

**Australian Standard AS1386.5 Type-Tested\***



\* Based on performance type-tests conducted on model AVC-4A1 by the Australian Institute of Medical and Veterinary Sciences

**MAIN FILTRATION AGENTS**

► **ISO Class 4 air cleanliness within work zone as per ISO 14644.1 (equivalent to Class 10 as per US Federal Standard 209E, 10 times "cleaner" than the usual Class 100 classification on cabinets offered by the competition).**

► 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 main ULPA filter lifespan is more than 3 years depending on the usage of the cabinet.

► **Mini-pleat separatorless ULPA filter** technology reduces energy consumption and delivers increased laminar airflow uniformity for better product and cross contamination protection.

► Integral filter metal guard on both sides prevents accidental damage to ULPA filter;

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 lamp plus a pressure gauge for airflow monitoring on the front panel of the cabinet.

**CONSTRUCTION FEATURES**

► Industrial-grade main body constructed of electro-galvanised steel: with an abrasion-resistant white oven-baked powder-coated finish.

*Esco Airstream® Vertical Laminar Flow Cabinets offer proven protection for your samples and processes where operator protection is not required. Vertical laminar flow offers certain tangible advantages over horizontal flow cabinets (which may be the convention in some parts of the world), such as lower energy consumption (40% of conventional systems) levels through the use of exclusive motorized impeller technology and less airflow turbulence (especially when large objects are used in the work zone). In fact, the negative pressure filter mounting system employed on these models is **widely recognised to be superior** to that of conventional horizontal flow cabinets.*

*Because both horizontal and vertical cabinets are validated to the same standards, they do not differ in terms of actual performance. Like all Esco vertical laminar flow cabinets, Airstream® Vertical Laminar Flow Cabinet features the unique **Auto-Purge™** slots at the back of the work zone, designed to eliminate potential dead-air pockets that may create turbulence and compromise product protection.*

► Easy-to-clean stainless steel work surface is more durable than other materials and will never rust, chip, or generate particles.

► 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 62dBA at working position) due to proprietary construction and mounting technology.

► Industry-exclusive **secondary isolated negative pressure filter seals** and Esco-exclusive feature **Auto Purge™ design at back of work zone** deliver enhanced performance.

► 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-absorbing tempered glass sides increase operator comfort and provide a high level of protection against harmful UV rays when using a UV lamp; glass is also more durable, easier to clean.

► Individually factory tested and commissioned after production; report included with every unit. All cabinets factory tested for electrical safety.

► 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.

► Esco Airstream® Vertical Laminar Flow cabinets come with an **extended warranty period of 3 years** (excluding consumables and accessories).

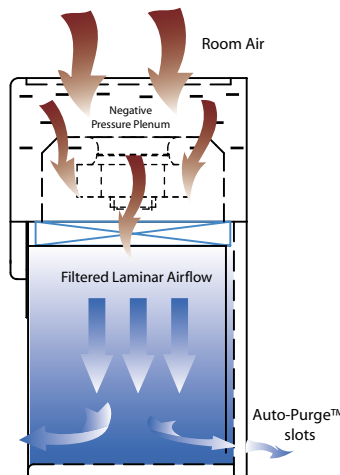
**Cabinet Airflow Profile**

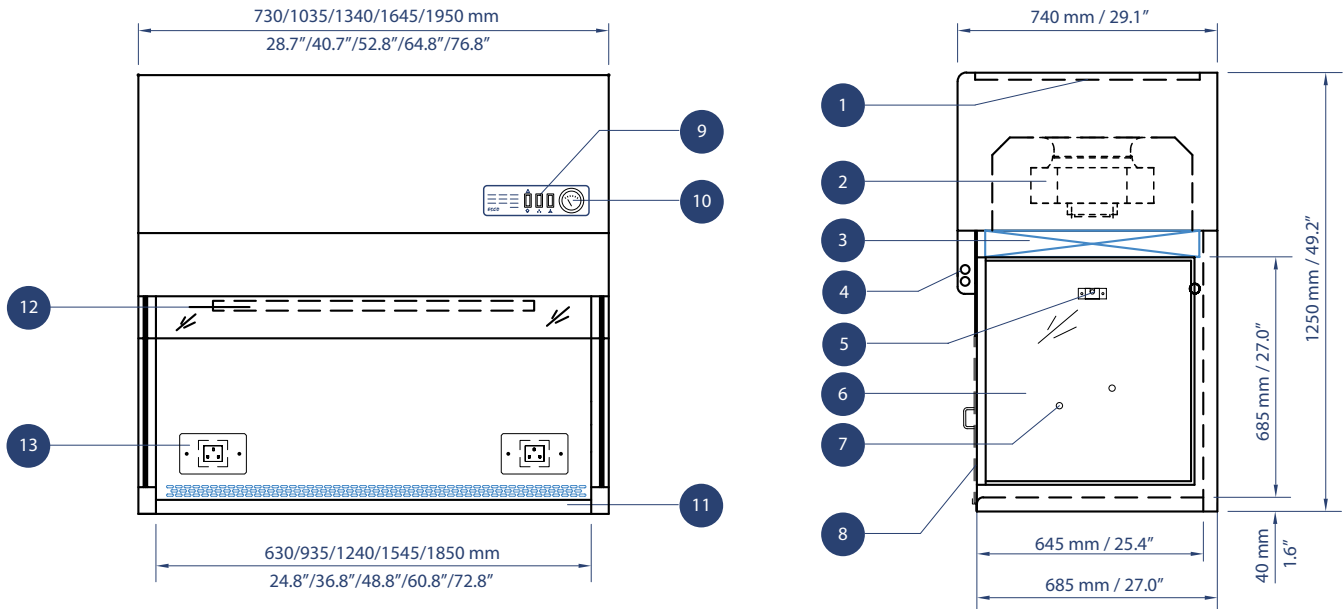
Room air is taken in from the top of the cabinet through a disposable pre-filter with 85% arrestance; this serves to trap larger particles and increase the life of the main filter.

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 working zone of the cabinet in a vertical, unidirectional stream and leaves the main work chamber across the entire open front of the cabinet and through Auto-Purge™ slots at the back wall of the workzone. Auto-Purge™ slots are designed to eliminate air turbulence and the possibility of dead-air corners in the workzone.





**1.** Pre-Filter **2.** Blower **3.** ULPA Filter **4.** Fluorescent Lamp **5.** Optional IV Bar Retrofit Kit  
**6.** Tempered Glass Sides **7.** Service Fixture Provisions (2 On Each Side) **8.** Front Cover (Optional)  
**9.** Operating Switches **10.** Pressure Gauge **11.** Stainless Steel Worktop **12.** UV-light Retrofit Kit Provision  
**13.** Electrical Outlet Retrofit Kit Provision (1 For 2ft & 3ft Models, 2 For 4ft And Above)

**Optional Retrofit Kits™:** UV lamp, front cover, support stand, IV bar with hooks, service fixtures, electrical socket outlets

General Specifications	AVC-2AX	AVC-3AX	AVC-4AX	Standard Size	AVC-5AX	AVC-6AX	Standard Size
External Dimensions (Width x Depth x Height)	730 x 740 x 1250 mm 28.7" x 29.1" x 49.2"	1035 x 740 x 1250 mm 40.7" x 29.1" x 49.2"	1340 x 740 x 1250 mm 52.8" x 29.5" x 49.2"		1645 x 740 x 1250 mm 64.8" x 29.1" X 49.2"	1950 x 740 x 1250 mm 76.8" x 29.1" X 49.2"	
Internal Work Zone (Width x Depth x Height)	630 x 645 x 685 mm 24.8" x 25.4" x 27.0"	935 x 645 x 685 mm 36.8" x 25.4" x 27.0"	1240 x 645 x 685 mm 48.8" x 25.4" x 27.0"		1545 x 645 x 685 mm 60.8" x 25.4" x 27.0"	1850 x 645 x 685 mm 72.8" x 25.4" x 27.0"	
Air Volume (At Initial Velocity)	660 cmh (+/-70 cmh) 390 cfm (+/-42 cfm)	977 cmh (+/-109 cmh) 575 cfm (+/-64 cfm)	1295 cmh (+/-144 cmh) 762 cfm (+/-85 cfm)		1614 cmh (+/-180 cmh) 950 cfm (+/-106 cfm)	1930 cmh (+/-218 cmh) 1136 cfm (+/-130 cfm)	
Laminar Airflow Velocity	Average of 0.45 m/s or 90 fpm measured 150mm / 6" from filter face for 40 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 4, 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 4, US Federal Standard 209E Class 10 / M2.5, AS 1386 Class 2.5, JIS B9920 Class 4, BS5295 Class D, Class M100,000 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 <64 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	>1100 lux / >102 foot candles, measured at work surface level (zero background) as per IEST-RP-CC002.2						
Main Body Construction	1.5mmt / 0.06" / 16 gauge electro-galvanised steel with white oven-baked epoxy powder-coated finish						
Side Window Construction	Colourless and transparent UV-absorbing 5-6mm / 0.2"-0.24" tempered glass						
Work Surface Construction	1.2mmt / 0.05" / 18 gauge stainless steel grade 304						
Maximum Power Consumption / Current	220-240VAC / 50Hz 1Ph	282W / 1.00A	298W / 1.30A	312W / 1.35A	332W / 1.44A	576W / 2.50A	
	110-130VAC / 60Hz 1Ph	382W / 3.20A	398W / 3.32A	412W / 3.43A	432W / 3.60A	776W / 6.47A	
Power Supply Options	<b>Choose from the following power supply configuration codes when ordering (e.g. AVC-4A3, for 220-240VAC 60Hz)</b> 1: 220-240VAC 50HZ 2: 110-130VAC 60HZ 3: 220-240VAC 60HZ 4: 110-130VAC 50HZ 5: 100-110VAC 50HZ/60HZ						
Net Weight (Approximate)	100 kgs / 220 lbs	123 kgs / 271 lbs	147 kgs / 324 lbs		183 kgs / 403 lbs	220 kgs / 485 lbs	
Max Shipping Weight	164 kgs / 362 lbs	206 kgs / 454 lbs	257 kgs / 567 lbs		285 kgs / 628 lbs	330 kgs / 728 lbs	
Max Shipping Dimensions (W x D x H)	900 x 950 x 1780 mm 35.4" x 37.4" x 70.0"	1200 x 950 x 1780 mm 42.2" x 37.4" x 70.0"	1500 x 950 x 1780 mm 59.0" x 37.4" x 70.0"		1800 x 950 x 1780 mm 70.9" x 37.4" x 70.1"	2100 x 950 x 1780 mm 82.7" x 37.4" x 70.1"	
Max Shipping Volume	1.52 cbm / 53.7 cbf	2.03 cbm / 71.7 cbf	2.54 cbm / 89.7 cbf		3.04 cbm / 107.4 cbf	3.55cbm / 125.4 cbf	

**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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