



# ULTRA SAFE

## CLASS II BIOLOGICAL SAFETY CABINET



# INTRODUCTION

*Introducing the UltraSafe Class II Biological Safety Cabinet. Engineered to provide exceptional protection and comfort for laboratory professionals, the UltraSafe Cabinet's innovative design ensures a quiet and efficient working environment, allowing you to focus on your critical tasks without distractions. Its advanced microprocessor control system offers intuitive fingertip control, making it easy to monitor and adjust performance settings.*



With a commitment to sustainability, the UltraSafe cabinet features a dual fan system that enables periodic adjustment to maintain safe operational compliance for the operator, product and environment. Its customizable design allows for various configurations to meet the unique needs of different laboratory setups, making it a versatile choice for any research or clinical environment.

Experience the perfect blend of safety, comfort, and functionality with the UltraSafe Class II Biological Safety Cabinet.

## DESIGN

The new UltraSafe cabinet features an ergonomically-designed designed operating window that slants away from the operator, it also enhances ease of use while maintaining the clean integrity of the work zone. The removable work tray enables thorough cleaning in all aspects of the work zone. An optional electric height-adjustable stand allows users to seamlessly adjust the cabinet to their suitable height, enabling a more comfortable and efficient working environment. Say goodbye to discomfort and hello to better posture with the UltraSafe BSC Class II.



# USER FRIENDLY

UltraSafe cabinets are designed with the user in mind, offering a range of features that **prioritise ease of use and convenience:**

- › **Simple Controls:** Low-voltage electronic touch controls with an easy-to-read digital display.
- › **Real-Time Feedback:** The digital display keeps you informed at all times.
- › **UV-Resistant Safety Glass:** Enhance visibility and distribute light, creating a brighter workspace.
- › **Laboratory grade work surface:** Scratch-free, high-quality stainless steel work surfaces that are easy to clean or autoclave.
- › **Customisable Workzone:** No two labs are the same. That's why we offer tailored workspaces to suit your specific needs.

# VALUE & RELIABILITY



**Trustworthy, long-lasting, and designed for maximum performance.** The UltraSafe BSC offers exceptional value and reliability, ensuring your laboratory operations run smoothly and efficiently. With its wide range of available accessories and the trusted reputation of the Clyde APAC brand, the UltraSafe cabinet is a proven solution for professionals seeking safety, durability, and high performance.

Designed to meet the highest standards of performance, the UltraSafe ensures a consistent and secure working environment for laboratory professionals. A true game-changer in the controlled work space market, this cabinet delivers exceptional value for money, making it the perfect investment for those who demand only the best in laboratory equipment.

# SILENCE WITHOUT COMPROMISING COMFORT AND SAFETY



› **User Safety and Comfort:** Highest grade of user safety and comfort, standard on all UltraSafe Class II BSC's.

› **Spacious Access, Secure Containment:** The 190mm front aperture ensures comfortable operation while maintaining full safety performance

› **Less Noise, More Focus:** Lower operational noise, same high performance.

› **Ergonomic Design:** The sloping front and electric height-adjustable stand offer improved ergonomics.

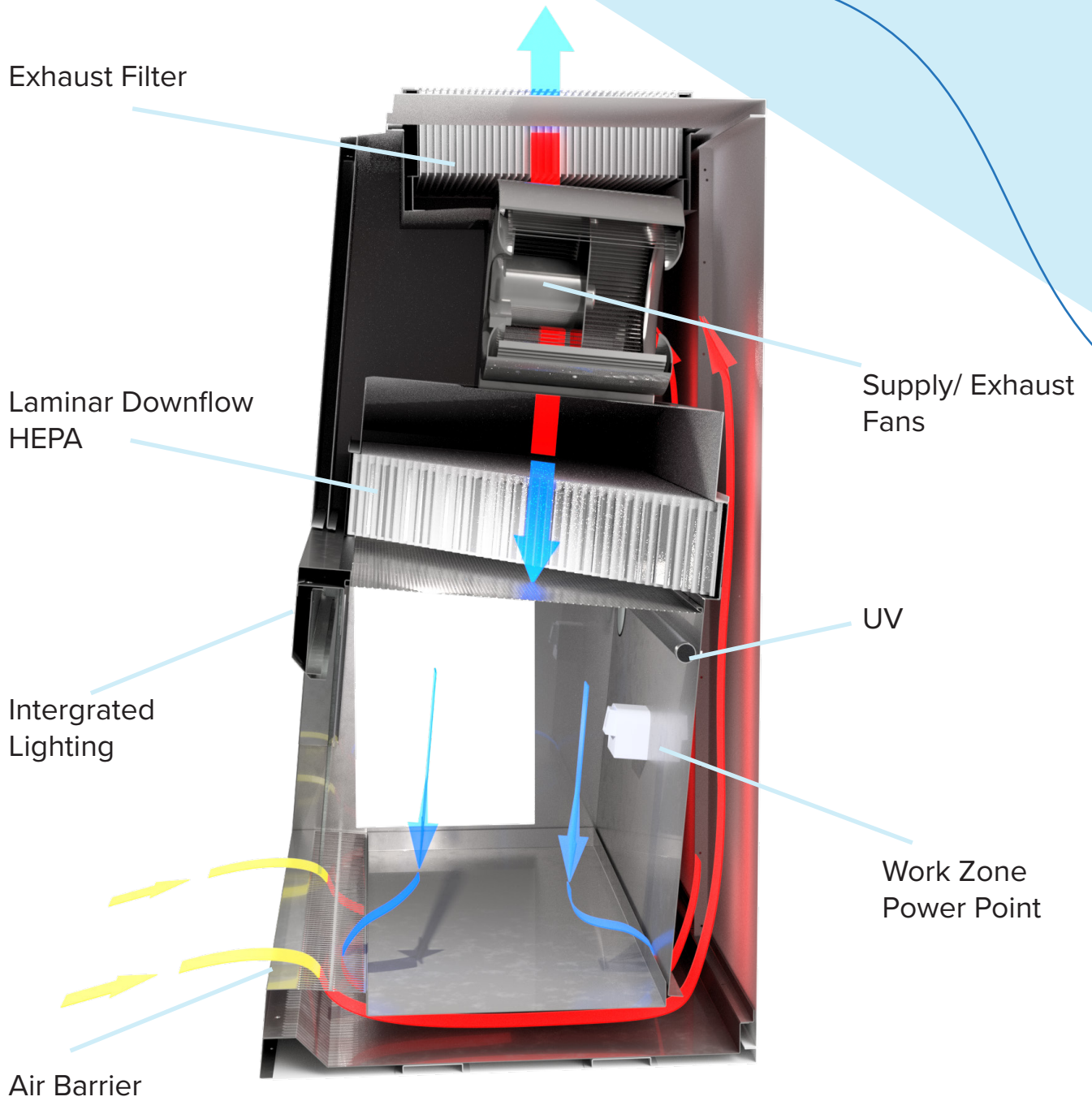
› **Operator-Focused Ergonomics:** The angled front promotes natural posture and reduces eye strain for a more comfortable working experience.

› **Backup Battery Support:** In case of power failure, the backup battery ensures ongoing monitoring of airflow, pressure, and power status, maintaining safety even without mains power.

## INTERGRATED FILTRATION SYSTEM

The UltraSafe's independent H14 HEPA supply and exhaust filters deliver 99.995% efficiency at 0.3 microns—the most penetrating particle size—offering exceptional protection against both smaller and larger airborne contaminants. This advanced dual-filtration system ensures clean, particle-free airflow throughout the work zone, safeguarding your samples, personnel, and laboratory environment with the highest level of filtration performance.

# AIRFLOW



Dirty Air

Outside Air

Clean Air

# AIRFLOW & SAFETY FEATURES

High-efficiency filters and fans provide industry-leading, compliant operation. Negative pressure zones prevent contaminated air from bypassing the filter or escaping the cabinet.

Vertical laminar airflow passes through the Laminar HEPA filter in a controlled, uniform structure to protect the product in the workzone.

## IN CLASS II CABINETS

An air barrier across the work access opening and into the sump reduces cross-contamination risks while protecting the operator from biological contamination.

In Class II BSCs, airflows mix in the sump before being recirculated through a return air plenum to the top housing. Exhaust air passes through a HEPA filter for return to the lab.

Separate fan/filter setups allow independent adjustment to maintain an effective air barrier.

A microprocessor controls blower motor speed and enables fingertip control of functions and status, including:

- › Cabinet performance and status clearly displayed.
- › Boost mode.



The UltraSafe Class II BSC is designed for handling microorganisms of varying risk levels by the following classifications:

Risk Group 1: Low risk, unlikely to cause disease in humans, plants, or animals, safe for general lab work.

Risk Group 2: Moderate risk, can cause disease but not serious harm to lab workers or the community, safe with proper containment.

Risk Group 3: High risk, serious pathogens. Enhanced containment features minimize spread and ensure safety.

# CABINET OPTIONS

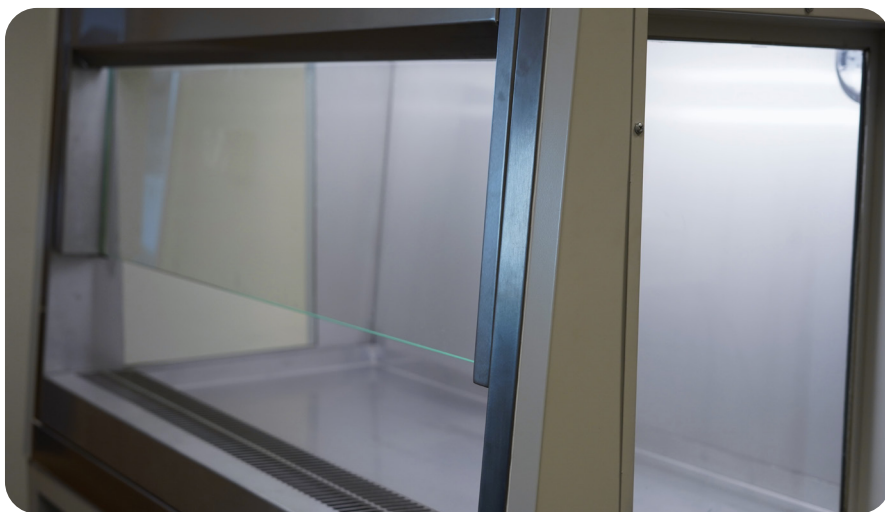
- > Choice of Top, Front, L/H or R/H exhaust
- > Air tap
- > Gas tap with solenoid control
- > Electronically-controlled, height adjustable floor stand
- > Floor stand, semi-adjustable (height to order)
- > Extra power outlet (1 x power outlet supplied as standard feature)
- > Uninterrupted Power Supply (UPS)
- > Vacuum tap with solenoid
- > Customised work zones
- > Fumigation adaptor panels for work opening and exhaust



**Gas tap**

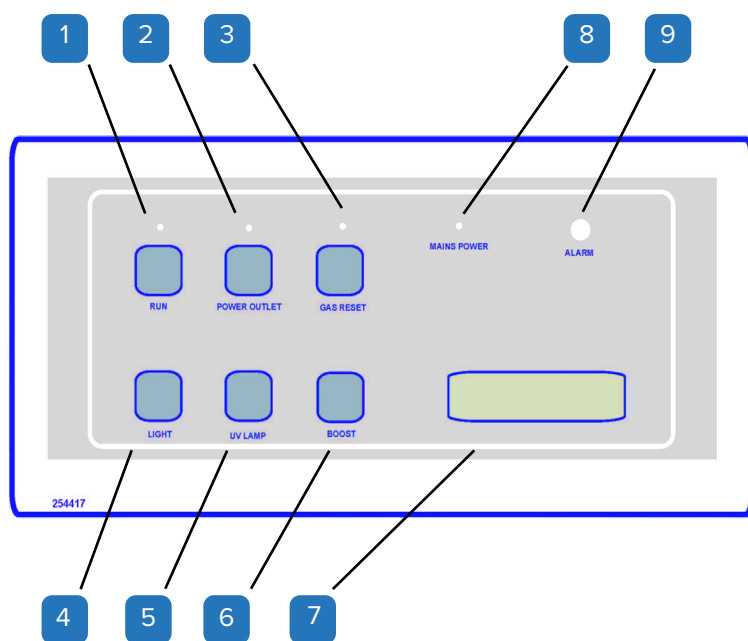


**Adjustable floor stand**



**Glass sides & large front access opening**

# OPERATION



## 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



# GENERAL SPECIFICATION ULTRASAFE CLASS II BIOLOGICAL SAFETY CABINET

Model		Ultrasafe 90	Ultrasafe 120	Ultrasafe 150	Ultrasafe 180
Part No.		1687-6000/90T	1687-6000/120T	1687-6000/150T	1687-6000/180T
Nominal Size		0.9m (3')	1.2m (4')	1.5m (5')	1.8m (6')
External Dimensions (WxDxH)		1035x790x1570mm	1350x790x1570mm	1650x790x1570mm	1975x790x1570mm
Internal Work Zone Dimensions (WxDxH)		870x580x620mm	1180x580x620mm	1480x580x620mm	1810x580x620mm
Test Opening		190mm	190mm	190mm	190mm
Working Opening		190mm	190mm	190mm	190mm
Fans: 240V single phase direct drive		2	2	3	3
Average Airflow Velocity	Inflow to grille	1m per second at set point			
	Downflow	0.4 - 0.45m per second			
Sound Emission*		< 62 dB (A)	< 62 dB (A)	< 62 dB (A)	< 62 dB (A)
Airflow Velocity	Inflow	250L/s	300L/s	490L/s	490L/s
	Downflow	240L/s	290L/s	470L/s	470L/s
	Exhaust	250L/s	300L/s	490L/s	490L/s
HEPA Filter Typical Efficiency	Downflow	99.995% at 0.1 to 0.3 microns to AS4260/EN1822			
	Exhaust	99.995% at 0.1 to 0.3 microns to AS4260/EN1822			
Germicidal UV Lamp AS1807:2021 Clause 4.5		400mW/m <sup>2</sup>			
Fluorescent Lamp Intensity S1807:2021 Clause 4.5		1200 Lux			
Certification to Australian Standards		AS1807: 2021 Clause 4.1/ Clause 4.3/ Clause 4.4/ Clause 4.5/ Clause 4.7/ Clause 4.9/ Clause 4.10			
Cabinet Construction AS2252.5 - 2009	Main Body	1.2mm 18 gauge powder coated electro galvanised steel			
	Work Surface	1.2mm 18 gauge type 304 stainless steel with B2 finish			
	Side Walls and Sump	1.2mm 18 gauge type 304 stainless steel with B2 finish			
Gas tightness of outer shell		Gas tightness of outer shell determined in accordance with AS1807:2021 Cl. 4.11			
Front viewing window		6mm laminated glass	6mm laminated glass	6mm laminated glass	6mm laminated glass
Electrical 220-240V AC 50Hz	Cabinet Power/ Amp	1300 Watts - 10 Amps	1300 Watts - 10 Amps	1300 Watts - 10 Amps	1300 Watts - 10 Amps
	Outlet Amp Fuse	10 Amps	10 Amps	10 Amps	10 Amps
	Full Load Amps	4.5 Amps	4.5 Amps	6.75 Amps	6.75 Amps
	Power Consumption	0.7 Kw	0.7 Kw	0.9 Kw	0.9 Kw
Cabinet Net Weight (kg)		210	250	280	300
Shipping Dimensions		1085x800x1650mm	1400x800x1650mm	1650x800x1650mm	2025x800x1650mm
Total Shipping Weight (kg)		240	280	310	330
Shipping Volume		1.4322m <sup>3</sup>	1.848m <sup>3</sup>	2.178m <sup>3</sup>	2.673m <sup>3</sup>

\* Factory sound level test performed with new filters installed. Expected performance with used filters < 65 dB (A) in accordance with AS 2252.2

# TESTING AND SERVICE

AES Environmental, through its NATA-accredited laboratory (No. 1139), offers comprehensive on-site maintenance, testing, and certification services for safety cabinets, laminar flow workstations, cleanrooms, and HEPA filter installations. It is recommended all BSC's should be at least once a year accredited to an approved standard and adjusted by a competent technician, preferably from an independent ILAC/NATA accredited laboratory.

## AUSTRALIAN STANDARDS

Ultrasafe cabinets comply with AS 2252.2 in all three vital areas:

- Cabinet design/construction
- Cabinet performance
- Air filter performance

Some cabinets on the Australian market do not comply in all of these areas. A decision to use such equipment should be taken only after careful consideration of the risk posed by the materials to be handled and with the agreement of those who will operate the equipment. (See current and proposed Health and Safety Regulations).



# CERTIFICATION

UltraSafe Class II Biological Safety cabinets are factory tested and certified by a NATA-Accredited laboratory. Additional on-site testing and certification is recommended as follows:

- > On site prior to use
- > At least once a year
- > After HEPA filter replacement
- > After any re-location
- > Change in work program

In special circumstances, such as significant change in the work programme, or where unsafe cabinet operation is suspected.



AES Environmental maintains an ISO 9001:2015 quality management system to ensure process and product conformance.

**Please note:** Specifiers and intending users should see AS2252.2 which sets out the intended applications and limitations of these cabinets.



AES Environmental is a family-owned, engineering and manufacturing business. The company comprises of major brands situated in the Air Filtration, Pollution Control and Life Sciences markets. Those brands and products are market-leading names within their fields ensuring that AES Environmental is capable of fulfilling its goal of providing the market with a single, integrated source for air filtration, clean room and pollution control needs.

Whatever business area you operate in, effective air filtration and pollution control is vital for your products, processes and people. All our products are manufactured in Australia and along with that, we offer installation and service Australia wide, that you can always rely on.

# GET TO KNOW US

AES Environmental consists of an Australian head office and manufacturing location in Sydney, NSW, manufacturing and service operations in Perth, WA, Adelaide, S.A. and service operations in Melbourne, Vic. Internationally the business operates manufacturing facilities in Bangkok, Thailand and Newcastle Upon-Tyne, UK.


However large or small the need, with expertise in just about every area of industrial and process filtration and separation, we're ready to help to deliver the products and 'hands-on' support to help you build a better future.


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

## GET IN TOUCH!

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