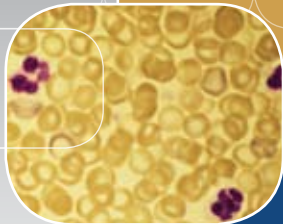




VIVA®



Viva Bedding Disposal Workstation,
Model VBD-4A.

Bedding Disposal Workstations

The Portable Safety Solution for Animal Research Laboratories



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Main Features

Sentinel™ Microprocessor controller supervises all functions.

- Industry-exclusive integrated adjustable height hydraulic stand improves ergonomics and enables the workstation to be adjusted to the user's height.
- Long life ULPA filter protects the user and the environment from harmful particulates created when dumping cages.
- Nanocarb™ activated carbon filter removes odors.
- Pre-filter extends the life of the main ULPA filter and can be safely changed within the work zone with the airflow operating.
- Work area lighting is bright and uniform to help improve productivity.
- Blower system is designed for high performance operation, maximum energy efficiency and minimal maintenance.
- Single piece stainless steel work zone liner simplifies cleaning.
- Offset opening in the work surface provides a staging area for cages to be dumped. This can facilitate faster and safer cage processing.
- A 40-gallon NSF listed waste container is mounted to the work surface allowing for rapid disposal of waste materials within the work zone.
- Esco **ISOCIDE™** antimicrobial coating on all painted surfaces.

VIVA Bedding Disposal Workstation,
Model VBD-4A_

Cage cleaning and bedding disposal procedures are now simpler, safer and more productive with the VIVA Bedding Disposal Workstation. Specifically designed for the animal research laboratory, the mobile workstation protects personnel and the lab environment from exposure to allergens and unpleasant odors. The

industry-exclusive hydraulic height-adjustable stand allows the work surface height to be adjusted to user preference therefore minimizing strain during repetitive operations. An integrated waste container enables direct disposal of waste items within the work zone.



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Animal Containment Workstations • Bedding Disposal Workstation





Operator and Environmental Protection

The VIVA Bedding Disposal Workstation provides operator and environmental protection.

Containment and Protection

A combination of an exhaust pre-filter, ULPA filter and activated carbon filter create a fully integrated performance envelope for operator and environmental protection.

Inflow of room air enters the work opening to establish operator protection. The work opening is generously sized to accommodate all common types of animal cages.

The inflow velocity, air flow path and intake geometry are precision tuned and tested to create an optimum air curtain at the front aperture.

Comfortable Ergonomic Design, Portable

The VIVA workstation is engineered for comfort, utility value and safety.

- The integral adjustable support stand provides work surface height control.
- Ergonomic adjustable work surface height reduces fatigue, increases productivity and provides a safer work environment.
- The workstation is mobile on non-marking 125 mm (5") wheels with locking brakes.
- When fully lowered, the workstation will fit through a standard lab door.
- The angled front profile improves reach into the work area.
- The instant-start 5000k fluorescent lamp operates on an electronic ballast to reduce heat, improve comfort and conserve energy.

- The lamp delivers uniform lighting to the work surface for greater comfort, reduced glare and improved productivity; see Technical Specifications.
- The frameless cabinet front eliminates operator's line of sight blockage.
- A generous front opening allows for faster access into the work zone, and provides ample room for transferring of animal cages.

Integrated Filtration System

The combination of pre-filter, ULPA filter (for allergen removal) and Nanocarb™ activated carbon filter (for odor removal) create a fully integrated envelope for operator and environment protection.

Mini-pleat Separatorless Filter (left) vs. Conventional Aluminium Separator Filter (right)



Esco cabinets use Swedish Camfil Farr® mini-pleat filters without aluminum separators to increase filter efficiency, minimize the chance of leakage, and to prolong filter life. Filters include a lightweight aluminum frame for structural stability and elimination of swelling common to conventional wood frames.

- A pre-filter captures large particles to extend the life of the main filters.
- Pre-filter can be replaced with airflow operating to minimize exposure to hazardous particulates.
- The exhaust ULPA filter provides 99.999% typical efficiency for particle sizes of 0.1 to 0.3 microns in order to remove allergens from the exhaust stream. VIVA ULPA filters meet the IESTRP-CC001.3 recommended practice

for ULPA performance (USA), and EN 1822 for H14 performance (EU).

- Nanocarb™ activated carbon filter, specifically designed for removal of gaseous contaminants, reduces odors before air is returned to the laboratory.

Blower Efficiency

The VIVA blower system is designed for high performance operation, maximum energy efficiency and minimal maintenance.

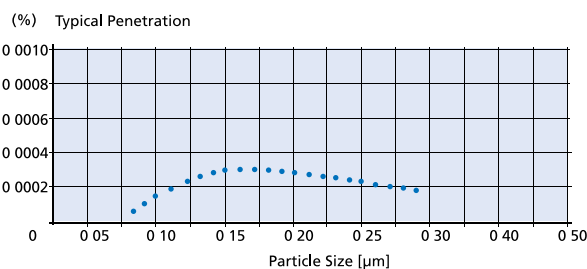
- The external rotor motor design allows for optimum cooling of the motor during extended operations and extends the motor bearing life.
- The permanently lubricated direct-drive external rotor motor/blower reduces operating costs.
- An integral blower hour meter tracks operating life for predictive maintenance planning.

Sentinel Microprocessor Control, Alarm, Monitoring System

The Esco Sentinel™ microprocessor-based control system supervises operation of all workstation functions. The control panel is located on the center of the workstation, and angled down for easy access by the operator.

- Continuous monitoring of workstation airflow is displayed on a bright, easy-to-read LCD panel.
- An integrated, temperature-compensated, true airflow velocity sensor provides an accurate airflow reading despite room temperature fluctuation.
- All electronic parts are contained inside a plug-and-play module that permits easy exchange if required.
- Microprocessor software updates are available from Esco for download via the Internet.

Esco Filter Efficiency



● Typical Penetration

Esco workstations use ULPA filters (per IEST-RP-CC001.3) instead of conventional HEPA filters commonly found in animal containment workstations. While HEPA filters offer 99.99% typical efficiency at 0.3 micron level, ULPA filters provide 99.999% typical efficiency for particle sizes of 0.1 to 0.3 micron level.

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Workstation Airflow System

- Carbon Filter
- Blower
- Exhaust ULPA Filter
- Pre-Filter

- ULPA-filtered air
- Unfiltered / Potentially contaminated air
- Room air / Inflow air

- Room air is drawn in across the front of the cabinet with an average velocity of 0.35 m/s (70 fpm).
- Air is drawn up through the cabinet's work zone and forced through the ULPA filter (>99.99% typical efficiency for 0.3 micron sized particles).

- The full work zone ceiling extraction system ensures airflow uniformity throughout the cabinet's main chamber.
- The ULPA filtered air then returns to the laboratory stripped of all airborne contaminants.

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Sentinel functions are factory set to default to ON or OFF, depending on worldwide destination and local preferences. Default settings can be user activated through the touchpad data entry access.

- Automatic start-up sequence will prepare the workstation for normal operation and advise when safe conditions are established.
- An administrator controlled PIN (Personal Identification Number) can be set to restrict access to main menu.
- The airflow alarm can be activated or deactivated depending on user preference and nature of the work.

Consult your Esco Operating Manual or contact your Sales Representative for information on user-preference programming capabilities built into the Sentinel microprocessor platform.

Electrical Safety and Certification

All components meet or exceed applicable safety requirements.

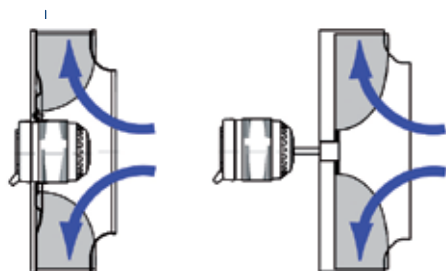
- Each workstation is individually tested for electrical safety at factory.
- Documentation specific to each workstation serial number is maintained on file.
- Contact Esco or your Sales Representative for site preparation information; see Electrical Specifications.

Workstation Construction

Robust construction and enhanced safety features qualify the workstation for the most demanding laboratory applications. The workstation is fully assembled and ready to install and operate when shipped.

- The interior work area is constructed of stainless steel.

- The stainless steel work surface has a large opening with fixed stainless steel "Bang Bars" to facilitate cage dumping.
- There are no screws on the front or sides to trap contaminants or complicate cleaning.
- 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.
- A 40-gallon NSF listed waste container is mounted to the work surface allowing for rapid disposal of waste materials within the work zone. The large volume container eliminates frequent disposal to improve productivity. The waste container is mobile on casters and moves with the workstation.



Esco Centrifugal Fan with External Rotor Motor (left) vs. Conventional Fan with Standard Motor (right)

- Esco cabinets use German made **ebm-papst**® permanently lubricated, centrifugal motor/blowers with external rotor designs.
- Integrated blades narrow the profile and eliminate need for a motor shaft.
- Motors are selected for energy efficiency, compact design, and flat profile. The completely integrated assembly optimizes motor cooling.
- All rotating parts are unitized and balanced for smooth, quiet, vibration-free operation.



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

Color coded indicator lamps display green for primary function (fan operation); blue for secondary function (fluorescent lights).

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

All functions can be user activated through touch-pad programming access; see Operations Manual.



Sentinel Microprocessor Control System, Programmable

- When programmed ON
- the start-up sequence confirms status with Air Safe and local time display.
- the Personal Identification Number (PIN) access restricts unauthorized adjustments.
- an airflow alarm warns of deviations from normal velocities.

Warranty

The VIVA workstation is warranted for 3 years excluding consumable parts and accessories.

- Contact your local Sales Representative for specific warranty details or documentation requests.

Documentation

- Each workstation is shipped with a comprehensive user's manual complete with a report documenting all test procedures.
- Additional IQ/OQ documentation is available upon request.

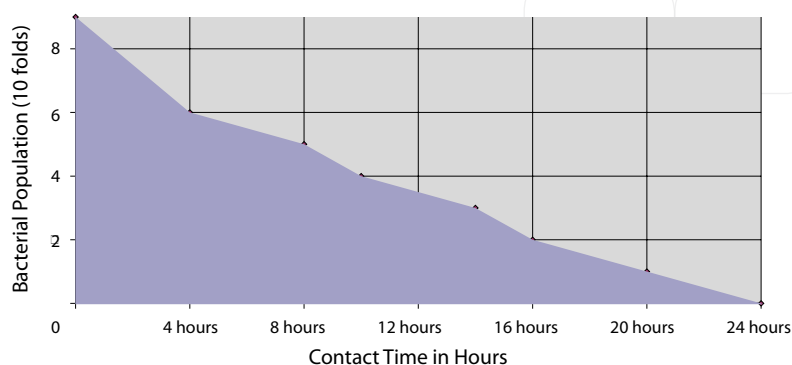
Accessories and Options

Esco offers a variety of options and accessories to meet local applications. Contact Esco or your local Sales Representative for ordering information.

- Additional 40-gallon NSF-listed waste container (EQR/ME-BIW-1)
- Replacement pre-filter (CRF/PF-13)
 - Pack of 6
 - Dimension: 870 mm x 500 mm (34.3" x 19.7")
 - Cardboard frame with polyester media



The workstation is mobile on non-marking 125 mm (5") wheels with locking brakes. When fully lowered, the workstation will fit through a standard lab door.



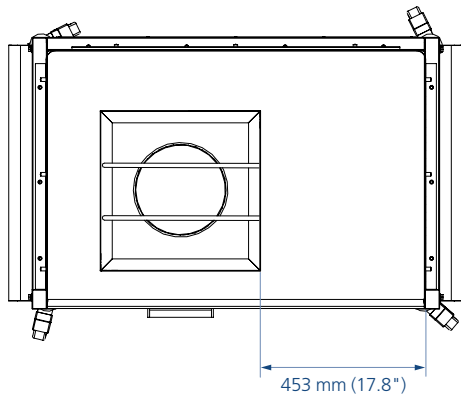
ISOCIDE™ Antimicrobial Powder-Coating

All exterior painted surfaces are powder-coated with Esco Isocide, an antimicrobial inhibitor to diminish contamination. Isocide is integrated into the coating substrate and cannot wash out or be diminished by repeated cleaning. Performance results are available upon request. Contact Esco or your Esco Sales Representative for details.

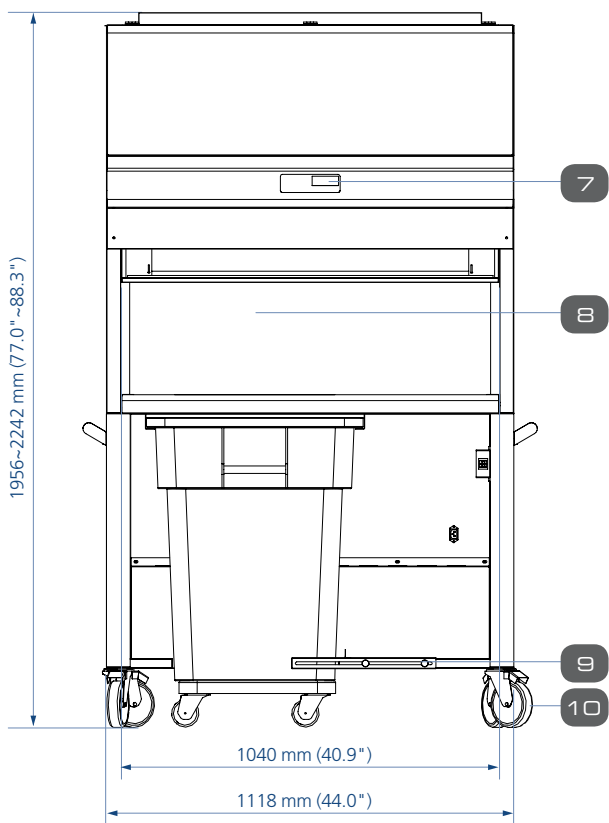
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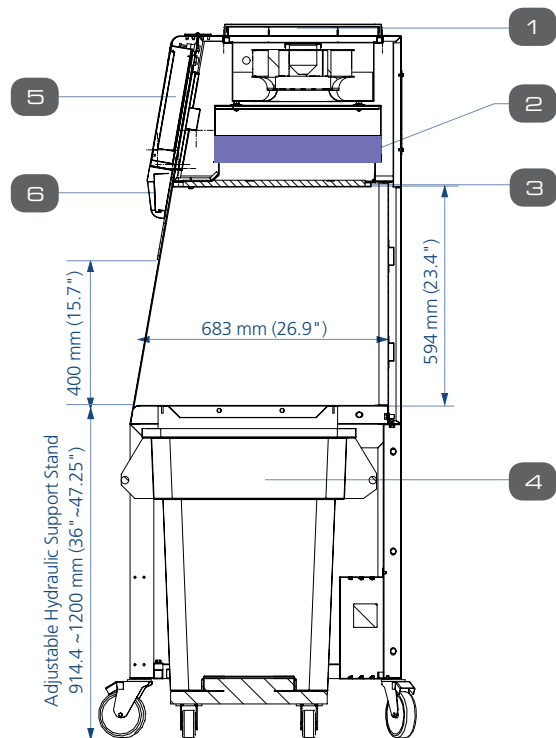
Model VBD, Bedding Disposal Workstation Technical Specifications



Top View from Work Area



Front View



Side View

1. Carbon filter
2. ULPA filter
3. Pre-filter
4. Waste container

5. Electrical panel
6. Fluorescent lamp
7. Sentinel microprocessor control
8. Stainless steel single piece work zone

9. Lock for waste container
10. Caster wheels



General Specifications, VIVA Bedding Disposal Workstation, Model VBD-4A_					
Nominal Size		1.2 meters (4')			
External Dimensions (W x D x H)		1118 x 760 x 1956 mm (44.0" x 30.0" x 77.0") minimum height 1118 x 760 x 2242 mm (44.0" x 30.0" x 88.3") maximum height			
Internal Work Area (W x D x H)		1041 x 680 x 594 mm (41.0" x 26.8" x 23.4")			
Work Surface Height		914.4 mm ~ 1200 mm (36" ~ 47.25")			
Front Opening		399 mm (15.7")			
Inflow Velocity		0.35 m/s (70 fpm) at initial setpoint			
Pre-Filter		Disposable, non-washable polyester fiber, 85% arrestance, EU3 rated			
ULPA Filter Typical Efficiency		>99.999% at 0.1 to 0.3 microns as per IEST-RP-CC001.3 USA			
Sound Emission Per EN 12469		62 dBA			
Fluorescent Lamps		> 1,400 Lux (> 130 foot-candles)			
Workstation Construction	Main Body	1.2 mm (0.05") 18 gauge electro-galvanized steel with Isocide white oven-baked epoxy polyester powder-coating			
	Work Top	1.2 mm (0.05") 18 gauge stainless steel, type 304, with 4B finished			
	Inner Liner	0.9 mm (0.035") 20 gauge stainless steel, type 304, with 4B finished			
Net Weight		203.4 kg (448 lbs)			
Shipping Weight		235 kg (518 lbs)			
Shipping Dimensions, Maximum (W x D x H)		1480 x 840 x 2100 mm (58.3" x 33.1" x 82.7")			
Shipping Volume, Maximum		2.6 m ³ (92 cu.ft.)			
Electrical*	Model	VBD-4A1	VBD-4A2	VBD-4A3	
	Voltages	220-240V, AC, 50Hz, 1Ø	110-130V, AC, 60Hz, 1Ø	220-240V, AC, 60Hz, 1Ø	
	Cabinet Power/ Amp	700 W / 3.5 A	400 W / 3.2 A	850 W / 4 A	
	Outlet Amp Fuse	N/A	N/A	N/A	
	Total Amp	3.5 A	3.2 A	4 A	
	BTU/ Hr	1428	1365	1734	

* Additional voltages available.

Standards Compliance	Filtration
	EN-1822 (H14), Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA



Nanocarb™ activated carbon filter removes odors.



Ergonomic handles enable workstation mobility.



Bang bars increase efficiency of bedding disposal operations.

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Esco Containment, Clean Air and Laboratory Equipment Products

Biological Safety Cabinets, Class II, III
 Fume Hoods, Conventional, High Performance, Ductless Carbon Filtered
 Laminar Flow Cabinets, Horizontal, Vertical, PCR
 Animal Containment Workstations
 Hospital Pharmacy Isolators, Cytotoxic Safety Cabinets
 Specialty Workstations: *In-Vitro* Fertilization, Powder Weighing
 PCR Thermal Cyclers, Conventional, Real-Time
 Cleanroom Fan Filter Units, Modular Rooms, Air Showers, Pass Thrus

Since 1978, Esco has emerged as a leader in the development of controlled environment, laboratory and cleanroom equipment solutions. Products sold in more than 100 countries include biological safety cabinets, fume hoods, ductless fume hoods, laminar flow clean benches, animal containment workstations, cytotoxic cabinets, hospital pharmacy isolators, and PCR cabinets and instrumentation. With the most extensive product line in the industry, Esco has passed more tests, in more languages, for more certifications, throughout more countries than any biosafety cabinet manufacturer in the world. Esco remains dedicated to delivering innovative solutions for the clinical, life science, research and industrial laboratory community. www.escoglobal.com.

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



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