



Photo: VA2-4A model on optional hydraulic support stand with castor wheels

MAIN FILTRATION AGENTS

- **ISO Class 3 air cleanliness** within workzone as per ISO 14644.1 (equivalent to Class 1 as per the US Federal Standard 209E, **100 times cleaner** than the usual Class 100 classification on cabinets offered by the competition).
- **Disposable high-quality polyester pre-filter with 85% arrestance** located under the work tray removes large contaminants and particles and prolongs main filter life.
- **Minipleat separatorless ULPA filter technology**, operating at the typical efficiency of **99.9999% at MPPS, 0.3 and 0.12 microns** provides better operator, product and environmental protection than conventional HEPA filters. This cabinet employs 2 ULPA filters, 1 for downflow and 1 for exhaust airflow filtration.

CABINET CONTROL SYSTEM

- **Esco Sentinel™ Microprocessor Cabinet Control System** allows the user to easily access all cabinet functions. The control system monitors and displays cabinet airflow constantly on the control LCD screen, prompting the user with audible and visual alarms in case of any unsafe condition.
- Fail-safe system ensures that in case of airflow failure, the cabinet automatically shuts down to ensure safety to the user and the environment.
- True airflow velocity (both for downflow and inflow velocity) sensing technology, with temperature compensation for improved sensor accuracy.
- Audible and visual alarms for low airflow,

unsafe sash positions.

- Automatic warm-up cycle is enabled upon turning on the cabinet, ensuring all contaminants are purged from the cabinet workzone before the operator can use the cabinet. All menu functions are inactive during this period. Automatic post-purge cycle is also enabled at shutdown, ensuring all residue contaminants are purged out of the workzone before deactivation.
- **An admin PIN** can be set to restrict unauthorized access to all menu functions.

ERGONOMIC FEATURES

- **The laminated glass sliding front sash** is shatter-proof and provides greater operator protection.
- **Built-in 5000k fluorescent lighting** offers excellent illumination throughout the workzone. **Electronically-ballasted lighting system** is instant-start, non-flickering and energy-efficient.
- **Ergonomic sloped front design** allows for maximum visibility into the workzone.
- **Cabinet armrest** is raised above the workzone to ensure that the operator's arms do not block the front inflow perforations.

CABINET BODY CONSTRUCTION

- Industrial-grade main body constructed of electrogalvanised steel: with an abrasion-resistant white oven-baked powder-coated finish. Attractive single-piece stainless steel work surface is easy to remove for purposes of cleaning and auto-claving.
- Cabinet construction allows for the cabinet to be lifted directly on to the standard hydraulic support stand with

Esco Viva® Universal Workstation draws on Esco's experience of over 25 years in laminar air flow technology. The enclosure employs two independently balanced ULPA filtration modules to protect animals inside the enclosure from exposure to airborne particulates / ambient contamination, as well as the user from exposure to allergens and other potentially hazardous materials. It employs a recirculating design similar to a Class II Type A2 cabinet.

An ergonomic sloped front and large 12" / 305mm work zone access opening allows easy access for surgical procedures, anaesthesia delivery, cage changing and other research activities.

The microprocessor-based soft touch control / alarm system and ULPA filters with a superior filtration efficiency compared to conventional filters make this product an optimum choice for the modern animal research laboratory.

castor wheels. The hydraulic support stand adds mobility and facilitates easy relocation of the cabinet. The overall height may be adjusted to allow for the cabinet movement through standard 80" / 2m doorways. The hydraulically-adjustable support stand raises the work surface to 37" / 940 mm maximum height to suit the operator's desired working height.

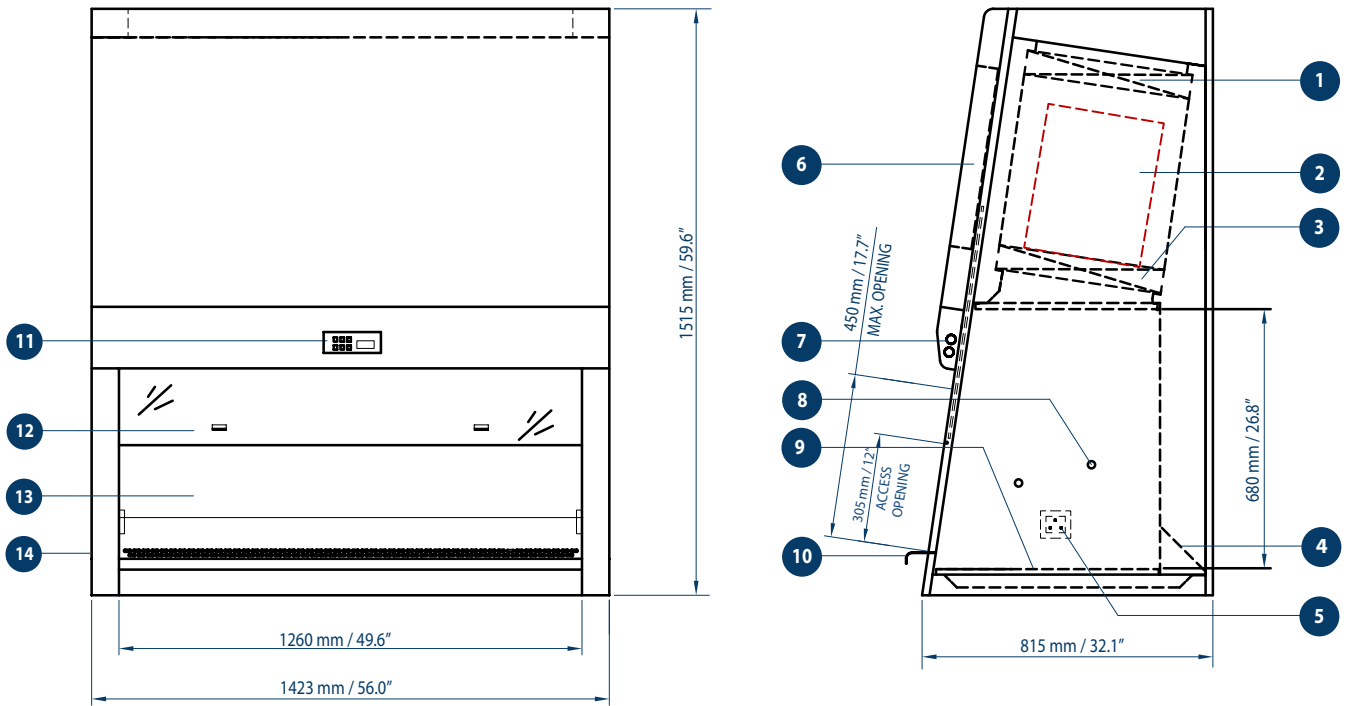
► **The cabinet inner liner** (backwall and sidewalls) **is made from a single sheet of stainless steel**. This not only provides an aesthetic working environment for the user, but also ensures that the cabinet workzone has joints for contaminants to collect.

► 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 63dBA at working position) due to proprietary construction and mounting technology. **The cabinet's airflow is self-regulating**: the motor / blower system is able to compensate automatically to maintain airflow as the filter is loaded with particulates.

► 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.

► **Superior electrical safety for the operator**; all electrical components are UL listed or UL recognized; all cabinets are factory tested for electrical safety after production at manufacturing site.

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



Engineering Details

- 1. Exhaust ULPA Filter 2. Blower 3. Downflow ULPA filter 4. Pre-filter 5. Electrical Outlet Retrofit Kit™ Provision (2 single outlets)
- 6. Electrical / Electronics Panel 7. Fluorescent Light 8. Plugged Service Fixture Provisions (2 on each side wall) for Gas/Vacuum/Water.
- 9. Stainless Steel Single-piece Work tray 10. Stainless Steel Armrest 11. Esco Sentinel™ Microprocessor Control System
- 12. Laminated Glass Sliding Sash Window 13. Stainless Steel Back Wall and Side Wall 14. Removable Side Panel for Plumbing Access

General Specifications		VA2-4AX	VA2-4AX (With Hydraulic Support Stand)
External Dimensions (L x W x H)		1423 x 815 x 1515 mm / 56.0" x 32.1" x 59.6"	1553 x 850 x 1936 mm / 61.1" x 33.5" x 76.2"
Internal Work Zone (L x W x H)		1260 x 620 x 680 mm / 49.6" x 24.4" x 26.7"	
Maximum External Size with Support Stand		1553 x 850 x 2340 mm / 61.1 x 33.5" x 92.1"	
Standards Compliance		Air cleanliness: ISO 14644.1 Class 3, IEST-G-CC1001, IEST-G-CC1002 and other equivalent 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	
Average Airflow Velocities	Inflow	Initial setpoint: 0.525 m/s or 105 fpm (audible / visual alarm will activate at 0.45m/s or 90fpm)	
	Downflow (Average)	Initial setpoint: 0.35 m/s (70 fpm); Uniformity: +/- 20% or +/- 0.08 m/s or 16 fpm, whichever is higher	
Airflow Volume	Inflow	554 cmh / 326 cfm	
	Downflow (65%)	928 cmh / 546 cfm	
	Exhaust (35%)	554 cmh / 326 cfm	
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 equivalent classes of VDI 2083 and AFNOR X44101	
Downflow and Exhaust Filter Type		ULPA filter with integral metal guards and filter frame gaskets; fully compliant with EN 1822 and IEST-RP-CC001.3 requirements (each cabinet has individual downflow and exhaust filters)	
Filter Efficiency Ratings		Minimum: 99.9995% at 0.3µm / 99.9994% at 0.12µm / 99.9991% at MPPS Minimum: 99.9995% at 0.3µm / 99.9994% at 0.12µm / 99.9991% at MPPS	
Noise Level	According to NSF49	<64 dBA	
	According to EN12469	<60 dBA	
Pre-Filter		Disposable and non-washable polyester fiber with 85% arrestance / EU3 rated	
Light Intensity		>900 Lux / >84 footcandles (measured at work surface level, zero background)	
Main Body Construction		1.5mmt / 0.06" / 16 gauge electro-galvanised steel with white oven-baked epoxy powder-coated finish	
Amps/BTU for 220-240VAC / 50Hz 1Ph		3.9A/3093BTU	
Amps/BTU for 110-130VAC / 60Hz 1Ph		11.5A/4560BTU	
Net Weight (Approximate)		312 kgs / 688 lbs	352 kgs / 776 lbs
Max Shipping Dimensions (L x W x H)		1570 x 1260 x 1765 mm / 61.8" x 53.5 x 69.5"	1720 x 1410 x 1965 mm / 66.7" x 55.5 x 78.1"
Max Shipping Volume		3.49 cbm / 123.2 cbf	4.76 cbm / 168.1 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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