

# AirClean<sup>®</sup> Systems

The Fume Control Experts.

# BROCHURE

## HOODS, WORKSTATIONS AND ENCLOSURES FOR A SAFER LAB



SYNGENE

# AirClean<sup>®</sup> Systems

The Fume Control Experts.

**S Y N G E N E**

The logo graphic for SYNGENE consists of three horizontal bars stacked vertically, aligned with the 'Y' in the word above. The top bar is dark red, the middle bar is a lighter shade of red, and the bottom bar is a very light pink.

A DIVISION OF THE SYNOPTICS GROUP

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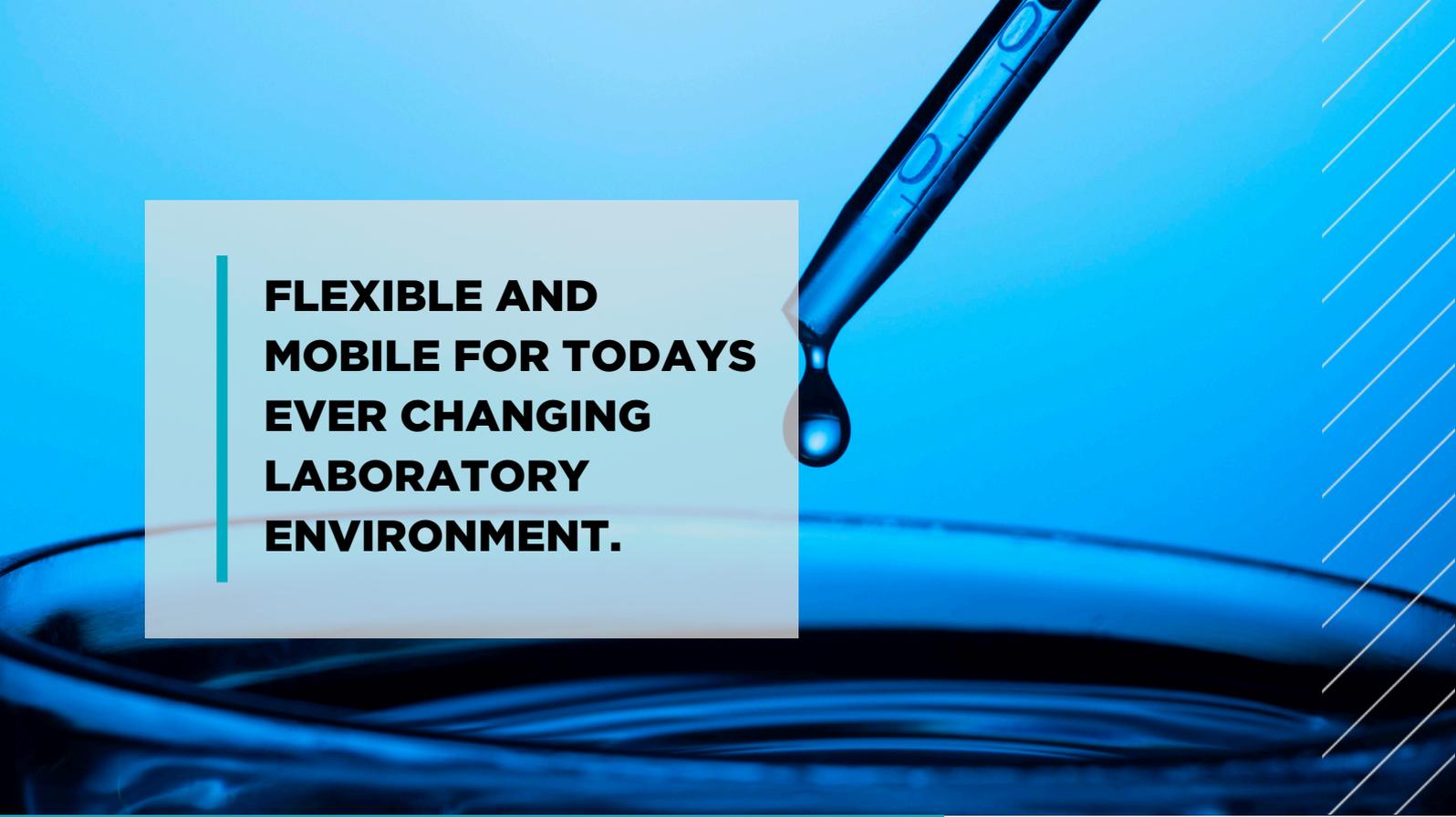
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**FLEXIBLE AND  
MOBILE FOR TODAY'S  
EVER CHANGING  
LABORATORY  
ENVIRONMENT.**

## **AirClean Systems**

Founded in 1992, AirClean Systems is the largest North American manufacturer of ductless hood, workstations and enclosures. We continue to develop and produce a complete range of solutions for protecting the operator or process from toxic vapours, fumes, gases and particulates.

**AirClean<sup>®</sup>**  
**Systems**  
The Fume Control Experts

## **Syngene**

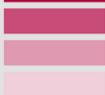
Founded in 1997, Syngene is a world-leading supplier of gel doc systems for rapid imaging and accurate analysis of visible gels, multiplexed fluorescence westerns, stain free gels and chemiluminescent blots. Our products are used globally by thousands of molecular biologists and scientists in Life Sciences, Genomics and Proteomics applications, who successfully contribute accurate data to projects in many of the world's top academic research institutes and pharmaceutical companies.



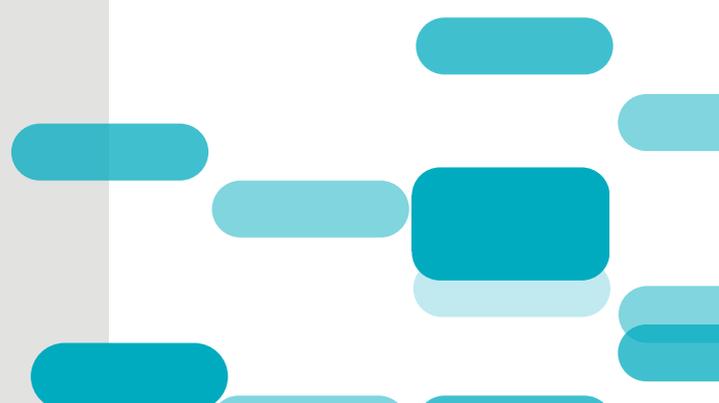
## Our Partnership

The relationship was formed in 2019 when Airclean sought a new European distributor for their range of PCR workstations. Since then, Syngene has taken on more of the Airclean range, and we now dual brand the systems to bring the safe ISO Level 5 Class 500 units to a global market. These flexible systems are perfect for any lab; being free-standing means they can be moved as needed. Trust Syngene and AirClean Systems to provide you with a safe and efficient solution for your laboratory needs.

**S Y N G E N E**



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# HEPASafe Filtration Technology

## Redundant filtration for increased operator safety

Our enclosures use advanced filtration technology to remove toxic powders and chemical vapours. This technology, known as HEPASafe Filtration Technology, helps to ensure that routine filter changes and enclosure maintenance are done safely and efficiently. By incorporating a rear wall pre-filter and HEPA filtration, our enclosures are able to manage contaminants effectively and keep potentially harmful particulates away from the operator's breathing zone. The unique design of our enclosures creates an even horizontal airflow path, which increases the capture of particulates and vapours, making our enclosures a safe and effective solution for your needs.

## Why HEPASafe?

With HEPASafe filtration technology, certification technicians can easily verify the equipment's effectiveness through discreet sampling ports. These ports are designed to facilitate particulate challenge testing and validation between the HEPA filters. The most significant benefit of using HEPASafe is that it allows the pre-filter and main HEPA filter to be separated during replacement. As a result, PowderSafe enclosures can continue operating and providing containment while the filters are being replaced.

## PowderSafe Controller

PowderSafe enclosures come with the AirSafe MicroProcessor Safety Controller to monitor and control airflow. Electronic sensors track HEPA filter back pressure, system pressure, and face velocity of the enclosure.

## Four stages of filtration

### First Layer - MERV 8 pre-filter

You can locate the initial two layers on the rear wall of the PowderSafe enclosure. The MERV 8 pre-filter acts as a coarse contaminant filter, extracting big micron particles from the airflow.

### Second Layer - HEPA filter

The filter is secured independently behind the pre-filter and is rated 99.997% efficient at capturing particles as small as 0.3 microns.

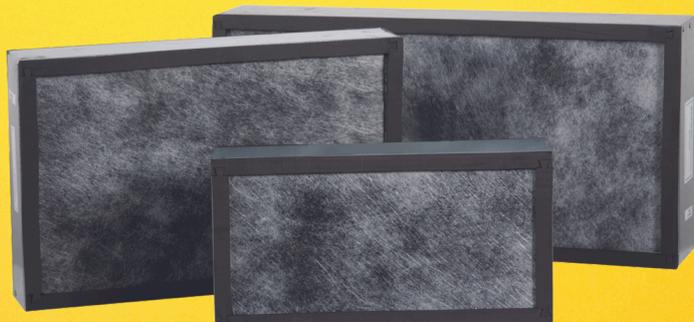
### Third Stage - Redundant HEPA filter

The redundant HEPA filter is crucial during the replacement of the primary HEPA filter. It ensures that the enclosure remains operational, maintaining negative pressure and capturing any loose particulates during maintenance.

### Fourth (optional) Layer - Bonded Carbon filters

Carbon filters that are bonded together can effectively absorb chemical fumes and vapours. These filters can be arranged in different layers to target specific chemical families. The bonded carbon layer is secured independently from the redundant HEPA filter, which is sealed and tested to prevent any leaks and ensure that it captures all particles.





# Carbon Filters

## General Purpose Gas-Phase Activated

The carbon filter is versatile and effective for a range of chemicals. The load factor capacity index provides a helpful estimate of the amount of toxic substance that can be adsorbed. With a weight of 22 lbs. (10 kg) and an index of "1", the filter can adsorb up to 50% or 11 lbs. (5 kg) of the toxin. While the index does not reflect filtration efficiency, it is a helpful indicator of the weight of contaminant that can be removed. Generally, an index of "1" or "2" indicates the filter is suitable for specific chemicals. If a different filter is recommended, it will be noted in the partial chemical listing on the next page. For expert guidance on selecting the right filter, consult an AirClean® Systems filtration specialist.

## Key Features

Our bonded carbon filters mean no more dusting filters! We also offer even distribution of impregnates, if applicable, and multi-layering options for greater compatibility with a broader range of applications.

## Predictable and Reliable Filtration

AirClean® Systems offers advanced gas-phase bonded carbon and multi-layered filters with unique bonding techniques to eliminate harmful carbon dust and prevent "dead spots." Trust us for reliable filtration solutions.

## Chemisorptive Bonded Carbon Filtration

Activated coconut shell carbon is a versatile material with a high capacity for most chemical compounds. However, for compounds that are not strongly adsorbed by general carbon, such as hydrogen sulfide, mercaptans, sulfur dioxide, chlorine, hydrogen chloride, nitrogen oxides, formaldehyde, and ammonia, chemisorptive gas phase filters are more effective. AirClean Systems offers bonded chemisorptive filters that can be customised with multiple layers and impregnates to handle various chemicals.

## Filter Load Capacity

The gas-phase bonded carbon filter is a general-purpose filter that can effectively filter various chemicals. The load factor capacity index serves as a guide to estimate how much of a toxic contaminant the filter can adsorb.

With a filter weight of 22 lbs. (10 kg) and an index rating of "1", the filter can adsorb up to 50% or 11 lbs. (5 kg) of the toxin. It's important to note that the index rating doesn't indicate the filtration efficiency, but it provides an approximate weight of the contaminant that can be adsorbed into the filter. Typically, an index rating of "1" or "2" indicates the filter's suitability for use with a particular chemical. If a different filter type is more appropriate, it will be indicated in parentheses in the 'Filtration Load Capacity Index'.

If you need assistance with proper filter selection, please email [sales@syngene.com](mailto:sales@syngene.com).

Index	Load Capacity	%	Approx Weight of Containment
1	Excellent	15-50	1.5kg to 5kg
2	Good	5-20	0.5kg to 2kg
3	Ok	<5	0.5kg
4	Poor	<1	0.1kg

Filter Type	Application
ACFGLT	Glutaraldehyde
ACFFOR	Formaldehyde
ACF300	Ammonia or Amines
ACF350	Alkaline Fumes
ACF400	Inorganic Acids
ACF410	Hydrogen Sulphide
ACF430	Mercury Vaporus
ACFMULTI	Multi-layered composite for Aldehydes, Acids and General Organic Solvents

# Controller

Ensuring the safety of both users and the application is paramount for any ductless safety product. With these state-of-the-art microprocessor-based controllers, safety is made a top priority. Our monitoring systems are designed to promptly notify you of any unfavourable conditions, providing peace of mind and reassurance.



## AirSafe Automatic Safety Controller

AirSafe provides an intuitive interface with advanced features for managing air flow, tracking filtration, and identifying harmful gases. Its LCD accurately shows face velocity through a specialised sensor. Users can operate the fans manually or choose the "automatic" mode, where AirSafe adjusts the fan speed to maintain the optimal face velocity. Moreover, the system has a hydrocarbon gas detector linked to the controller that monitors filtration breakthroughs. When airflow is low or the filter requires replacement, the user is promptly notified through audible and visible alarms.



## UVTech Microprocessor Controller

With UVTech, an operator can easily control various protective processes at a workstation by pressing a single button. These processes include using a blower, timed shortwave UV irradiation, fluorescent light, and lab event timer. The system also monitors the pressure drop across the HEPA filter(s) to ensure proper positive-pressure airflow. If the filter(s) need to be changed, the operator will be notified by a visible and audible alarm. The shortwave UV irradiation timer can be set for 1-59 minutes. UVTech also keeps track of the UV bulb's effectiveness and will warn when a bulb change is needed.

## AirMax and DuraMax Microprocessor Controller



The AirMax and DuraMax microprocessor controller ensures that the AirMax and DuraMax total exhaust fume hoods are always functioning optimally. With its ability to monitor and display the current face velocity, users can rest assured that their workspace is always safe and secure. The one-touch control feature allows for easy operation of specific functions like the spray bar and wet scrubber package, making work more efficient and productive. In the event of insufficient face velocity, an alarm with both sound and light will notify the user, ensuring they can take immediate action and maintain a safe and healthy environment.

# Know your labels



## Operator Protection

Our units prioritise the safety of operators from toxic vapours, air fumes and particulates. Each operator protection product incorporates state-of-the-art microprocessor safety controls with advanced airflow and filter conditions monitoring. These alerts guarantee optimal performance and airflow, ensuring a safe and efficient environment.



## Process Protection

Our process protection systems promote sample integrity, keeping the samples free of background or cross-contamination, ensuring the accuracy of your results. ISO 5 clean air is provided through electrostatically charged pre-filtration and HEPA or UPLA filtration. UVTect monitors airflow and filter saturation to ensure ISO 5 conditions are maintained. It's essential to stay on top of filter maintenance to provide the very best performance, so the controller's sound alert will notify you when it's time for a replacement.



## Powder Containment

These ventilated enclosures offer both particulate and liquid chemical filtration capabilities designed to safeguard users from harmful chemicals, precisely measure powders, and manage solvents. They provide exceptional operator protection against hazardous procedures engineered for safety. Each enclosure is constructed from materials that offer excellent durability and ease of cleaning.

## Key Features

-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  Clear shell for 360° visibility
-  Extremely quiet operation < 49dBA
-  Choice of standard or tall version
-  UVTect® microprocessor controller
-  ISO 5 vertical laminar flow air
-  UV and fluorescent lights
-  Seamless plastic design - no joints
-  UV shelf with built-in pipettor holder
-  Lab event timer
-  Digital UV light timer: 01-59 minutes
- 

## PCR Workstation

Get results - not background.



## Key Features

-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  UVTect microprocessor controller
-  UV and fluorescent lights
-  UV shelf with built-in pipettor holder
-  A seamless plastic design with no joints or gaps in construction
-  Lab event timer
-  1-59 minute digital timer
- 

## Dead Air Box

A reliable and safe option for amplifying and manipulating DNA/RNA.



## Key Features

-  AirSafe automatic safety controller
-  Bonded carbon filtration
-  Integral base with deep spill lip
-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  Clear polycarbonate shell for 360-degree visibility
-  Extremely quiet operation <49dBA
-  Available in standard height or tall versions
-  Constant monitoring of fume hood face velocity with variable airflow control to user preset value
-  Lab event timer gas phase bonded carbon filtration

# Ductless Chemical Workstation

Flexibility and mobility for today's ever-changing laboratory environment.



## Key Features

-  No installation required - plugs directly into a standard outlet
-  Polypropylene construction for chemical resistance: NO RUST
-  Dual wall construction allows for front mounting of services such as water, gas, or electric
-  UVTect® microprocessor controller ISO 5 vertical laminar flow air
-  Horizontal laminar airflow pattern  
Lab event timer
-  Digital UV light timer: 01-59 minutes
-  Optional UV
-  Optional single or dual-wall

# Horizontal Laminar Flow Clean Bench

Perfect for ISO 5 applications.



## Key Features

-  AirSafe automatic safety controller
-  Integral base with deep spill lip
-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  Clear polycarbonate shell for 360° visibility
-  Extremely quiet operation < 49dBA
-  Lab event timer
-  HEPA filtration for capture of particulate to 0.3 microns in size
-  Gas phase bonded carbon filtration
-  Choice of folding or sliding sash

## Key Features

-  UVTect microprocessor controller
-  ISO 5 standard vertical laminar flow air
-  360-degree visibility
-  Integral polypropylene base for easy cleaning
-  All thermoplastic construction
-  Built-in fluorescent light
-  Pass-through port
-  HEPA filter monitor automatically indicates when a filter change is required

## TeachAide

Protecting both teacher and student by offering 360° view.



## Vertical Laminar Flow Workstation

Compact, portable and meets the standards of ISO 5.



## Key Features

-  No ductwork required
-  Space-saving design
-  Safely encloses a rotary evaporator, vacuum pump and waste bottles
-  Dust-free bonded carbon filter
-  Integral base with deep spill lip
-  Quiet operation at <49 dB
-  Easy access to transparent shell and sliding doors.
-  Our AirSafe automatic safety controller continuously checks the airflow and filter conditions to ensure safety
-  Airflow automatically increases when doors are opened, preventing fumes from escaping

## Rotary Evaporator Enclosure

Perfect for enclosing your laboratory apparatus.



## Key Features

-  Sash closure allows for maximum operator protection without compromising airflow
-  Process protection workstations equipped with UV safety interlock
-  Constructed from UV and chemical-resistant materials
-  Shipped fully assembled and ready to use
-  Microprocessor controlled
-  Audible and visible alarms
-  Self-contained
-  No installation required
-  Bench-top design
-  Optional UV light for sterilisation
-  Optional one or two filters depending on your desired purity level

## Microscope Enclosure

Operator and process protection for microscope applications.



## Key Features

-  Bench-top designs
-  Microprocessor controller (AirSafe or UVTect)
-  Self-contained with no ductwork required
-  Service port access
  - Gilson®
  - Hewlett Packard®
  - Teledyne ISCO®
  - Beckman Coulter®
  - Tecan®
  - Hamilton®
  - Caliper®
  - Genevac®
-  Customisable to fit a variety of application challenges. Contact us at [sales@syngene.co.uk](mailto:sales@syngene.co.uk) for more information

## Robotic Enclosure

Custom-fitted to your robotic equipment.



## Key Features

-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  Polypropylene construction for chemical resistance: NO RUST
-  Encloses equipment while retaining full operator access
-  UVTect® microprocessor controller
-  Lab event timer
-  Integral fluorescent lighting
-  Optional UV light
-  Choice of sliding door or sash opening

## Vertical Laminar Flow Enclosure

Extra height and depth for large applications.



## Key Features

-  AirSafe automatic safety controller
-  Audible/visible filter and airflow alarms
-  Portable HEPA filtration
-  SafeChange technology
-  Electrical cord access ports
-  Solid 3.8" polypropylene base
-  Tested with 3 and 4 place balances (type A) and 7 places (type B and C)
-  Leak tested and certified
-  Quiet operation <49dB
-  Compact, ergonomic design
-  Electrostatically charged pre-filter prevents 'particle rain'
-  Weigh solvents (type C only)
-  Optional single or dual filter

## PowderSafe Enclosure

Compact, mobile solution for powder containment.



## Key Features

-  AirSafe automatic safety controller
-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  Polypropylene construction for chemical resistance: NO RUST
-  Filters for containment of virtually any toxic vapour, fume, gas, or particulate
-  Integral vapour-proof fluorescent lighting
-  Constant monitoring of fume hood face velocity with variable airflow control to user preset value
-  Permanent backup HEPA filter
-  Horizontal laminar airflow pattern
-  Bulk container access port cover
-  Lab event timer

## PowderSafe Bulk Handling Enclosure

Alternative to walk-in enclosures for bulk manipulation.



## Key Features

-  AirSafe automatic safety controller
-  No ductwork required
-  No installation required - plugs directly into a standard 110V or 220V electrical outlet
-  Polypropylene construction for chemical resistance. The result: NO RUST
-  Wide range of bonded activated carbon and HEPA filters for containment of virtually any toxic vapour, fume, gas, or particulate
-  Integral vapour-proof fluorescent lighting
-  Constant monitoring of fume hood face velocity with variable airflow control to user preset value
-  Encloses equipment while retaining full operator access
-  Lab event timer

# Polypropylene Free-Standing Ductless Enclosure

Extra vertical height from a proven ductless filtration platform.



## Key Features

-  Polypropylene construction for chemical resistance. The result: NO RUST
-  Constructed from thermally fused polypropylene with folding polycarbonate sash
-  Polypropylene blowers
-  Single-wall design for maximised work space

# Polypropylene Total Exhaust Fume Hood

The perfect alternative to a ductless hood, workstation or enclosure.



# AirMax Total Exhaust Fume Hood

## Key Features

-  Polypropylene construction for chemical resistance: NO RUST
-  Vertical sliding safety glass sash
-  Dual wall construction allows for front mounting of services such as water, gas or electric
-  FlowSmooth airfoil on sash lip promotes consistent laminar airflow
-  Constant monitoring of fume hood face velocity with variable airflow control to user preset value
-  Lab event timer
-  AirMax microprocessor controller
-  Integral vapor-proof LED lighting

Consistent flow, corrosion-free hood.



# DuraMax Total Exhaust Laminar Flow Hood

## Key Features

-  Polypropylene construction for chemical resistance: NO RUST
-  ISO 5 vertical laminar flow air
-  Lab event timer
-  HEPA filtration for capture of particulate to 0.3 microns in size
-  Filter safety lockout to ensure correct filter replacement
-  Filter and electronics are located above the workspace, eliminating the chance of a chemical spill entering these sensitive areas
-  Real-time monitoring of installed filtration bed

Perfect for strong acids or trace metal analysis.



## Key Features

-  Integral base with deep spill lip
-  No installation required - plugs directly into a standard outlet
-  Containment of virtually any toxic vapour, fume, gas, or particulate
-  AirZone baffling directs toxins away from the operator in a predictable pattern, eliminating "dead spots"
-  Structural thermally-fused polypropylene construction for superior chemical resistance and spill containment
-  Built-in solid-state gas detection
-  Large capacity filtration bed
-  Touch-screen microprocessor control with airflow controller and filter monitoring
-  Lab event timer
-  Gas phase bonded carbon filtration

# Endeavour Ductless Fume Hood

Monitoring and control at the touch of an icon.



## Key Features

-  AirSafe automatic safety controller
-  Integral base with deep spill lip
-  No ductwork required
-  No installation required - plugs directly into a standard outlet
-  Polypropylene construction for chemical resistance: NO RUST
-  For containment of virtually any toxic vapour, fume, gas, or particulate
-  Integral vapour-proof fluorescent lighting
-  Large capacity filtration bed to handle a variety of applications
-  Lab event timer
-  Gas phase bonded carbon filtration
-  Choice of folding or sliding sash

# Polypropylene Ductless Fume Hood

Perfect for the largest range of applications.

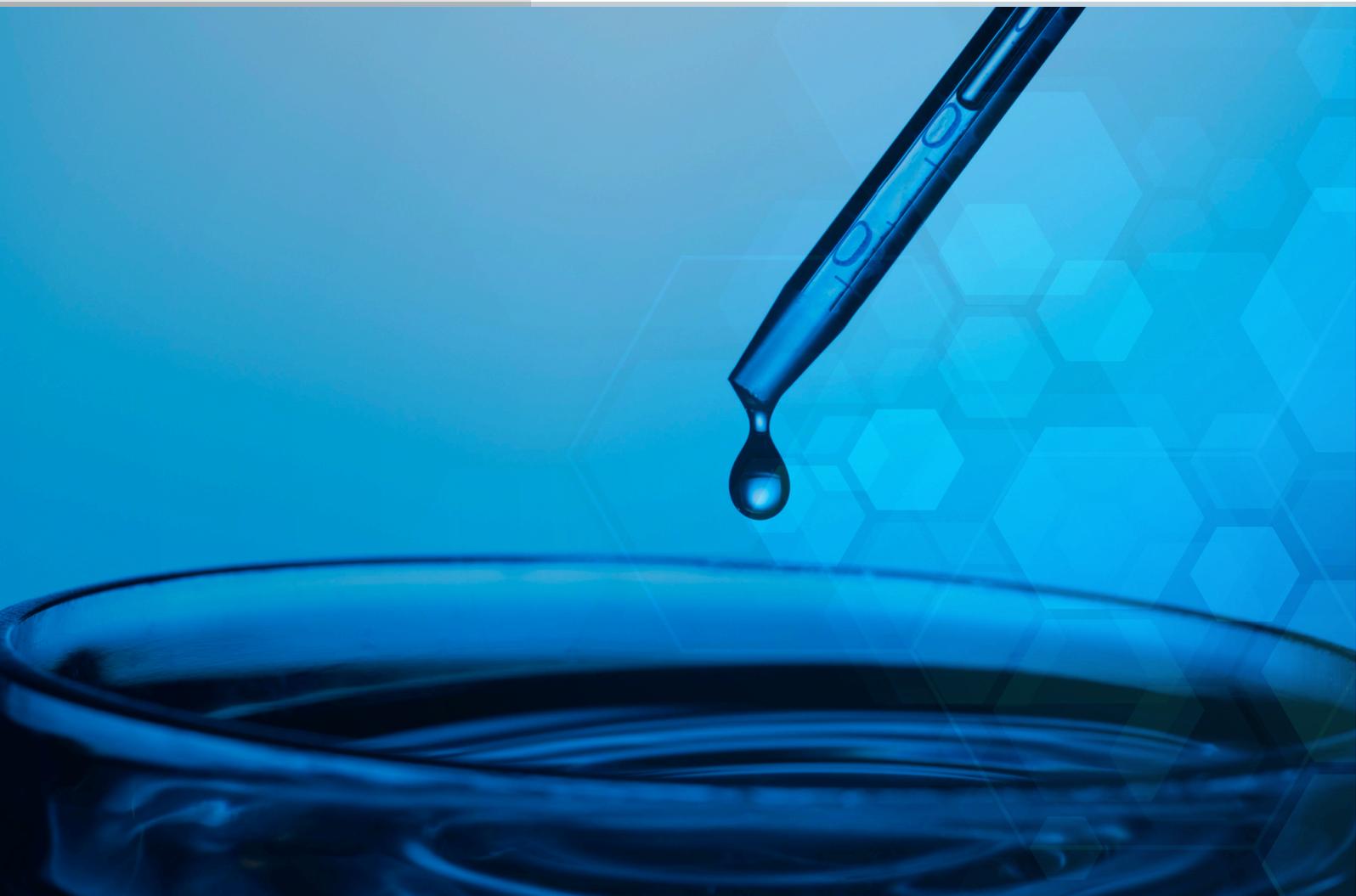


# AC600 Series Class 1 Biological Safety Workstation

## Key Features

-  No ductwork required
-  No installation required - plugs directly into a standard 110V or 220V electrical outlet
-  Clear polycarbonate shell for 360° visibility
-  UVTect® microprocessor controller
-  UV and fluorescent lights
- Seamless plastic design -no joints or gaps in construction
-  Lab event timer
-  Digital UV light timer: 01-59 minutes
-  Access port for electrical cords

Safely handle biological sample



# AirClean Service Contracts

AirClean is a US-based company partnered with Syngene to provide their laminar flow hoods, PCR workstations and dead air boxes worldwide. Safeguarding your employees is our priority, so we offer a comprehensive service to ensure your units perform at their best.

We have four tiers of service contracts for our AirClean systems (Bronze, Silver, Gold, and Platinum), depending on the level of service you require for your units. All these contracts have access to our expert service technicians who help maintain your filters, offer guidelines and are on hand for diagnostics.

**Annual verification is essential for these systems to ensure application integrity, operation, and performance.**

For more information on our AirClean range contact us at [sales@syngene.com](mailto:sales@syngene.com)

	<b>Bronze Package</b>	<b>Silver Package</b>	<b>Gold Package</b>	<b>Platinum Package</b>
<b>Warranty length</b>	<b>1 YEAR</b>	<b>1 YEAR</b>	<b>1 YEAR</b>	<b>1 YEAR</b>
<b>Filter replacement and confirmation of operation</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Smart maintenance reminder program</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Disposal of used filters per manufacturer's guidelines</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Full diagnostics test of sensors and alarms</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>
<b>Free parts and labor required to resolve any issue found during visit</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>

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