (CDSCs) are defined in Australian standards AS 2567 and AS 2639 as the primary barrier against exposure to aerosols produced in the preparation, manipulation and dispensing of cytotoxic drugs.

Many of these drugs were shown to be mutagens and some to be carcinogens in cell DNA and chromosomal studies. Additionally, a causal relationship has been shown between occupational exposure of unprotected pregnant women to these drugs and increased incidence of teratogenesis. Effects of exposure to these drugs are insidious and may not manifest themselves for some years.

Class II biological safety cabinets are unsuitable for use with cytotoxic drugs because aerosols recirculated within the cabinet contaminate fans and internal plenums, thereby exposing service personnel to contaminated surfaces.

#### Animal studies

An increasing number of animal-based studies involve the use of cytotoxic drugs, and some of this work has been carried out in Class II cabinets. Hazards posed to service personnel from this inappropriate use are now more widely understood, with the result that CDSCs are now specified more frequently for these applications.

These cabinets are also suitable for use with agents likely to cause genetic alterations or synergetic activities with other materials.

### AIRFLOWS AND PROTECTION

Personnel and environment protection is provided by an air barrier at the work opening and H14 HEPA filtration of exhaust air. Inflow of ambient air into a full-width grille in the work opening creates the air barrier. A quantity of air equal to the barrier inflow is exhausted to the room through the exhaust filter. Vertical laminar airflow recirculated within the work zone through a second H14 HEPA filter maintains a sterile environment for product protection. Location of the exhaust filter system directly under the work tray prevents recirculation of aerosols of drug products to fans and internal plenums, thus protecting service personnel.



Pharmaceutical manufacturing installation

### DESCRIPTION

CytoFast cabinets embody the latest European control and filtration technology, together with class-leading ergonomics and functionality. Cabinets are free-standing and available in widths of 900 mm, 1200 mm and 1800 mm; all with exhaust discharge at the top. Cabinets comply fully with Australian standard AS 2567, DIN 12980 and the EU standard EN 12469.

An electric sash front window with smooth, silent operation can be raised to a maximum opening of 420 mm for cleaning or movement of materials; or completely closed, obviating the need for a work zone closure panel. Glass side panels are fitted in the work zone.

Cabinets are available in isolator configuration with glove ports and H14 HEPA-filtered transfer hatches. This version conforms to Class III in ISO 14644-7.

#### ECS® control and energy management

The new ECS® (Eco Control System) microprocessor employs the latest technology for integrated management of airflows and filtration. Self-regulation of airflows compensates for gradual loading of filters, while restoring power balance. Combining AC fans and certified low pressure-drop filters, the ECS® system optimises power consumption, thereby reducing CO<sub>2</sub> emissions into the environment.

## Ergonomics

- Knee space of 300 mm optimises comfort for seated operators
- Flat air barrier grille integrated into the work tray without ledge or joint
- Window and all switched function operated by touch controls
- Noise level *in situ* typically < 60 dB(A) with ultra-low vibration

## Safety and operational features

- Eco® Control System optimises energy consumption
- Fans automatically adjust to maintain safe airflows
- Constant monitoring and reporting of all operating functions in an illuminated LCD
- Display of laminar flow and air barrier velocities, operated by sensitive anemometers
- Real-time clock
- Selectable display of:
  - Internal and external temperature
  - Hours of operation
  - Fan power factor
  - Scheduled filter lifetime
- Speed-reduction 'standby' mode allows continuous operation with power saving
- 'Blackout' reporting if power supply to the cabinet fails while the user is absent
- Audible and visible alarms indicate window malposition, out-of-range airflows or any other malfunction

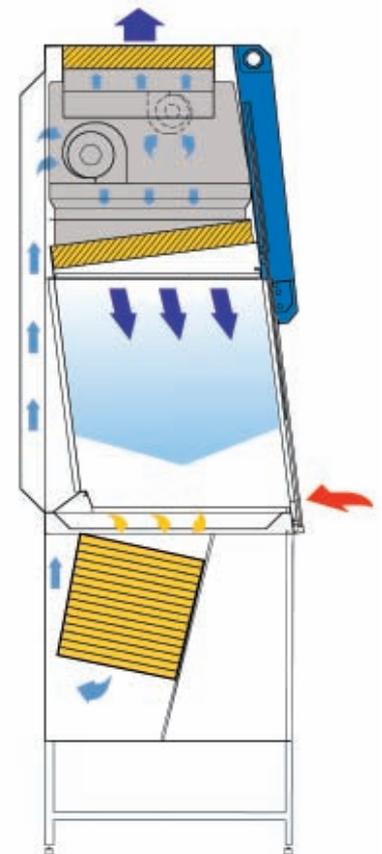


## Construction

- Robust, gastight housing with Dupont™ A/esta® antimicrobial powder-coat paint finish using environmentally-sustainable silver ions to resist growth and spread of microbes.
- 304 stainless steel (SS) work zone
- 316 SS work tray for increased corrosion resistance
- H14 minipleat HEPA filters with protective hydrophobic membrane on work zone filter. High-capacity multidihedral exhaust filters for increased life
- Activated carbon exhaust filter
- Work zone power outlet



Multidihedral exhaust HEPA filters



## Accessories and options

- Isolator configuration with glove ports and transfer hatches
- Additional work zone power outlet
- Infusion rail in work zone
- Service taps for gas and vacuum
- Magnehelic gauge
- Germicidal UV lamp

## Independent testing and certification

Gelaire safety cabinets are independently tested and certified, pre-delivery and on-site, to current Australian Standards by an independent NATA-registered testing laboratory.

## Installations

In pharmacy applications, these cabinets should be installed in the special cleanroom specified in AS 2639, with HEPA filters on supply and exhaust air and a pressure regime for aerosol containment.

Model	Overall dimensions mm			Work zone dimensions mm			Weight
	W	H	D	W	H	D	kg
209D	1045	2345	855	900	740	580	215
212D	1350	2345	855	1195	740	580	245
218D	1960	2345	855	1805	740	580	325
Work opening height and air barrier test method				200 mm		AS 1807.22	
				250 mm		AS 1807.26	

External air Sterile air Recirculated air

## OTHER PRODUCTS



- *BH-EN* Class II biological safety cabinets
- *UltraSafe* Class II biological safety cabinets
- *HLLAF* and *VLLAF* laminar flow cabinets
- Animal cage-change cabinets
- *RHLLAF* dust and powder-containment cabinets
- *VPCR* laminar flow cabinets for PCR
- *Ergo-Lab* height-adjustable electric stands

[www.gelaire.com.au](http://www.gelaire.com.au)



### Vilair-AAF® cleanroom and air filtration products

Vilair-AAF is a specialised manufacturer and supplier of air filtration and contamination-control systems. Products include the Airguard® range of air filters, replacement filter media for all filter brands, laminar downflow dispensary and sampling booths, pass-through hatches and air showers.

[www.vilair-aaf.com.au](http://www.vilair-aaf.com.au)



### Biotest® air monitoring

#### Biotest

Monitoring of airborne contamination levels is a vital element of process management in critical controlled environments. Compact, hand-held air samplers meet this need. Manufactured in Germany and the USA, the Biotest range uses the latest technology to provide precise data regarding air cleanliness in any process or laboratory situation.

- *RCS*® biological air samplers
- *APC*® airborne particle counters

[www3.biotest.de/ww/en/pub/diagnostic/hygienecontrol.cfm](http://www3.biotest.de/ww/en/pub/diagnostic/hygienecontrol.cfm)



### Air Techniques International® (ATI)

Air Techniques is the leading designer and manufacturer of specialised testing equipment for HEPA filters, media, filter cartridges, respirators and protective masks. Equipment includes aerosol photometers and aerosol generators for testing HEPA filters, safety cabinets and cleanrooms.

[www.atitest.com](http://www.atitest.com)



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