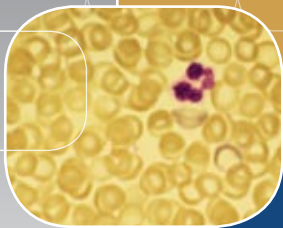


VIVA®



Viva Universal Animal Containment Workstation, Model VA2-4A.

Universal Animal Containment Workstation
The Safety Solution for Animal Research Laboratories



ESCO

WORLD CLASS. WORLDWIDE.



Main Features

- Provides protection from airborne contaminants to the operator, animals and the environment.
- Available in 4' (1420mm) and 6' (2030mm) models.
- Ergonomically styled sloped front improves operator comfort.
- Microprocessor controller supervises all functions.
- Work surface component removal simplifies cleaning.
- Dual long-life ULPA filters for supply and exhaust airflow.
- Activated carbon filter removes odors.
- Raised airflow grille prevents blockage to maintain performance.
- KI discus tested for performance integrity.
- **ISOCIDE™** antimicrobial surface on all painted surfaces.
- Optional mobile hydraulic height-adjustable support stand.

Containment Protection

The Esco Universal Animal Containment Workstation provides Class II like operator protection by preventing investigators and animal handlers from exposure to animals and animal products which can cause occupational hazards such as asthma and allergies.

The Universal Workstation protects the operator from airborne contamination during cage changing or other procedures. The Workstation also protects the animals or work product from cross contamination and protects the environment from allergens and particulate emissions.

- The laminar airflow system creates a non-recirculating vertical flow of ISO Class 3 clean air across the work surface per ISO14644.1
- A large 12 inch sash opening accommodates standard size animal cages, provides ample room for surgical procedures and other animal research protocols.
- The sliding window opens to 17.7 inch for insertion and removal or larger instrumentation and equipment.



Shown here with optional mobile hydraulic height-adjustable support stand fully lowered



Touchpad data entry buttons permit control settings and access to diagnostics, default settings and hierarchical menus.

Color coded indicator lamps display normal, caution or warning status.

A graphical interface indicates cabinet performance.

Digital read-out with alpha-numeric display indicates all input, status and alarm functions.

Start-up sequence completion is confirmed by Air Safe and local time display.



Sentinel Microprocessor Control System

Integrated Filtration System

A combination of twin ULPA filters, an activated carbon filter and an intake air pre-filter give the Universal Workstation a fully integrated envelope for animal, operator and environmental protection.

- ULPA filters are tested to >99.999% typical efficiency for 0.3 micron particulates, better than HEPA filters.
- An improved mini-pleat separation technique maximizes filter surface area, improves efficiency and extends filter life over conventional separation.
- A disposable pre-filter traps larger particulates before they enter the blower chamber, and protects the supply ULPA filter to extend filter life.
- The supply ULPA filter provides clean air to the work surface in a gentle vertical laminar flow.
- The exhaust ULPA filter removes all allergens and particulates acquired from the work surface before the air is exhausted to the room.
- An activated carbon filter removes odors from the ULPA filtered exhaust air stream before returning air to the laboratory.

Balanced Air Flow

Intake and exhaust ratios are factory balanced before shipment to assure proper performance of the resulting air curtain.

- The cabinet creates an airflow ratio of 60% recirculation to 40% exhaust, similar to a Class II, Type A2 biological safety cabinet.
- The inflow of room air is captured in the slots peripheral to the work surface opening before it can contaminate the work area.
- Contaminated room air does not enter the work area.

Blower Efficiency

The Universal Workstation blower system is designed for maximum energy efficiency and minimal maintenance.

- Two permanently lubricated independent blowers are used, one for the supply filter and one for the exhaust filter.
- Centrifugal, direct-drive, external rotor motors are selected to reduce operating costs.
- Self-regulating airflow system automatically compensates for filter loading to extend filter life.
- The proprietary Escro motor/blower orientation minimizes noise (less than 65 dBA for VA2-4) and vibration at the work surface.
- Built-in solid-state variable speed controllers are infinitely adjustable from *Off* to *Maximum*.
- Built-in RFI and electrical noise filters eliminate interference with adjacent instrumentation.

Sentinel™ Microprocessor Control, Alarm, Monitoring System

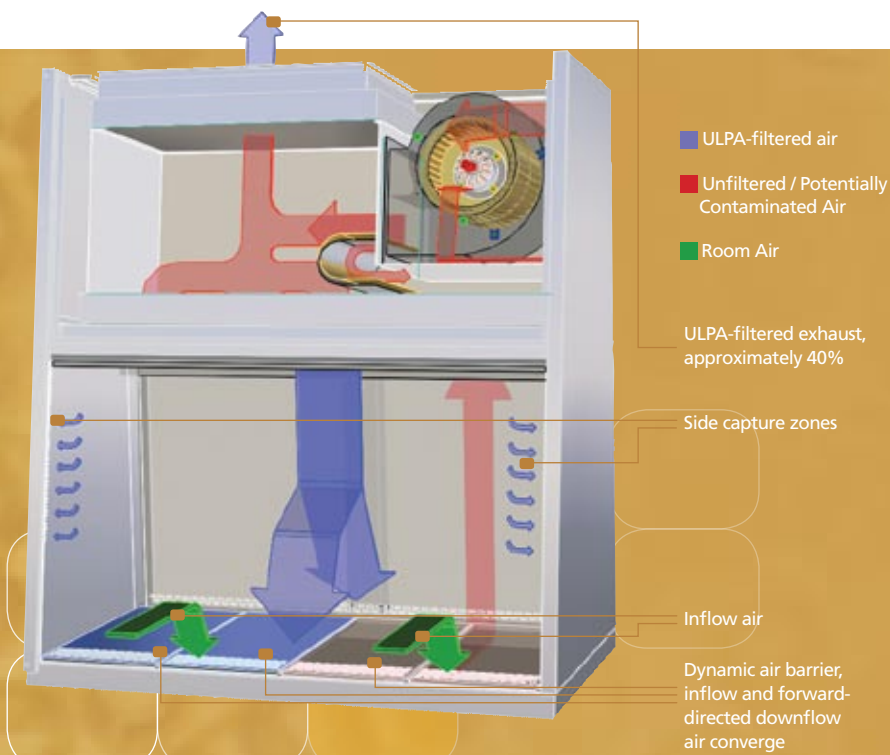
The Escro Sentinel™ microprocessor-based control system supervises operation of all cabinet functions.

- Controls are configurable to meet user requirements.
- Automatic start-up sequence prepares the Workstation for normal operation; advises when safe conditions established.
- Integrated, temperature-compensated true airflow velocity sensors provide the highest control accuracy
- Continuous monitoring and display of cabinet airflow is displayed on bright, easy-to-read LCD panel.
- Administrator controlled password-protection can be set to restrict access to main menu.
- Audible and visual alarms warn of unsafe conditions such as low airflow.
- Fail-safe default mode shuts down cabinet in case of airflow failure.

Comfortable Ergonomic Design

The Universal Workstation is engineered for comfort, utility value and safety.

- The 10° sloped viewing window reduces glare and permit easier reach into the work area.
- The front sliding sash is made from shatter-proof laminated glass for operator protection.



Air from the ambient environment is pulled through the perforations located towards the work zone front to prevent contamination of the work surface and work product. The inflow does not mix with the clean air present within the cabinet work zone. Inflow air travels through a return path toward the common air plenum (blower plenum) at the top of the cabinet.

Approximately 40% of the air in the common plenum is exhausted through the ULPA filter to the room.

The remaining 60% of the air is passed through the downflow ULPA filter and into the work area as a vertical laminar flow air stream bathing the work surface in clean air.

The uniform, non-turbulent air stream protects against cross contamination within and throughout the work area.

Near the work surface, the downflow air stream splits with a portion moving toward the front air grille, and the remainder moving to the rear air grille. A small portion of the ULPA filtered downflow enters the intake perforations at the side capture zones at a higher velocity (small blue arrows).

A combination of inflow and downflow air streams forms an air barrier that prevents contaminated room air from entering the work zone, and prevents work surface emissions from escaping the work zone.

Air returns to the common air plenum where the 40% exhaust and 60% recirculation process is continued.

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- The instant-start 5000k fluorescent lamp operates on an electronic ballast for energy efficiency.
- The lamp delivers >120 foot candles to the work surface for overall illumination.
- The front armrest is raised above the workzone to ensure that the operator's arms do not block the forward airflow perforations.
- The optional adjustable support stand provides mobility and work surface height control.

Electrical Safety and Certification

All components used in Esco products meet or exceed applicable safety requirements.

- Retractable power cord stores easily for moving from one location to another.
- Each cabinet is individually factory tested for electrical safety.
- Documentation specific to each cabinet serial number is maintained on file.
- UL Listing for USA and Canada pending.

Cabinet Construction

Robust construction and enhanced safety features qualify the Workstation for the most demanding laboratory applications.

- The interior work area is formed from a single piece of stainless-steel with large radius corners to simplify cleaning.
- The cabinet work zone has no joints to collect contaminants or rust.
- All stainless steel work surfaces are accessible for cleaning.
- Tray components lift and remove to provide easy access and encourage surface decontamination.
- A recessed central area and stainless steel drain pan contain spills and prevent liquids from entering the lower filtration and blower systems.
- The work surface air intake grilles are configured to prevent obstructions by objects placed outside the work zone.
- The cabinet structure is constructed of industrial-grade electro galvanized steel.
- External surfaces are coated with Esco Isocide™ antimicrobial coating to protect against surface contamination and inhibit bacterial growth. Isocide™ eliminates 99.9% of surface bacteria within 24 hours of exposure.

Optional Adjustable Support Stand

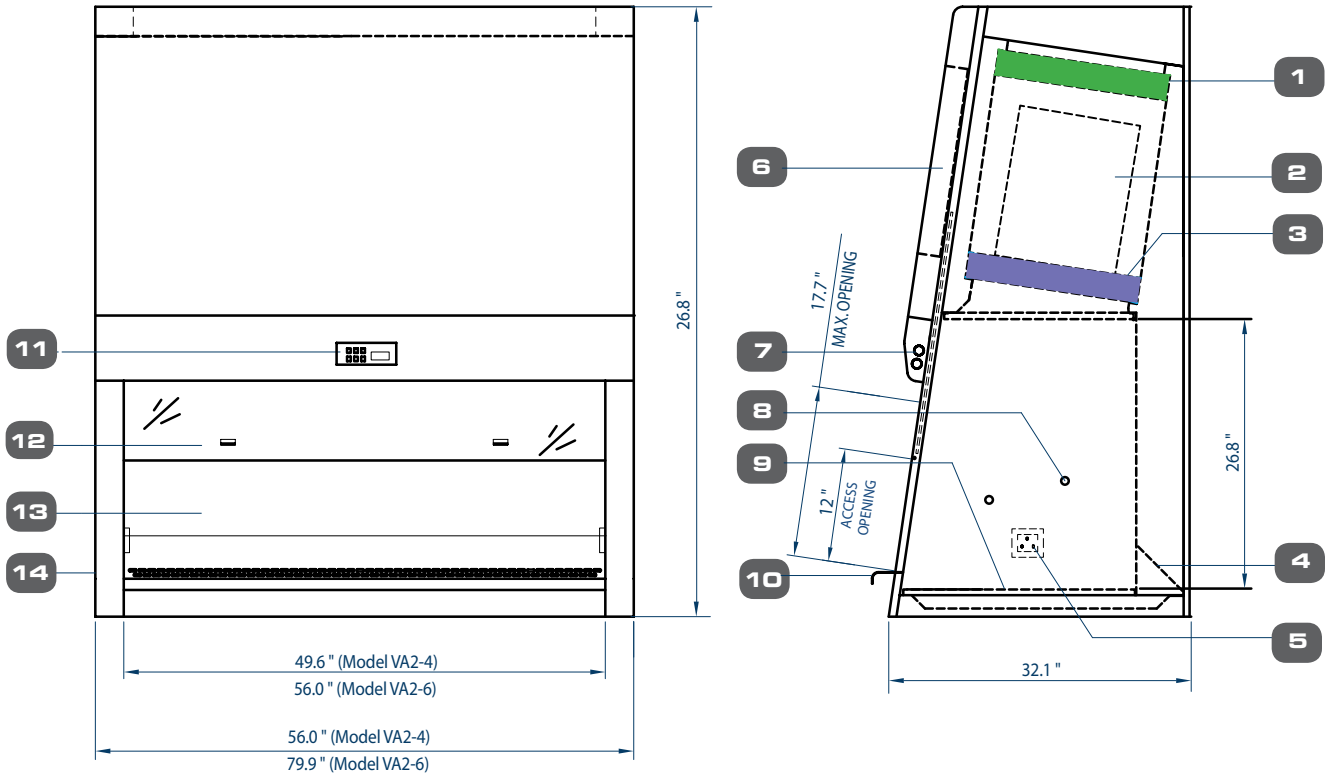
- An optional electrically adjustable support stand permits the work surface to be adjusted from a low profile of 70.3 inch to move through doorways, to a standing working height of 34.7 inch with infinite adjustability within the range.
- Height adjustment offers ergonomic benefits for operator convenience, and safety at low position when moving from lab to lab.
- The workstation is easily moved on non-marking 5 inch wheels with locking brakes.
- A stainless steel push/pull bar is mounted on one end.
- The support stand is designed to accommodate the Universal Workstation with proper clearances left and right.

Warranty

The Viva Universal Animal Containment Workstation is warranted for 3 years excluding consumable parts and accessories. Contact your local sales representative for specific warranty details.

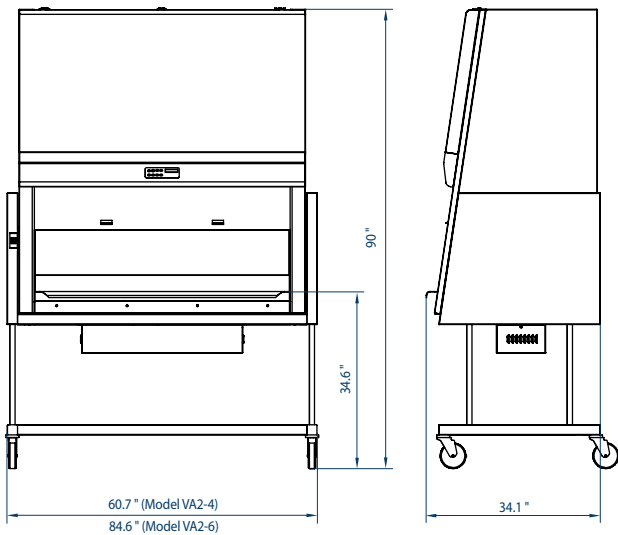


Model VA2 Universal Access Workstation Technical Specifications

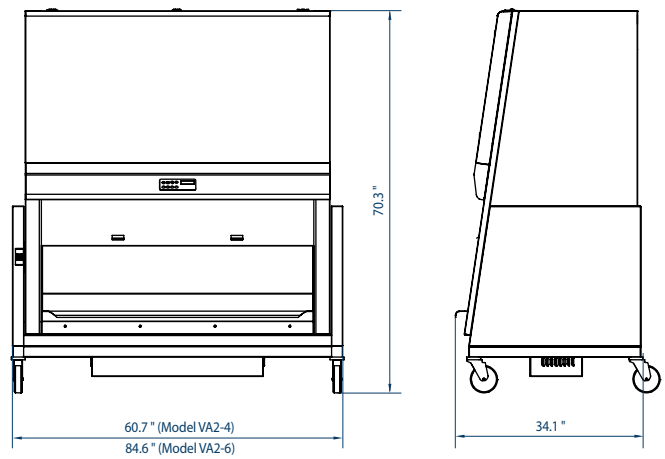


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|-------------------------|---|---|--|--|
| 1. Exhaust ULPA Filter | 5. Electrical Outlet Retrofit Kit™ Provision (2 single outlets) | 8. Plugged Service Fixture Provisions (2 on each side wall) for Gas/Vacuum/Water. | 10. Stainless Steel Armrest |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

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The VA2 Universal Workstation mounted on optional adjustable height mobile support stand, shown in fully elevated position.



The VA2 Universal Workstation mounted on optional adjustable height mobile support stand, shown in fully lowered position to for safe movement through hallways and standard doorways.

General Specifications, Universal Animal Containment Workstation

Model	VA2-4A2, 4' Model	VA2-6A2, 6' Model
External Dimensions (L x W x H)	56" x 32.1" x 59.6"	73.6" x 32.1" x 59.6"
Maximum External Dimensions with Support Stand (L x W x H)	60.7" x 34.1" x 90.0"	84.6" x 34.1" x 92.1"
Internal Work Area (L x W x H)	49.6" x 24.4" x 26.7"	79.9" x 33.5" x 92.1"
Average Airflow Velocity	Inflow	90 fpm
	Downflow	70 fpm
Airflow Volume	Inflow	368 cfm
	Downflow, 60%	547 cfm
	Exhaust, 40%	368 cfm
Pre-Filter	Disposable, non-washable polyester fiber, 85% arrestance, EU3 rated	
ULPA Filter Typical Efficiency	>99.999% at 0.3µm	
Sound Emission	<65 dBA	<67 dBA
Fluorescent Lamp Intensity	>120 foot candles, measured at work surface level, zero background	
Cabinet Construction	16 gauge electro-galvanized steel with Isocide white oven-baked epoxy power coating	
Electrical	110-130V, AC, 60Hz, 1Ph, 11.5 amps	
Net Weight <i>Cabinet only excluding stand</i>	672 lbs	900 lbs
Shipping Weight <i>Cabinet only, excluding stand</i>	716 lbs	973lbs
Shipping Dimensions, Maximum (L x W x H) <i>Cabinet only, excluding stand</i>	59.0" x 35.4" x 70.0"	84.6" x 35.4" x 70.0"
Shipping Volume, Maximum	81 cbf	116 cbf

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Standards Compliance	Air Quality	Filtration	Electrical Safety
	ISO 14644.1, Class 3, Worldwide JIS B9920, Class 3, Japan JIS BS5295, Class 3, Japan US Fed Std 209E, Class 1 USA	EN-1822, Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA	UL-C-61010A-1, Canada CSA22.2, No.1010-192, Canada EN-61010-1, USA IEC61010-1, USA

Accessories and Options

Adjustable Height, Mobile Support Stand Available for Universal Workstation 4 feet and 6 feet models. Electrically adjustable in infinite increments. Achieves maximum combined height (stand and Workstation) of 90 inch. Lowers to minimum combined height of 70.3 inch for movement from lab to lab. Fits easily through standard laboratory doorway.

- For 4 feet Workstation Model VA2-4A2, Order Number SLC-4A2
- For 6 feet Workstation Model VA2-6A2, Order Number SLC-6A2
Maximum height, Workstation and Support Stand, 90 inch H
Minimum height, Workstation and Support Stand, 70.3 inch H

Electrical Outlets and Service Fittings

Outlets and service fittings are factory installed. Specify when ordering cabinet.

- Electrical Outlet, Ground Fault, Order Number EO-GFCI (for North America)
- Electrical Outlet, Order Number EO-HX
- Service Fixtures:
 - Gas, Order Number SF-1G
 - Vacuum, Order Number SF-1V
 - Air, Order Number SF-1A
 - Water, Order Number SF-1W
 - Water, for USA, Order Number SF-2U





Esco Biotechnology Products

Laminar Flow Cabinets, Vertical, Horizontal, PCR
 Biological Safety Cabinets, Class II, III
 Cytotoxic Safety Cabinets
In Vitro Fertilization Enclosures
 Powder Weighing Balance Enclosures
 Animal Containment Workstations
 Custom Clean Air and Containment Workstations

Esco products are sold and serviced by more than 200 distributors in over 70 countries. For the name of your local sales representative visit escoglobal.com/sales.

NSF Standard 49 Biological Safety Cabinets • Animal Containment Workstations • Fume Hoods • Clean Benches



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