

Australian Standard
AS1386.5 Type-Tested*



* Based on performance type-tests conducted on model AHC-4A1 (shown above with optional UV lamp) by the Australian Institute of Medical and Veterinary Sciences

Esco Airstream® Horizontal Laminar Flow Cabinet offers proven protection for your samples and processes. With over thousands of units in use worldwide, this model offers a sensible balance of quality, performance features and cost-effectiveness. Like all Esco cabinets this model features many key innovations for which Esco is recognized for: **mini-pleat separatorless ULPA filter technology**, the best product protection in the world, external rotor motors, superior filter mechanical construction.

The intelligent blower system automatically compensates to maintain airflow as the filter loads (additional manual adjustment can be carried out to further prolong filter life). This unique feature eliminates the need for constant speed control adjustments, while ensuring optimum performance and product protection.

MAIN FILTRATION AGENTS

► **Mini-pleat separatorless ULPA filter** technology reduces energy consumption and delivers increased laminar airflow uniformity for better product and cross contamination protection. ULPA filters are double scan tested, at the time of manufacturing, and after installation.

► ISO Class 3 air cleanliness within work zone as per ISO 14644.1 (equivalent to Class 1 as per US Federal Standard 209E, **100 times "cleaner"** than the usual Class 100 classification on cabinets offered by the competition). All materials used in the product are cleanroom compatible.

► High-quality polyester pre-filter and main **ULPA filter with a typical efficiency of 99.9997% at MPPS and 99.9998% at both 0.3 and 0.12 microns** provide the best product protection in the world; typical ULPA filter lifespan is more than 3 years depending on the operating conditions.

► Integral filter metal guard on the ULPA filter prevents accidental damage the filter media; seamless filter gasket is permanently molded on the filter frame and will not deteriorate over time; aerosol (DOP/PAO) challenge test port included.

CONTROL FEATURES

► Built-in solid state variable speed controller(s) (infinitely adjustable from zero to the maximum setting) with built-in RFI and noise filters is superior to conventional "step" controllers.

► Standard cabinet control system consists of separate switches / indicator lights for blower, lights and UV light (UV light switch is interlocked with the light and blower switch for enhanced safety) plus a pressure gauge for airflow monitoring.

CONSTRUCTION FEATURES

► Industrial-grade main body constructed

of electro-galvanised steel; with an abrasion-resistant white oven-baked powder-coated finish.

► Durable and easy to clean stainless steel work surface will never rust, chip, or generate particles; raised edge at back of work zone prevents spills from damaging the filter.

► Permanently lubricated direct drive centrifugal blower(s); **energy efficient external rotor motor** type design reduces operating costs.

► Extremely low noise and vibration levels (less than 61dBA at working position) due to proprietary construction and mounting technology.

► Built-in warm white, **electronically ballasted** lighting offers excellent illumination throughout the work zone in order to reduce operator fatigue and is comfortable to the eyes. Light tubes are mounted out of the air stream for better airflow uniformity.

► UV-resistant tempered glass sides increase operator comfort and provide a high level of protection against harmful UV rays when a UV lamp is installed; tempered glass is also stronger and more durable compared to plastic materials.

► Designed to meet the safety requirements of IEC 61010-1 / EN 61010-1 / UL 61010A-1 / CSA C22.2 No. 1010.1-92. Components are UL listed / recognised.

► Cabinet is shipped fully-assembled in wood crate; simply plug in the unit to a power source for operation - no local installation is required.

► **Extended warranty period of 3 years** excluding consumable parts and accessories.

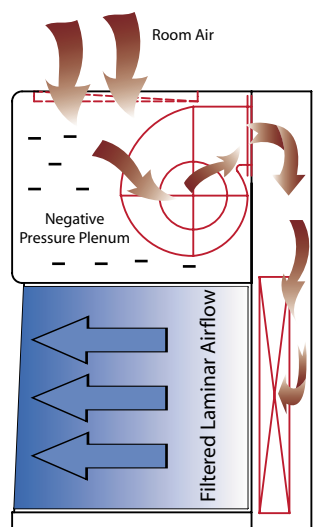
Cabinet Airflow Profile

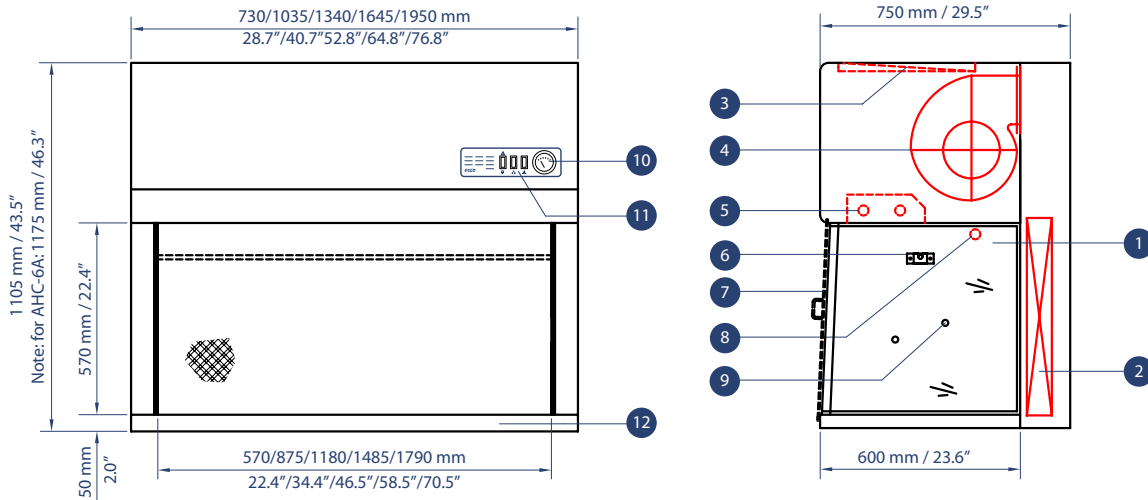
Room air is taken in from the top of the cabinet through a disposable pre-filter with 85% arrestance; this serves to trap larger particles and increase the life of the main filter.

Air is forced evenly across the ULPA filter(s); the result is a stream of clean laminar air within the work zone of the cabinet; this dilutes and flushes all airborne contaminants from the interior.

A nominal filter face velocity of 0.45 m/s or 90 fpm ensures that there is a sufficient number of air changes within the enclosed area of the cabinet in order to maintain cleanliness.

The purified air travels across the internal work zone of the cabinet in a horizontal, unidirectional stream and leaves the main work chamber across the entire open front of the cabinet.





- 1.** Tempered Glass Side Panel **2.** ULPA Filter **3.** Pre-filter **4.** Blower **5.** Fluorescent Lamps **6.** Optional IV Bar
7. Optional Front Cover **8.** Optional UV Light **9.** Plugged Service Fixture Provisions (2 One Each Side)
10. Pressure Gauge **11.** Operating Switches **12.** Stainless Steel Work Surface
 • Work Zone Ceiling: Optional Electrical Outlet Retrofit Kit™ Provisions: 1 For 2ft/3ft Models, 2 For 4ft And Above

Optional Accessories: support stand, front cover, IV bar with hooks, service fixtures, germicidal UV lamp, electrical socket outlets.

General Specifications	AHC-2AX	AHC-3AX	AHC-4AX	AHC-5AX	AHC-6AX
External Dimensions (Width x Depth x Height)	730 x 750 x 1105 mm 28.7" x 29.5" x 43.5"	1035 x 750 x 1105 mm 40.7" x 29.5" x 43.5"	1340 x 750 x 1105 mm 52.7" x 29.5" x 43.5"	1645 x 750 x 1105 mm 64.8" x 29.5" x 43.5"	1950 x 750 x 1175 mm 76.8" x 29.5" x 46.3"
Internal Work Zone (Width x Depth x Height)	570 x 600 x 570 mm 22.4" x 23.6" x 22.4"	875 x 600 x 570 mm 34.4" x 23.6" x 22.4"	1180 x 600 x 570 mm 46.6" x 23.6" x 22.4"	1485 x 600 x 570 mm 58.5" x 23.6" x 22.4"	1790 x 600 x 570 mm 70.5" x 23.6" x 22.4"
Air Volume (At Initial Velocity)	526 cmh (+/-59 cmh) 309 cfm (+/-35 cfm)	808 cmh (+/-90 cmh) 475 cfm (+/-53 cfm)	1090 cmh (+/-120 cmh) 641 cfm (+/-71 cfm)	1371 cmh (+/-153 cmh) 807 cfm (+/-90 cfm)	1653 cmh (+/-184 cmh) 972 cfm (+/-108 cfm)
Laminar Airflow Velocity	Average of 0.45 m/s or 90 fpm measured 150mm / 6" from filter face for 45 air changes / minute (uniformity is +/-20%)				
Standards Compliance	Individually performance tested and certified at factory under controlled conditions for: General requirements: IEST-RP-CC002.2 and AS1386.5 Air cleanliness: ISO 14644.1 Class 3, IEST-G-CC1001, IEST-G-CC1002 and other equivalent air cleanliness requirements Filter performance: IEST-RP-CC034.1, IEST-RP-CC007.1, IEST-RP-CC001.3 and EN1822 Electrical safety: IEC 61010-1 / EN 61010-1 / UL 61010A-1 / CSA C22.2 No. 1010.1-92				
Air Cleanliness Within Working Area	ISO 14644.1 Class 3, US Federal Standard 209E Class 1 / M1.5, AS 1386 Class 1.5, JIS B9920 Class 3, BS5295 Class C, Class M10,000 as per KS 27030.1 and other equivalent cleanliness classifications of the VDI 2083 and AFNOR X44101				
Main Filter Type	ULPA filter with integral metal guards and filter frame gaskets; fully compliant with EN1822 and IEST-RP-CC001.3 requirements				
Main Filter Efficiency Ratings	Minimum: 99.9991% at 0.3µm / 99.9985% at 0.12µm / 99.9982% at MPPS Typical: 99.9998% at 0.3µm / 99.9998% at 0.12µm / 99.9997% at MPPS				
Pre-Filter	Disposable and non-washable polyester fibers with 85% arrestance / EU3 rated				
Noise Level	Typically <61 dBA at initial blower speed setting measured as per IEST-RP-CC002.2 (figure based on 4 feet cabinet, subject to acoustic properties of test environment)				
Light Intensity	>1600 lux / >149 foot candles, measured at work surface level (zero background) as per IEST-RP-CC002.2				
Main Body Construction	1.5mm / 0.06" / 16 gauge electro-galvanised steel with white oven-baked epoxy powder-coated finish				
Side Window Construction	Colourless and transparent UV-absorbing 5 mm / 0.2" tempered glass				
Work Surface Construction	1.2mm / 0.05" / 18 gauge stainless steel grade 304				
Maximum Power Consumption	220-240VAC / 50Hz 1Ph 584W / 2.54A	600W / 2.61A	614W / 2.67A	634W / 2.76A	1631W / 7.09A
Consumption /Current	110-130VAC / 60Hz 1Ph 828W / 6.90A	844W / 7.03A	858W / 7.15A	878W / 7.32A	1666W / 13.88A
Power Supply Options	Choose from the following options and specify option number when ordering (e.g. AHC-4A2 for a 110-130VAC 60HZ) 1. 220-240VAC 50HZ, 1 phase 2. 110-130VAC 60HZ, 1 phase 3. 220-240VAC 60HZ, 1 phase 4. 110-130VAC 50HZ, 1 phase 5. 100-110VAC 50HZ / 60HZ				
Net Weight (Approximate)	92 kgs / 203 lbs	112 kgs / 247 lbs	133 kgs / 293lbs	161 kgs / 355 lbs	208 kgs / 443 lbs
Max Shipping Weight	185 kgs / 408 lbs	200 kgs / 440 lbs	223 kgs / 492 lbs	251 kgs / 553 lbs	297 kgs / 655 lbs
Max Shipping Dimensions (W x D x H)	900 x 950 x 1630 mm 35.4" x 37.4" x 64.2"	1200 x 950 x 1630 mm 47.2" x 37.4" x 64.2"	1500 x 950 x 1630 mm 59.0" x 37.4" x 64.2"	1800 x 950 x 1630 mm 70.9" x 37.4" x 64.2"	2100 x 950 x 1730 mm 82.7" x 37.4" x 64.2"
Max Shipping Volume	1.39 cbm / 49.1 cbf	1.86 cbm / 48.4 cbf	1.74 cbm / 65.7 cbf	2.79 cbm / 98.5 cbf	3.45 cbm / 121.8 cbf

NOTE: AHC-XAX where **A** in the second part (XAX) of the code denotes the standard workzone height of 570mm / 22.4". The following alternative workzone heights are available upon request: **B:** 722 mm / 28.4" **C:** 875 mm / 34.4" (e.g. AHC-2BX or AHC-2CX). Specify code when ordering.

ESCO® Esco Biotechnology Equipment Division

Esco Biotech is a highly focused manufacturer of laminar flow, biohazard safety and other HEPA-filtered cabinets for the laboratory with a history of quality cabinets since 1978. We are predominantly oriented towards the international marketplace, with sales in more than 60 countries and 90% of turnover exported. Our products have been independently tested to standards such as AS1807.5 and EN12469. Products are manufactured under an ISO 9001 registered quality system.



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