

PCU Powder Containment Work Station





Applications

In the pharmaceutical and related chemical industries, operations such as sampling, manufacturing and filling generate airborne particles at varying concentration levels. Where the processes involve oestrogenic or androgenic materials, antibiotics, toxic or other hazardous powders, operators and adjoining areas require protection from exposure to aerosols of the process materials.

The Therapeutic Goods Administration (TGA) Guide to Good Manufacturing Practice for Medicinal Products - Part II specifies in part 4.2.1 "These systems should be designed and constructed to minimise risks of contamination and cross-contamination..." (see page 9 of the guide¹ for more information).

Description

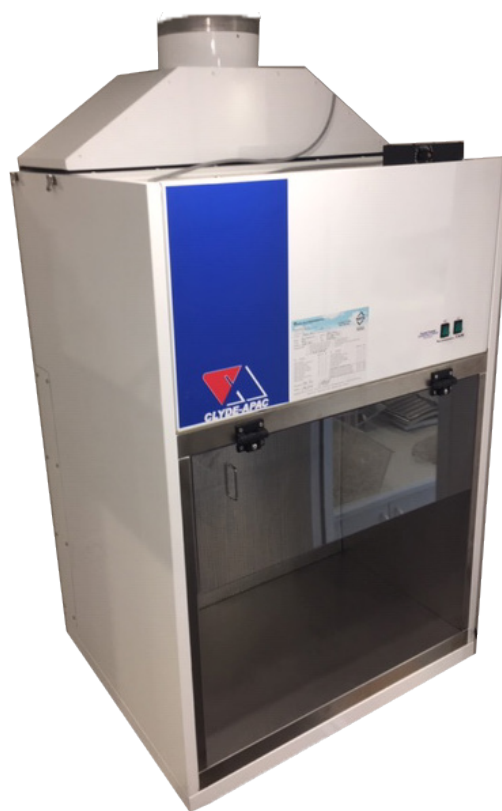
Clyde-Apac PCU Series Cabinets have been developed to satisfy the requirements these applications, and provide the operator and local environment protection from harmful particulate contamination. PCU Series cabinets are room recirculating and provide a bench mounted solution for weighing and powder containment. The PCU cabinet series has been designed with a leak-free stainless steel work zone that ensures a work area that is easy to clean. Additional UV lamps can be installed to prevent cross-contamination and facilitate multi-use and the work zone is conveniently fitted with splash proof power points. The H14 HEPA filters filter 99.995% of 0.3µm size particles and are replaceable through the work zone so that the unit does not have to be frequently relocated.

The H14 HEPA filters can be certified for performance by way of the Contamination Control UpStream T-Piece© which provides protection to the service personnel and significantly reduces interruption to laboratory personnel.

The PCU Cabinet is configurable and can also be fitted with an additional odour/gaseous exhaust filtration system.

Design

The PCU comes in the Standard reverse access HEPA replacement model as well as the front exit HEPA replacement Model. The front removal system is fitted with a reverse test access port to confirm the integrity of the HEPA filter testing to AS 1807.6.



Note: Ducted Version of the PCU Unit is shown Above

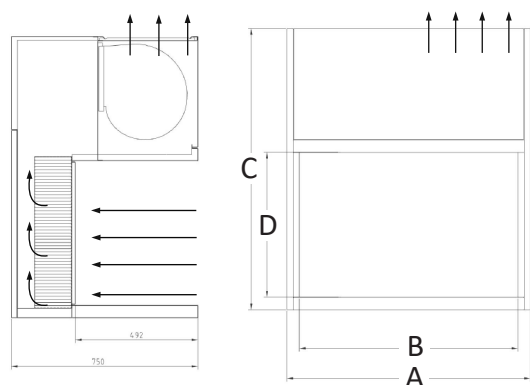
¹ <https://www.tga.gov.au/sites/default/files/pe009-13-gmp-guide-part2-apis.pdf>



| | |
|-------------------------------|---|
| <p>OUTER SHELL</p> | <p>Durable welded galvanised-steel construction with a special powder coated finish that is anti-corrosive and developed for laboratory and industrial applications. Design of the cabinets and service-access panels minimises the number of joins in the work zone and facilitates safe maintenance.</p> |
| <p>FANS</p> | <p>Standard units have variable-speed, direct-drive fans. On standard units, they are located in the air stream. there is also an optional fan placement.</p> |
| <p>HEPA FILTERS</p> | <p>Email Air-Handling HEPA filters, manufactured to comply with AS4260 grade 2, are fitted for the harmful contaminants in the workzone. Each H14 HEPA filter is individually certified to achieve a efficiency of not less than 99.995% and to be leak-free in accordance with AS1807.6.</p> <p>All testing is conducted in a NATA-accredited factory laboratory and a NATA-endorsed test label, being an extract of the test report, is affixed to each filter.</p> |
| <p>PRE-FILTERS</p> | <p>An easily-accessed, replaceable pre-filter arrests not less than 90% of particles 5 micron and larger, thus prolonging HEPA filter life. A warning light in the control panel signals the need for pre-filter service.</p> |
| <p>AIRFLOW/PRESSURE GAUGE</p> | <p>A Magnehelic gauge monitors the static pressure of the filtration installation and alerts the operator when the filter requires replacement.</p> |
| <p>CONTROLS</p> | <p>PCU series booths incorporate a low-voltage control panel, conveniently located on the front panel. The Clyde-Apac S2000 controller is an electronic system that controls fans, power outlets, lights, optional UV and provides a boost system that can be activated in the event of spillage.</p> |
| <p>LIGHTING</p> | <p>Glare-free fluorescent lamp housings are incorporated into the booth. Unless otherwise specified, lighting intensity at work levels is not less than 550 lux.</p> |



PCU Cabinet Details



The above drawing illustrates a standard unit, with rear access HEPA removal. The arrows show the directions of airflow through the unit. The letters referenced in the Drawing and tables refer to:

- A. width
- B. workspace width
- C. Height overall
- D. height of workspace

REAR ACCESS HEPA REMOVAL

PHYSICAL DATA (MM)

| PART NO. | MODEL | A | B | C | D | KG |
|----------|----------------|------|------|------|-----|-----|
| 2015540 | PCU STD 60 | 640 | 590 | 1130 | 580 | - |
| 2015550 | PCU STD 90 | 980 | 880 | 1130 | 580 | 120 |
| 2015560 | PCU STD 120 | 1280 | 1180 | 1130 | 580 | 150 |
| 2015565 | PCU STD 120/75 | 1280 | 1180 | 1280 | 730 | 180 |
| 2015570 | PCU STD 180 | 1890 | 1790 | 1130 | 580 | 200 |
| 2015575 | PCU STD 180/75 | 1890 | 1790 | 1280 | 730 | 230 |

Note: Depth for all standard Units is 750mm and workspace depth is 450mm

FRONT REMOVAL HEPA FILTER

PHYSICAL DATA (MM)

| PART NO. | MODEL | A | B | C | D | KG |
|----------|------------|------|------|------|-----|-----|
| 2071630 | PCU 60 | 640 | 590 | 1130 | 580 | - |
| 2071650 | PCU 90 | 980 | 880 | 1130 | 580 | 120 |
| 2071670 | PCU 120 | 1280 | 1180 | 1130 | 580 | 150 |
| 2071675 | PCU 120/75 | 1280 | 1180 | 1280 | 730 | 180 |
| 2071690 | PCU 180 | 1890 | 1790 | 1130 | 580 | 200 |
| 2071695 | PCU 180/75 | 1890 | 1790 | 1280 | 730 | 230 |

Note: Depth for all Front Removal Units is 850mm and workspace depth is 450mm

Standard Features

- Stainless steel work zone
- Glare-free fluorescent lighting
- Comprehensive operation manual
- Rear removal of HEPA filters
- Manometer
- Low voltage touch controls

Options

- Hourmeter
- Service taps for air, gas and vacuum
- Extra quiet operation
- Floor stand (fixed height)
- Floor stand (electric height - adjustable)
- Germicidal UV lamp
- UV shield/ work zone cover
- Power outlet
- Ducted Version

Quality Control

This equipment is manufactured in Australia under an accredited Quality Management system that complies with ISO 9001:2015. Accreditation is confirmed by Quality Assurance services registration No.QS10011.

Limitations

Standard PCU Series booths are not suitable for use with flammable or explosive materials. Booths are designed for providing control of particulate contamination. They are not intended for use with volatile, hazardous materials or Cytotoxic Drugs. AES Environmental manufactures a range of different products, such as Clyde-Apac CDSC's that are suited for those types of applications.

On-Site Testing

PCU Series cabinets are factory tested and certified by a NATA-Accredited laboratory. Additional testing and certification is recommended as follows:

- On site prior to use
- After maintenance
- After filter replacement
- After re-location
- At least annually
- In special circumstances, e.g. if faulty operation is suspected.

Other Products

- UltraSafe™ Cabinet Series
- CSV™ Cabinet Series
- CG2000™ Cytotoxic Drug Safety Cabinets
- BSC
- Downflow Booths
- Terminal Filter plenums



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

Performance Specification

Air velocity: $\geq 0.5\text{m/s}$ (adjustable)

Illuminance: ≥ 650 lux

Power Supply: 220-240V, 1ph, 50Hz

Max. opening height: 500mm

Filter: HEPA filter and optional carbon pre-filter

UV: 2 pcs (optional)

Personnel Protection

PCU cabinets provide protection for products or experiments, but do not protect personnel from aerosols of hazardous materials that may be handled in the cabinet. For applications where personnel and environmental protection is required, Clyde-Apac Class I or Class II biological safety cabinets, or cytotoxic drug safety cabinets (as applicable) should be considered.

The Company

AES Environmental is an Australian owned manufacturing business producing products under Clyde-Apac, Email Air Handling and Vokes brand names for industries that are as varied as industrial plants, commercial buildings, power stations, food processing, healthcare, science and electronics. AES Environmental considers the Australian Standards as a core component of its product mix and has developed an export market in 25 countries, promoting Australian Standards, engineering and manufacturing solutions. AES Environmental, a trusted manufacturer capable of delivering reliable product solutions to highly-critical applications, where the control of hazardous airborne contamination is often critical to process and personnel.

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



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