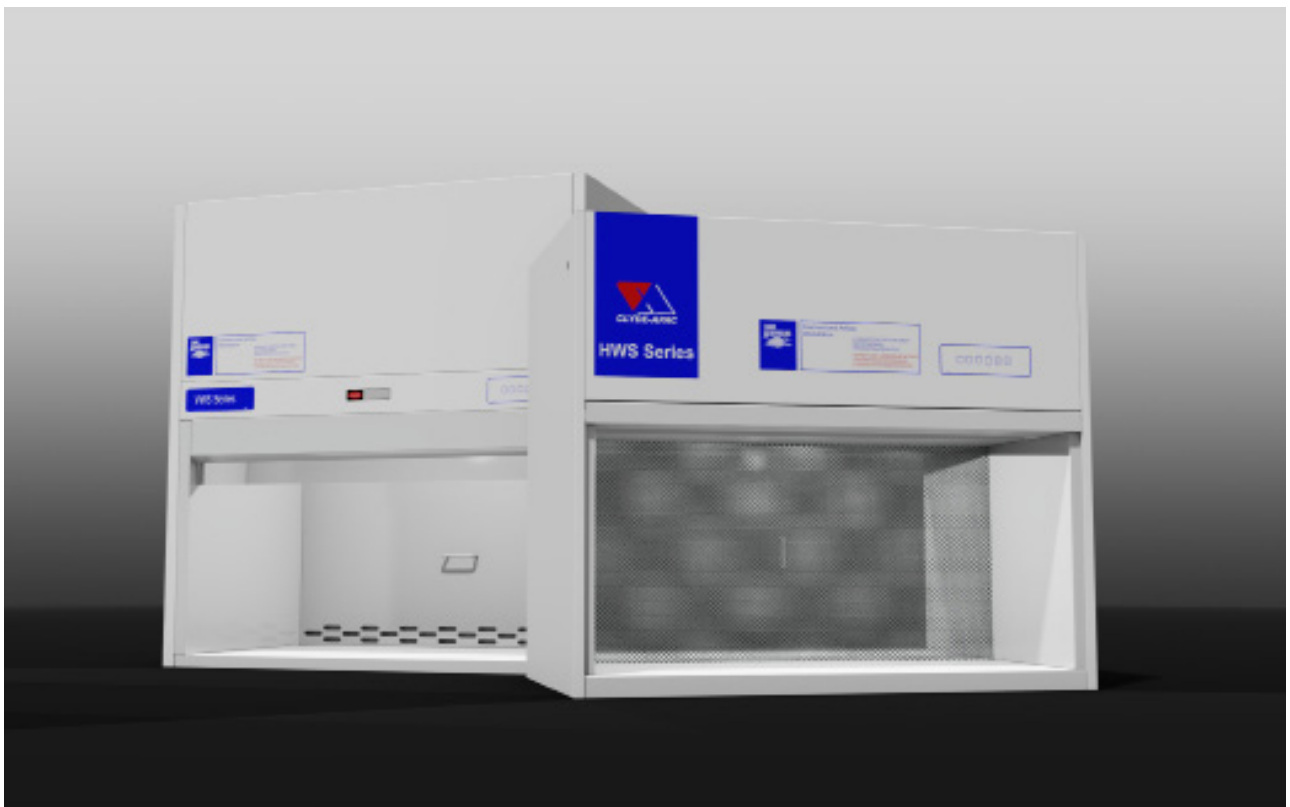


HWS & VWS Series II

Laminar Flow Cabinets





Applications

HWS (Horizontal-flow) & VWS (Vertical-flow) Series cabinets are designed to provide a high degree of protection for process products and apparatus in laboratory and production facilities. Many critical applications in the medical, pharmaceutical, scientific and electronics fields demand an ultra-clean work environment that is free from biological and particulate contamination.

Typical applications include:

- Aseptic dispensing,
- Assembly of electronics and optics components,
- Cell culturing,
- Media pouring,
- Preparation of medical devices and
- Sterility testing.

HWS & VWS Series cabinets are intended for work with non-hazardous materials in such applications.

Description

HWS & VWS Series cabinets are self-contained Class 3.5 horizontal (HWS) or vertical (VWS) laminar flow work stations designed for installation on standard laboratory benches, or on optional floor stands. Cabinets are available with nominal work zone width of 900mm 1200mm or 1800mm.

Each cabinet is factory-tested and built to comply with the AES Environmental quality management system. These units can be certified on-site by a NATA-Accredited laboratory to establish compliance with the performance requirements of AS2252.6 - 2011.

HWS & VWS cabinets contain pre-filters and HEPA/Absolute filters, the design of the filtration system enables removal of airborne contamination from air passed through to the work area.

The large filter face is matched to a plenum design that ensures a smooth laminar (unidirectional) flow of clean air through the work area and prevents entrainment of outside air.

In HWS cabinets, air is passed through the work zone in a smooth, horizontal direction, the blower fan and mounting position are designed to maximize airflow. The deeper rear plenum ensures unobstructed airflow to the HEPA filter face. As a result, the cabinet is quieter with reduced vibration and longer service life for the HEPA filter.

In VWS cabinets, a portion of the laminar flow air recirculates to the top plenum to give better airflow control and minimise turbulence in the work area. This also increases the HEPA filter service life.

An optional application of sound-deadening coatings in the upper plenum areas of both cabinet styles minimises noise and vibration, this option is particularly useful if work is conducted in ultra-quiet environments.

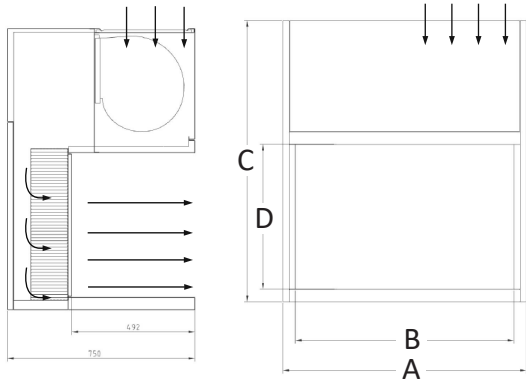


Construction

CABINET	The housing is constructed of locally sourced steel and consists of a high-quality powdercoated finish to provide a suitably solvent, alkali and acid resistant laboratory grade coating. The work area is fully constructed from stainless steel, with inward folds to avoid sharp edges. A removable, washable metal screen protects the HEPA filter from mechanical damage.
FANS	A direct-drive fan is regulated by a speed controller to enable airflow to be maintained through filter life. Fans and filter plenums are designed to provide quiet operation and low vibration level.
HEPA FILTERS	Clyde-Apac® Microseal™ HEPA filters, are certified for compliance to AS 4260. Each filter is individually certified to be leak-free in accordance with AS 1807:2021 Clause 4.4. A manufacturer endorsed test label fitted with an extract of the test report is affixed to each filter. A prefilter extends the life of the exhaust HEPA filter and protects it from the mechanical damage during cleaning of the work zone.
PRE-FILTERS	An easily-accessed, washable 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.
ELECTRICAL	A low voltage touch control panel is located on the front of the cabinet. Glare-free lamps provide a minimum lighting intensity of min 650 lux at the work floor.



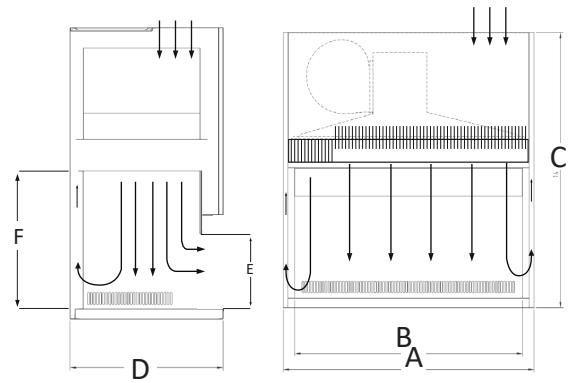
HWS Cabinet



PHYSICAL DATA (MM)

MODEL	A	B	C	D	KG
HWS 90	980	880	1130	580	120
HWS 120	1280	1180	1130	580	150
HWS 120/75	1280	1180	1280	730	180
HWS180	1890	1790	1130	580	200
HWS180/75	1890	1790	1280	730	230

VWS Cabinet



PHYSICAL DATA (MM)

MODEL	A	B	C	D	E	F	KG
VWS 90	1000	880	1420	712	550	690	150
VWS 120	1340	1180	1420	712	550	690	200
VWS 150	1500	1338	1420	712	550	690	250
VWS 180	1962	1800	1420	712	550	690	270

Standard Features

- Stainless steel work zone
- Low voltage touch controls
- Pre-filter service
- Glare-free fluorescent lighting
- Comprehensive operation manual
- Power outlet
- Germicidal UV lamp
- UV shield/ work zone cover

- Stainless steel work zone
- Pre-filter service
- Partial airflow recirculation
- Comprehensive operation manual
- Low-voltage touch controls
- Glare-free fluorescent lighting
- Quiet, low-vibration operation
- Germicidal UV lamp
- UV shield/ work zone cover

Options

- Hourmeter
- Manometer
- Service taps for air, gas and vacuum
- Extra quiet operation
- Floor stand (fixed height)
- Floor stand (electric height - adjustable)

- IV hanging rail
- Hourmeter
- Manometer
- Service taps for air, gas and vacuum
- Extra quiet operation
- Floor stand (fixed height)
- Floor stand (electric height - adjustable)
- Double-sided operation
- Recirculating available
- IVF available



On-Site Testing

HWS & VWS 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.

Personnel Protection

HWS & VWS 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.

Minimum Performance Specification

- Design and compliance standard: Australian Standard: AS2252.6
- Air Cleanliness: ISO class 5 (class 100) AS ISO 14644.1
- Air velocity: Between 0.40-0.45 m/s average at the work zone
- Illuminance: Greater than average of 60 Lux
- Power Supply: 220-240V, 1ph, 50Hz Filters: F5 pre-filter and H14 Main HEPA filter to 99.995%
- UV Wavelength: 254 nm intensity not less than 400mW/m²

Other Products

- UltraSafe™ Cabinet Series
- CSV™ Cabinet Series
- CG2000™ Cytotoxic Drug Safety Cabinets



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

The Company

AES Environmental manufactures products under Clyde-Apac, Email Air Handling and IFC brand names for industries that are as varied as industrial plants, commercial buildings, power stations, food processing, healthcare, science and electronics. AES Environmental began in Australia, providing its products to government, pharmaceutical and HVAC operators and has since expanded in to Asia and the UK. AES considers international standards ISO 14644 and ISO 16890 along with regional standards, such as and EN 1822, as a core component of its product mix and has developed an export market in 25 countries, promoting quality standard based manufacturing, engineering and critical 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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