

# CG2000 Cytogard

## Cytotoxic Drug Safety Cabinets



Advanced technology  
for safe handling of  
cytotoxic drugs



## Applications

Cytotoxic drug safety cabinets are defined in Australian Standard AS 2639 as the primary barrier against exposure to aerosols that are produced in the preparation, manipulation and dispensing of cytotoxic drugs. Many of these drugs are known to be mutagens, and are suspected of being carcinogens and teratogens.

These effects are insidious and may not manifest themselves for some years. The requirements for protection involve the following:

- Protection of cabinet users and other staff from exposure to aerosols or vapours which may be generated in the preparation, manipulation and dispensing of cytotoxic drugs.
- Protection of drug products, so that they may be prepared in an environment which is essentially free from particulate and biological contamination.
- Protection of cabinet maintenance personnel from the residue of drug particles which can contaminate filters, fans and other mechanical components.

## Australian Standards

CG2000 Cytogard™ cabinets are designed and manufactured to comply with AS 2567, and each cabinet is factory-certified by a NATA-registered laboratory to meet the specified performance requirements. These cabinets may also be used where the handling of other drugs and chemicals requires both containment and aseptic manipulation.

CG2000 cabinets are part-recirculating laminar air-flow enclosures with high efficiency particulate air (HEPA) filtration of exhaust air and an air barrier at the work opening.

HEPA-filtered vertical laminar airflow which is recirculated in the work zone creates an ultra-clean work environment for product protection. An air barrier between the operator and the work zone is maintained by a flow of room air into a full-width grille in the work opening.

The barrier air mixes with the recirculated laminar flow air in a sump underneath the work surface, and is exhausted from the cabinet via a HEPA filter which is located directly under the work tray.

All positive pressure zones and filter seals are surrounded by negative pressure zones, so as to contain potentially hazardous aerosols.



Cabinets are available with the work zone width of 90cm, 120cm or 180cm, and are free standing units that incorporate a floor stand. Standard cabinets have exhaust discharge on the right-hand side with optional left-hand side or top exhaust available. Top exhaust is typically specified where cabinet exhaust air is to be entrained into the room exhaust in accordance with AS 2639.

These cabinets provide advanced system-monitoring technology and a number of unique design features intended to enhance safety and ease of use.

## Construction

**Cabinet.** Constructed in electro-galvanised steel with joints welded using a gas-shielded arc process. This method produces a robust, leak-free housing that is able to withstand the rigours of transport and handling. Exterior finish is in a special baked enamel which has been developed for laboratory equipment.

**Work zone.** Constructed in grade 304 stainless steel with 2B finish. Corners are radiused and crevice-free for ease of cleaning and all surfaces are carefully dressed to remove sharp edges. The removable work tray is designed to allow cleaning access to its underside without removing it from the cabinet.

A pneumatic mechanism opens and closes the viewing window without the need for external fasteners or catches. The window is self-supporting in the fully-open position to facilitate cleaning and access for large items. Opening the window with the cabinet running automatically engages a boost mode for enhanced containment by activating a maximum exhaust airflow and the alarm systems.

**Fans.** Separate direct-drive fans are provided for the exhaust and laminar flow HEPA filters. Fans are fitted with speed controllers to enable airflows to be maintained through filter life.

The fan control circuits are interlocked so that the laminar flow system will not operate until the exhaust system has achieved a containment condition.

Audible and visible alarms with rechargeable battery back-up signify any reduction in barrier containment or laminar airflow.

**HEPA Filters.** Clyde-Apac® Microseal™ HEPA filters, which are certified by Quality Assurance Services under Licence No.2515 to carry the SAA StandardsMark for compliance with AS 4260. Each filter is individually certified to achieve efficiency of not less than 99.995% to the stringent BS 3928 Sodium Flame test, and to be leak-free in accordance with AS 1807.6. Testing is conducted in a NATA-accredited laboratory with a NATA-endorsed test label, being an extract of the test report, affixed to each filter.

A prefilter extends the life of the exhaust HEPA filter, and protects it from mechanical damage during cleaning of the work zone.

**Electrical.** Cabinets operate on single-phase 240V, 50 Hz power via a 10A outlet. The electrical system complies with Australian Standard AS 3100.

A low-voltage touch-control panel is located on the front of the cabinet. The Optima 2000™ microprocessor-controlled control and diagnostic system provides continuous monitoring of critical cabinet functions with a digital display indicating the nature of any malfunction. The boost mode and a post-use over-run mode may be manually selected from the control panel. A real-time clock in the control panel may be programmed to function as a process timer.

An integral fluorescent lamp housing reduces heat build-up near the operator. Glare-free lamps provide a minimum lighting intensity of 800 lux at the work floor.

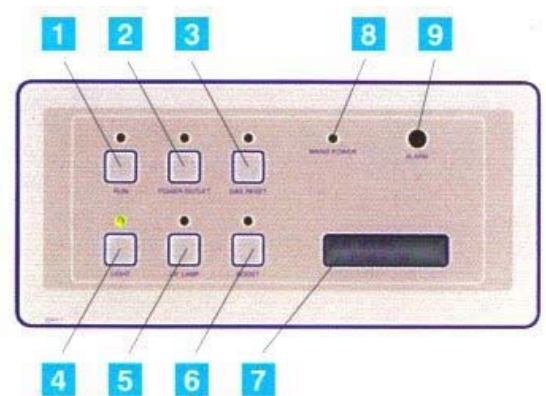
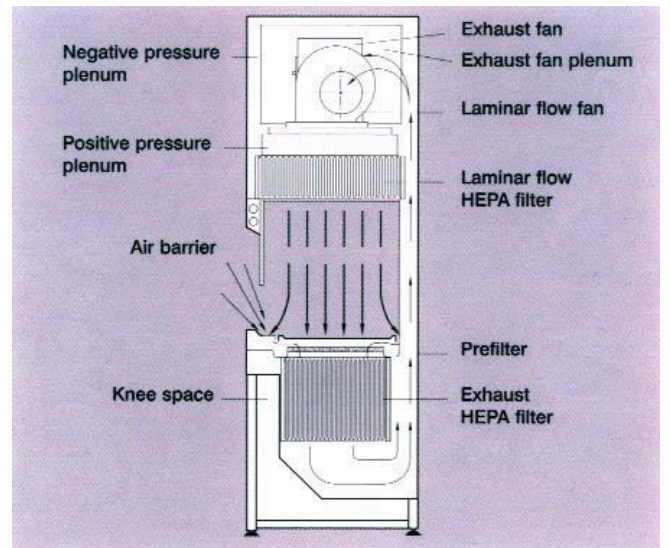
**Physical data**

Model	Overall dimensions (mm)			Work zone dimensions (mm)			Weight (kg)
	W	D	H	W	D	H	
CGA90	1135	770	2310*	880	560	610	326
CGA120	1440	770	2310*	1180	560	610	372
CGA180	2050	770	2310*	1790	560	610	487

\*Height is 2410mm on top exhaust cabinets. To facilitate transport and installation, cabinets are supplied as two modules that are 1500mm and 790mm high for side exhaust, or 1600mm and 790mm high for top exhaust.

**Catalogue numbers**

Model	RHS exhaust	LHS exhaust	Top exhaust
CGA120	2030021	2030022	2030023
CGA180	2030201	2030202	2030203
CGA180	2031201	2031202	2031203



**Control Panel**

- 1. Fan/post-use over-run switch
  - 2. Power outlet switch
  - 3. Gas reset switch\*
  - 4. Fluorescent light switch
  - 5. UV lamp switch\*
  - 6. Boost mode switch
  - 7. Display panel
  - 8. Mains power indicator
  - 9. Alarm indicator
- \*optional function

## Standard Features

- Optima 2000™ programmable control and diagnostic system with digital display
- Low voltage touch controls
- Alarms and boost mode automatically engaged when viewing window is open
- Boost mode selectable at control panel
- Selectable post-use over-run timer
- Hourmeter to record operating time
- Provision for interface with building energy-management systems
- Pneumatically-assisted viewing window
- Fully-sealed work opening cover for testing procedures
- Comprehensive operation and maintenance manual



## Quality control

Clyde-Apac® laminar flow and HEPA filter Branded products are manufactured under licence in Australia by AES Environmental (SA) Pty Ltd under an accredited Quality Management system that complies with the international standard ISO 9001. Accreditation is confirmed by Quality Assurance Services registration no. QS 10011.



## On-site testing

CG2000 cabinets are factory-tested and certified 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) After re-location
- (e) At least annually
- (f) In special circumstances, e.g. if faulty operation is suspected.



AES Environmental (SA) Pty Ltd, a NATA-registered laboratory, provides comprehensive on-site maintenance, testing and certification services for safety cabinets, laminar flow work stations, clean-rooms and HEPA filter installations.

This service is available from fully-equipped laboratories in major Australian centres. Similar services are provided by appointed service agents in other regions.

## Other products

HWS Series™ horizontal laminar flow cabinets

VWS Series™ vertical laminar flow cabinets

BSC2000™ Class I biological safety cabinets

BH2000™ Class II biological safety cabinets

PCR laminar flow cabinets

Recirculating fume cabinets

TFP™ Series HEPA filter clean-room modules

### The company

Clyde-Apac is a major Australian manufacturer of laminar flow equipment, and supplies products to Australia's leading research and health care institutions, as well as to significant export markets.

The Company's products comply fully with stringent Australian Standards and are manufactured under an accredited ISO 9001 Quality Management system. HEPA filters used in laboratory cabinets are covered by QAS StandardsMark certification to AS 4260.



A division of AES Environmental

Head Office: 19 Saggart Field Road

Minto NSW 2566

Phone: 02 9827 3400

Sales Enquiries: [sales@aseenvironmental.com.au](mailto:sales@aseenvironmental.com.au)

**Note:** In keeping with our policy of continuing product improvement, we reserve the right to alter specifications without notice