ESCO LIFESCIENCES



*VIVA® Dual Access Animal Containment Workstation, Model VDA-4A_*



VIVA® Universal Animal Containment Workstation, Model VA2-4S_G4 12"

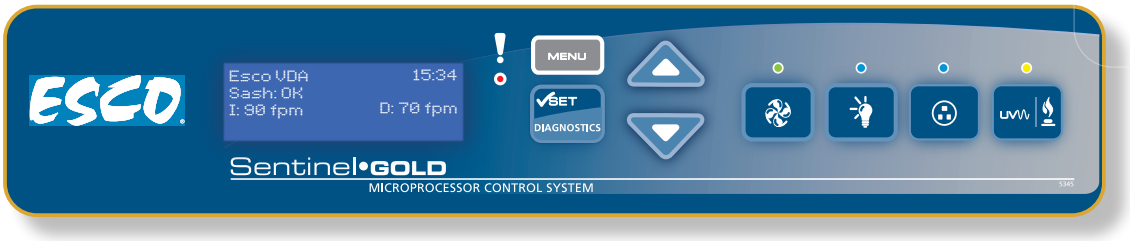


*VIVA® Bedding Disposal Animal ContainmentWorkstation,, Model VBD-4A_*

VIVA® Animal Research Workstations

The Portable Safety Solution for Animal Research Laboratories





Airflow Sensor

- *Real-time airflow monitoring system*
- *Alerts the user if the airflow is insufficient*

Sentinel™ Gold Microprocessor Controller

- *Displays all safety information on one screen*
- *Centered and angled down for an easy reach & viewing*
- *Selectable quickstart mode for fast operation*



Easy-to-clean Work Surface and Drain pan

- *Two-piece, easy-to-lift stainless steel tray*
- *Drain hole on both sides to dump animal bedding*



Easy Work Access

- *Large access opening of 344 mm (14")*
- *Accomodates rat and mouse cages*
- *Hinged up for easy cleaning*



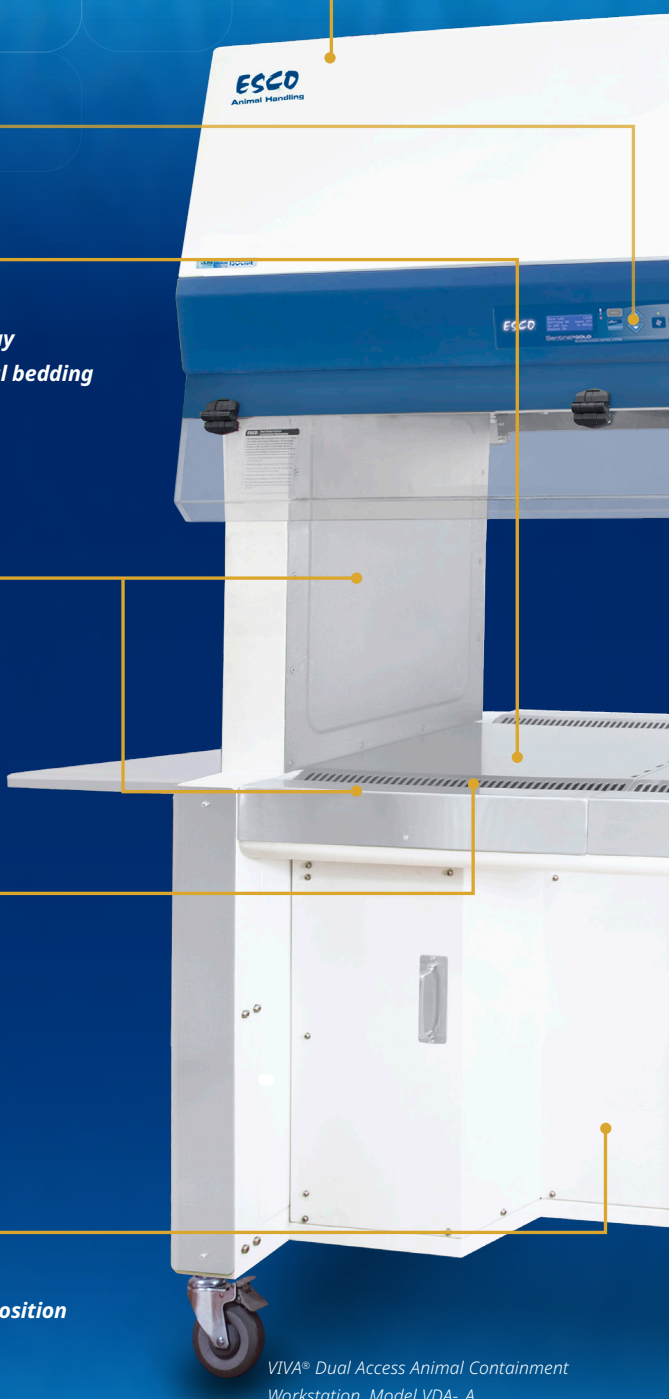
Advanced Work Tray Design

- *V-shaped grill to avoid blocking*
- *Center grill to separate clean and contaminated area*
- *Large tray handle for easy lifting*



Comfortable Leg Room

- *254 mm (10") leg room on both sides*
- *Reduces user's fatigue when in sitting position*
- *Hydraulic motor to adjust the height*



*VIVA® Dual Access Animal Containment Workstation, Model VDA-_A_*
Available in 1.2, and 1.5 meter models (4', and 5').

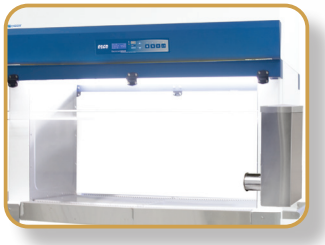
Accessories and Options

Contact Esco or your Esco Sales Representative for details.

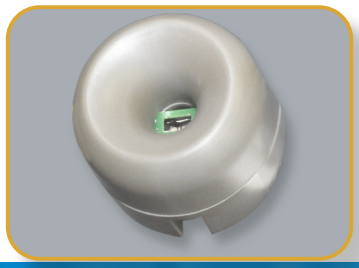
- *Electrical Outlets*
- *Foldable Side Tray*
- *Side Shield*
- *Feed Hopper*
- *Service Fixtures*



Side Shield



Feed Hopper



ELISA Proven Containment

- *Provides >99% allergen containment to ensure user's safety*

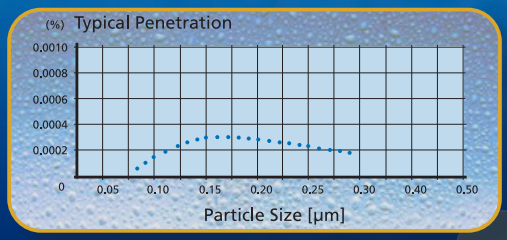






ULPA Filter

- *10x filtration efficiency than of HEPA filter*
- *Creates an ISO Class 3 work-zone instead of the industry-standard ISO Class 5*



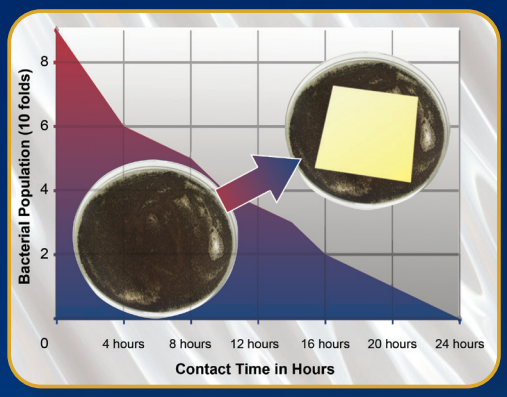
Quiet Operation

- *Comfortable low noise emission at 53 for the users and animals*



Isocide™ Antimicrobial Coating

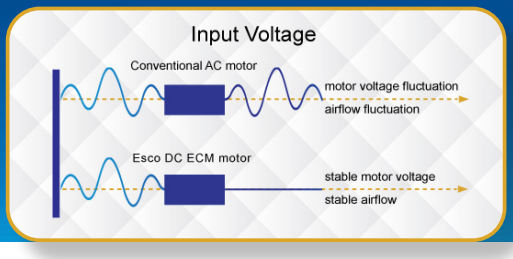
- *Silver-ion impregnated powder coat*
- *Inhibits the microbial growth to improve safety*



Dual Energy-efficient DC ECM Blower

- *Powered by the latest generation DC ECM that is more efficient than legacy ECM and VFD motors*
- *70% Energy savings compared to AC motor*
- *Stable airflow despite building voltage fluctuations & filter loading*





	Air Quality	Filtration	Electrical Safety
Standards Compliance	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 (H14), Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA	UL-61010A-1, USA CSA22.2, No.1010-192, Canada EN61010-1, Europe IEC61010-1, International

3





USB Port and Zero Volt Relay Contact

- *USB Port to send operational information to Building Management System (BMS)*
- *Zero Volt Relay Contact to turn ON/OFF exhaust blower and signal the building alarm*



Airflow Sensor

- *Monitors real-time airflow for safety*
- *Alerts the user if airflow is insufficient*



Centurion 7" Capacitive Touchscreen Controller

- *Displays all safety information on one large screen*
- *Shows cabinet parameters with intuitive 3D illustration*
- *Easy to use menu, similar to Smart Phone Apps*
- *Large buttons, easy to operate when wearing gloves*
- *Self-guidance to users to deal with specific situations*
- *Centered and angled down for easy reach and viewing*



Single Piece Wall

- *Easy to reach service fixtures and electrical outlets on sidewalls*
- *Large radius corners for easy cleaning*



User-friendly Work Tray

- *Largest useable area in the market*
- *Recessed to contain spillage*
- *Sloped perimeter for easy cleaning*
- *Large, easy to clean tray handle*



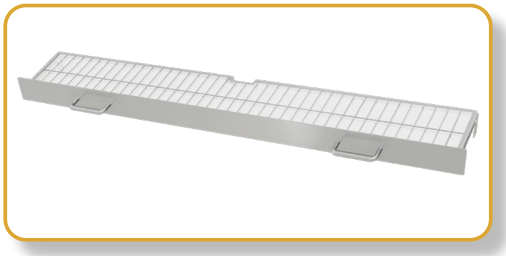
Raised Arm Rest

- *Prevent grille blocking*
- *Comfortable working posture*
- *Durable stainless steel construction*



Ergonomic Work Zone

- *10° angle to optimize user comfort, reduce glare, and maximize reach into the work area*
- *Brightly illuminated with 1000 lux (93 ft-c)*
- *Industry-leading dimmable LED for optimum work comfort*
- *Airtight seal port for cable/tube exit protected by a negative pressure side wall*
- *12" sash working height for mouse and rat cages*



Dander Pre-filter Rack

- *Captures animal dander*
- *Easy to replace pre-filter*
- *Prolongs ULPA filter life*

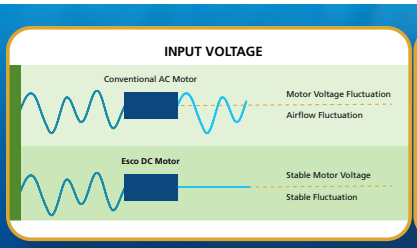


Available in 1.2, 1.5, and 1.8 meter models (4', 5', and 6').

FEATURING ADVANCED TOUCHSCREEN CONTROLLER

Energy-efficient DC ECM Blower

- *The leading energy-efficient Class II Type A2 Biosafety Cabinet in the world with 70% energy savings compared to AC motor*
- *Stable airflow despite building voltage fluctuations and filter loading*
- *Standby mode to further reduce power consumption by 80%*







Advanced ULPA Filtration System

- *10x Filtration efficiency of HEPA filter*
- *Creates ISO Class 3 work zone instead of industry-standard ISO Class 5*
- *Same 10 years filter life and replacement cost as HEPA filters*

Note:

- *99.999% at 0.1 to 0.3 micron, ULPA as per IEST-RP-CC001.3 USA*
- *99.999% at MPPS, H14 as per EN 1822 EU*



Dimmable LED Lamp

- *Save energy and optimize work comfort*



User Modified Pass-Through / Cable Port

- 3" Port with ¼" hole on rubber membrane inside
- Surrounded by negative pressure
- Allows cables and tubes to exit with fully closed sash

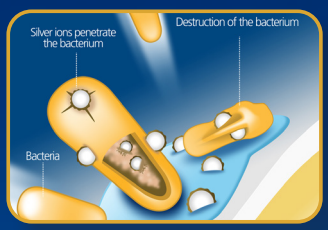


Removable Paper Catch

- *Prevent objects from being pulled into blower plenum*
- *Removable for easy cleaning*

Tray Support Beams

- *Support work tray evenly for less vibration*
- *Cleaning holder to easily wipe the drain pan*



Isocide™ Powder Coat

- *Silver-ion impregnated powder coat*
- *Inhibits microbial growth to improve safety*
- *Prevents the plenum from becoming biohazard landfill*

ELISA Proven Containment

- *Provides >99% allergen containment.*
- *Ensures user's safety*





Certification				
	Performance	Air Quality	Filtration	Electrical Safety
Standards Compliance	NSF / ANSI 49, USA*	ISO 14644.1, Class 3, Worldwide US Fed Std 209E, Class 1 USA JIS B9920, Class 3, Japan	EN-1822 (H14), Europe IEST-RP-CC001, USA	UL 61010-1 3rd Ed, USA CSA22.2, No.1010-192, Canada IEC61010-1, Worldwide

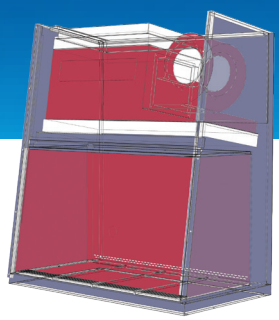
** The NSF / ANSI 49 certified models are VA2-4S_ G4 and VA2-6S_ G4*

Dynamic Chamber™

- *Blower plenum and side walls are surrounded by negative pressure*
- *Prevent contaminants from escaping outside*

Positive Pressure

Negative Pressure





Airflow Sensor

- ***Real-time airflow monitoring system***
- ***Alerts the user if the airflow is insufficient***

Sentinel™ Silver Microprocessor Controller

- ***Displays all safety information on one screen***
- ***Centered and angled down for easy reach & viewing***



Bang Bars

- ***Increases efficiency of bedding disposal operations***



Integrated Waste Chute

- ***Disposes refuse bag safely within the work-zone***







*VIVA® Bedding Disposal Animal Containment Workstation, Model VBD-4A_*

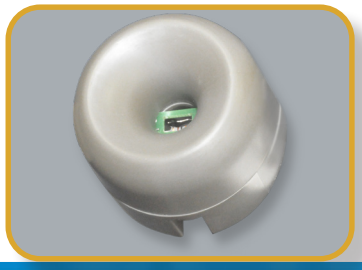
Available in 1.2 meter model (4') only.

User and Environment Protection

The VIVA Bedding Disposal Workstation provides operator and environment protection User animal allrgen.

Exclusive hydraulic height-adjustable stand

Allows the work surface height to be adjusted to user preference, therefore minimizing strain during repetitive operations.



Carbon Filter

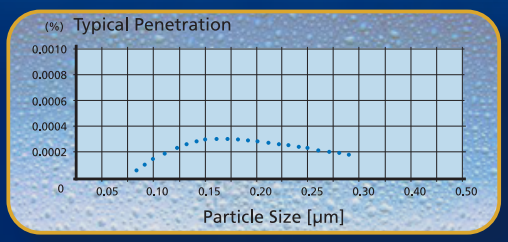
- *Nanocarb activated carbon filter to remove unpleasant odors*





ULPA Filter

- *10x filtration efficiency than of HEPA filter*
- *Creates an ISO Class 3 work-zone instead of the industry-standard ISO Class 5*



ELISA-proven Containment

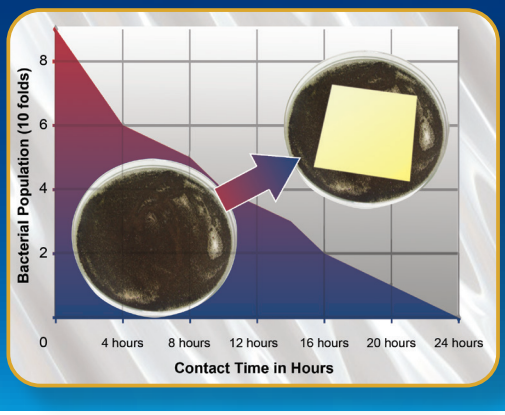
- *Provides >99% allergen containment to ensure user's safety*





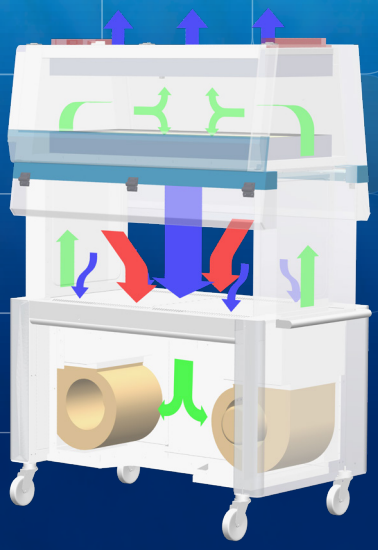
Isocide™ Antimicrobial Coating

- *Silver-ion impregnated powder coat*
- *Inhibits the microbial growth to improve safety*



	Filtration	Electrical Safety
Standards Compliance	EN-1822 (H14), Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA	UL61010-1, USA

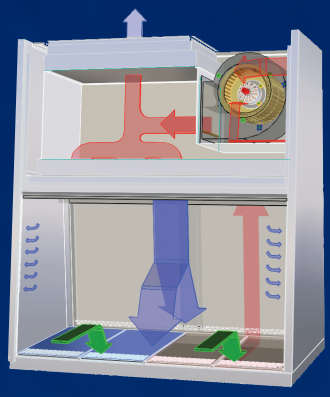
AIRFLOW PATTERN



VDA Cabinet Airflow System

- The VDA Dual Access Workstation employs a recirculating airflow configuration for better filtration efficiency.
- The blower system pulls ambient intake air through the front grilles, creating inflow that provides operator protection from allergen inside the work-zone. An activated carbon pre-filter removes unpleasant odors
- Air flows through the common plenum on top of the cabinet. A portion of it goes up through ULPA filter as exhaust to create inflow. The remaining portion goes down through ULPA supply filter and bathes the work-zone in clean laminar air with a non-turbulent downflow.
- The combination of vertical laminar inflow and downflow creates an air curtain to protect the user from contaminants released from the work surface.

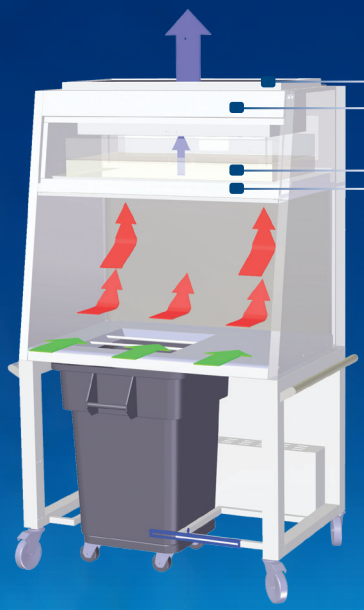
ULPA-filtered air
Unfiltered / Potentially contaminated air
Room air / Inflow air



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

VA2 Cabinet Airflow System

- Ambient air pulled through the perforations towards the work-zone front prevents contamination of the work surface and work product. The inflow does not mix with the clean air within the cabinet work-zone. Inflow air travels through a return path towards 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 ULPA-filtered 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 downflow enters the side capture zones at a higher velocity (small blue arrows).
- A combination of inflow and downflow air streams form an air barrier that prevents contaminated room air from entering the work-zone, and prevents work surface emissions from escaping the work-zone.



VBD Cabinet Airflow System

- 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 (>99.999% typical efficiency for 0.1 to 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 and odor.

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

General Specifications, VIVA® Dual Access Animal Containment Workstation, Model VDA			
Model		**VDA-4A_**	**VDA-5A_**
External Dimensions (W x D x H)		1343 x 765 x 1965 mm (52.8" x 30.1" x 77.4") min height 1648 x 765 x 2249 mm (64.8" x 30.1" x 88.5") max height	1648 x 765 x 1965 mm (64.8" x 30.1" x 77.4") min height 1648 x 765 x 2249 mm (64.8" x 30.1" x 88.5")max height
Internal Work Area (W x D x H)		1110 x 468 x 573 mm (43.7" x 18.4" x 22.6")	1415 x 468 x 573 mm (55.7" x 18.4" x 22.6")
Inflow Velocity		0.19 ± 0.025 m/s or 37 ± 5 fpm	
Downflow Velocity		0.24 ± 0.025 m/s (48 ± 5 fpm)	
Pre-Filter		Disposable and non-washable polyurethane impregnated with carbon pre-filter	
ULPA Filter Typical Efficiency		>99.999% for particle size between 0.1 to 0.3 microns, per IEST-RP-CC001.3	
Sound Emission per EN 12469*		53 dBA	54 dBA
LED Lamp Intensity		1725 lux (160 foot candles)	1525 lux (142 foot candles)
Construction, Main Body		1.5 mm (0.06") 16 gauge EG Steel with Isocide™ Oven-Baked Epoxy-Polyester Powder Coated Finish	
Electrical Rating	VDA-_A8	220-240 VAC, 50 / 60 Hz, 1Ø	
	VDA-_A9	110-130 VAC, 50 / 60 Hz, 1Ø	
Power Consumption**	VDA-_A8	190 W	230 W
	VDA-_A9	210 W	250 W
Accessories	Foldable Side Tray (SS Shelf Kit)	VDA-001 5170257	
	Side Shield	VDA-004 5170562	VDA-005 5170563
	Feed Hopper	VDA-006 5170594	
Shipping Dimensions, Maximum (W x D x H)		1450 x 850 x 2250 mm (57.1" x 33.5" x 88.6")	1720 x 850 x 2250 mm (67.7" x 33.5" x 88.6"")
Shipping Weight		350 Kg (772 lbs)	390 Kg (860 lbs)
Shipping Volume, Maximum		3.16 m^3 (111.6 cu.ft.)	3.72 m^3 (131.4 cu.ft.)

** Noise as measured in an open field / anechoic chamber.*

*** Electrical power consumption is a measurement of new unit within nominal set point. Result may vary due to several independent variables*

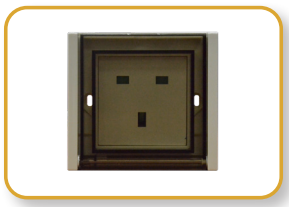




Side Shield



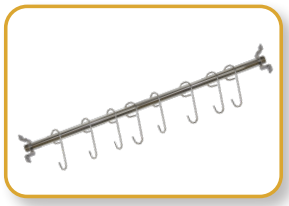
Feed Hopper



EO-H_



EO-GFCI



IV-_



MEWREST



FT-REST

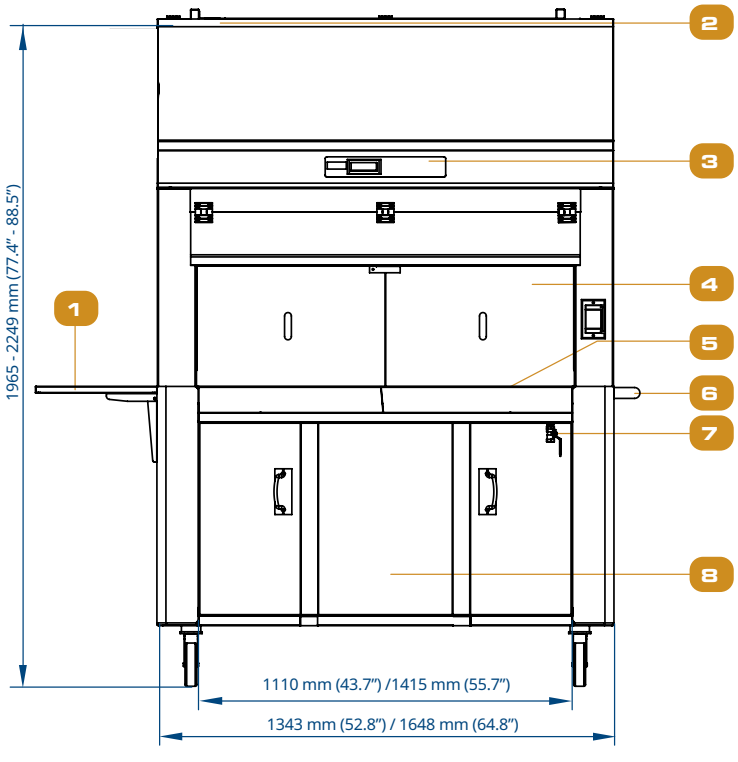


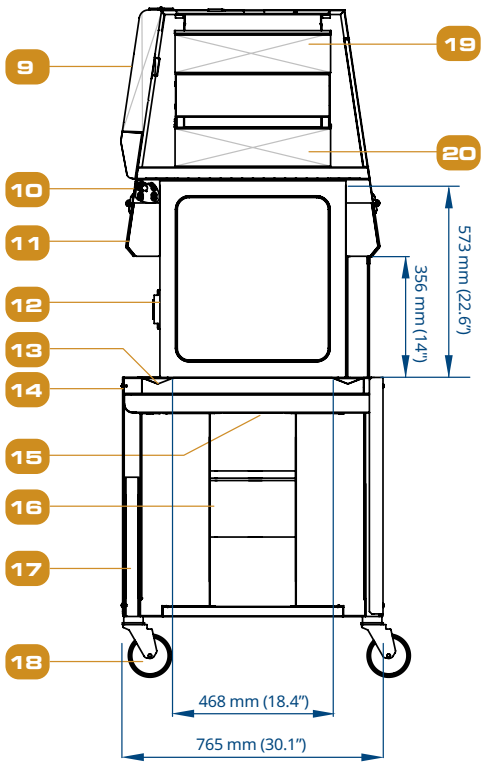
ME-LD-AR360



IQOQ

Engineering Drawing





1. Optional Foldable Side Tray
2. Airflow Sensor
3. Sentinel™ Gold Microprocessor Control System
4. Optional Side Shield
5. Stainless Steel SS304 Work Top
6. Push Handle
7. Drain Valve (1 on each side)
8. Knee Space (254 mm / 10" Deep) at both sides
9.Electrical Panel
10. LED Lamps (1 on each side)
11. Hinged Polycarbonate Window
12. Electrical Outlets with Cover (1 on each right side)
13. Recessed Air Intake Grill
14. Arm Rest
15. Impregnated Activated Carbon Pre-filter
16. DC ECM Blower (Self-compensating and Low Noise)
17. Electric Hydraulic Height Adjustor
18. Caster Wheels
19. Exhaust ULPA/H14 Filter
20. Downflow ULPA/H14 Filter

General Specifications, VIVA® VA2 Class II Type A2 Animal BSC				
Model	**220-240 V 50/60Hz**	**VA2-4S8 G4 12" (2011861)**	**VA2-5S8 G4 12"* (2011863)**	**VA2-6S8 G4 12" (2011865)**
	110 - 120 V 50/60Hz	**VA2-4S9 G4 12" (2011862)**	**VA2-5S9 G4 12"* (2011864)**	**VA2-6S9 G4 12" (2011866)**
Nominal Size		1.2 meter (4')	1.5 meter (5')	1.8 meter (6')
External dimensions with SLC support stand at minimum height (W x D x H)**		1487 x 882 x 2027 - 2535 mm (58.6" x 34.7" x 79.8" - 99.8")	1792 x 882 x 2027 - 2535 mm (70.6" x 34.7" x 79.8" - 99.8")	2097x882x 2027-2535 mm (82.6" x 34.7" x 79.8" - 99.8")
Internal work area, dimensions (W x D x H)		1220 x 625 x 720 mm (48.0" x 24.6" x 28.3")	1525 x 625 x 720 mm (60.0" x 24.6" x 28.3")	1830 x 625 x 720 mm (72.0" x 24.6" x 28.3")
Working Area		0.63 m^2 (6.8 sq.ft)	0.79 m^2 (8.5 sq.ft)	0.94 m^2 (10.3 sq.ft)
Maximum sash opening		575 mm (22.6")		
Working Opening		305 mm (12")		
Average airflow velocity	Inflow	0.53 m/s (105 fpm)		
	Downflow	0.30 m/s (60 fpm)	0.35 m/s (70 fpm)	0.35 m/s (70 fpm)
Airflow volume	Inflow / exhaust without ducting	710 m^3/h (420 cfm)	890 m^3/h (525 cfm)	1065 m^3/h (630 cfm)
	Downflow	771 m^3/h (461 cfm)	1128 m^3/h (662 cfm)	1349 m^3/h (794 cfm)
	Required exhaust with optional thimble exhaust collar	756 m^3/h (445 cfm)	921 m^3/h (542 cfm)	1133 m^3/h (667 cfm)
ULPA Filter typical efficiency		>99.999% at 0.1 to 0.3 micron, ULPA as per IEST-RP-CC001.3 USA >99.999% at MPPS, H14 as per EN 1822 EU		
Sound emission per NSF / ANSI 49***		60 dBA	65 dBA	65.9 dBA
LED Lamp Intensity		≥ 1000 lux (≥ 93 ft-cd)		
Cabinet construction	Main body	Electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder-coated finish, 1.5 mm (0.06") / 16 gauge thick		
	Workzone	Stainless steel type 304 with no.4 finish, 1.5 mm (0.06") / 16 gauge thick		
	Sash Window	6 mm UV-absorbing Tempered Glass		
Electrical Rating (8) 220-240 VAC, 50/60 Hz****	Nominal Power	236 W	455 W	550 W
	Heat Load	805 BTU/Hr	1553 BTU/Hr	1877 BTU/Hr
	Cabinet FLA exclude 5A EO	6 A	10 A	10 A
Electrical Rating (9) 110-120 VAC, 50/60 Hz****	Nominal Power	240 W	380 W	537 W
	Heat Load	819 BTU/Hr	1570 BTU/Hr	1832 BTU/Hr
	Cabinet FLA exclude 5A EO	10 A	15 A	15 A
Net weight cabinet including stand		287 kg (633 lbs)	381 kg (840 lbs)	400 kg (882 lbs)
Shipping weight Cabinet including stand		360 kg (722 lbs)	451 kg (968 lbs)	565 kg (1246 lbs)
Shipping dimensions, maximum (W x D x H) cabinet excluding stand		1490 x 950 x 2120 mm (58.7" x 37.4" x 83.5")	1950 x 950 x 2120 mm (76.8" x 37.4" x 83.5")	2200 x 950 x 2120 mm (86.6" x 37.4" x 83.5")
Shipping volume, excluding stand		3 m^3 (105.9 cu. ft.)	3.9 m^3 (137.7 cu. ft.)	4.4 m^3 (155.4 cu. ft.)

**Only VA2-4S_ G4 12" and VA2-6S_ G4 12" are the NSF-certified models.*

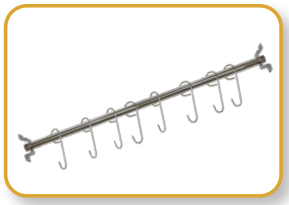
***Depth with arm rest removed: 800 mm (31.5") without SLC stand and 818 mm (32.2")with SLC stand*

****Noise as measured in open field / anechoic chamber. Noise reading in normal room varies by room size, layout, and background noise, but may reach roughly 3-4 dBA above these values.*

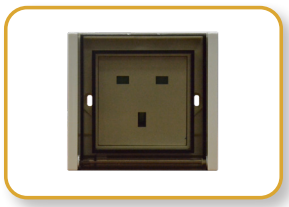
***** Electrical power consumption is a measurement of new unit within nominal set point. Result may vary due to several independent variables.*



UV-_A-L



IV-_



EO-H_



EO-GFCI



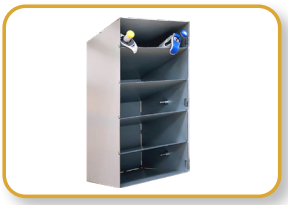
SF-1_



SF-2U_



SLC



SS Pipette Storage Shelf



MEWREST



FT-REST

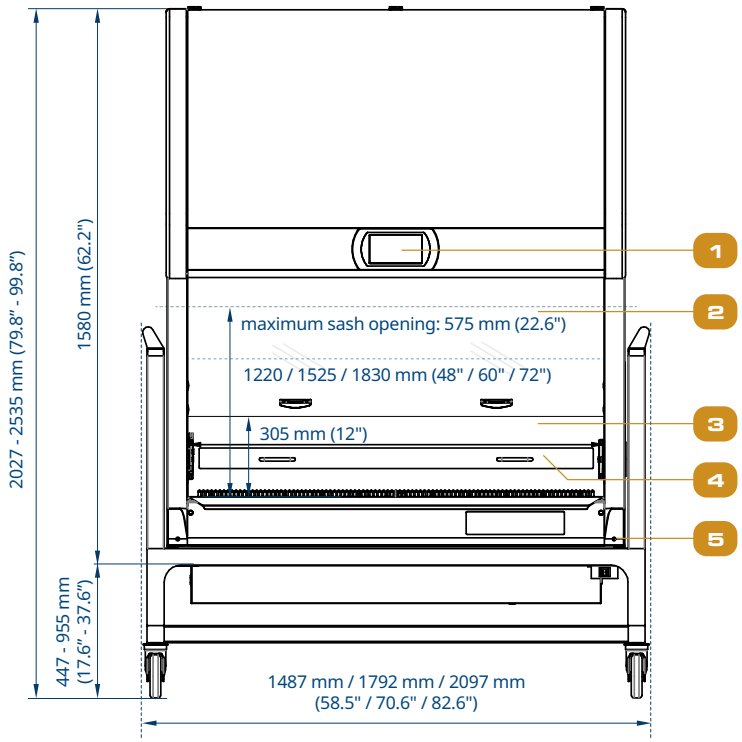


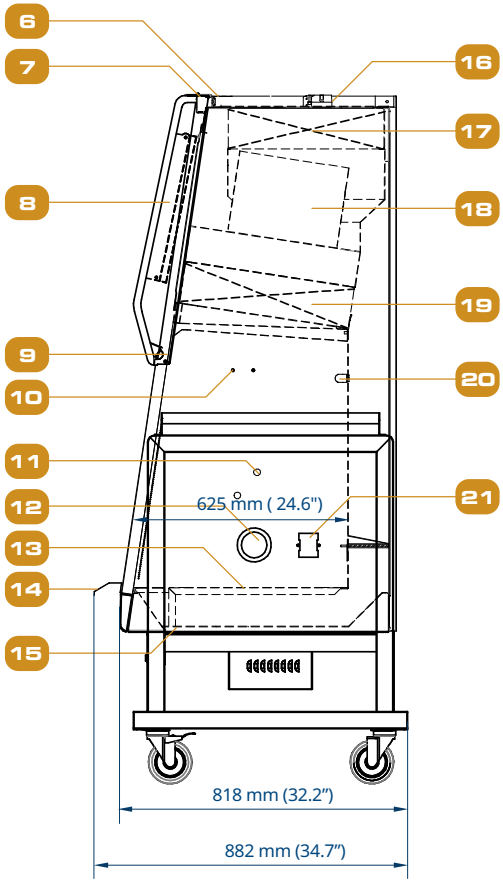
ME-LD-AR360



IQOQ

Engineering Drawing



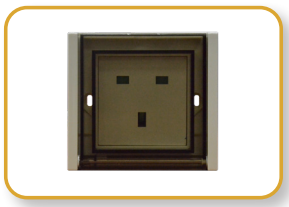


1. Centurion™ Touchscreen Controller
2. Safety Glass Sliding Sash Window
3. Single-piece Stainless Steel Back Wall and Side Walls
4. Prefilter Rack
5. Removable Side Panel for Plumbing Access
6. USB Port for Data Transfer Data, Zero Volt Relay Contact (Blower & Alarm)
7. Power Inlet
8. Electrical Panel
9. LED Lamps
10. IV Bar Retrofit Kit Provision
11. Plugged Service Fixture provisions (2 on each side)
12. Cable Port
13. Stainless Steel Single-piece Work Tray
14. Stainless Steel Arm Rest
15. Drain Valve Retrofit Kit Provision
16. Airflow Sensor
17. Exhaust ULPA / H14 Filter
18. Energy-efficient DC ECM Blower
19. Downflow ULPA / H14 Filter
20. UV Lamp
21. Electrical Outlet

General Specifications, VIVA® Bedding Disposal Workstation, Model VBD-4A_				
Nominal Size		1.2 meter (4')		
External Dimensions (W x D x H)		1247 x 760 x 1966 mm (49.1" x 30.0" x 77.4") minimum height 1247 x 760 x 2271 mm (49.1" x 30.0" x 89.4") maximum height		
Internal Work Area (W x D x H)		1040 x 680 x 594 mm (40.9" x 26.8" x 23.4")		
Work Surface Height		920 mm ~ 1225 mm (36.2" ~ 48.2")		
Front Opening		400 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		<65 dBA		
LED Lamp Intensity		> 1,300 lux (> 121 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 finish		
	Inner Liner	0.9 mm (0.035") 20 gauge stainless steel, type 304, with 4B finish		
Electrical*	Model	VBD-4A1	VBD-4A2	VBD-4A3
	Voltages	220-240 VAC, 50 Hz, 1Φ	110-120 VAC, 60 Hz, 1Φ	220-240 VAC, 60 Hz, 1Φ
	Cabinet Full Load Amps (FLA)	3 A	6.5 A	3 A
	Optional Outlets FLA	5 A	5 A	5 A
	Cabinet Nominal Power	309 W	268 W	309 W
	Cabinet BTU	1054	914	1054
Net Weight		233 Kg (514 lbs)		
Shipping Weight		294 Kg (648 lbs)		
Shipping Dimensions, Maximum (W x D x H)		2150 x 1840 x 1230 mm (84.6" x 72.4" x 48.4")		
Shipping Volume, Maximum		4.87 m^3 (172 cu.ft.)		

** Electrical power consumption is a measurement of new unit within nominal set point. Result may vary due to several independent variables*





EO-H_



EO-GFCI



FT-REST

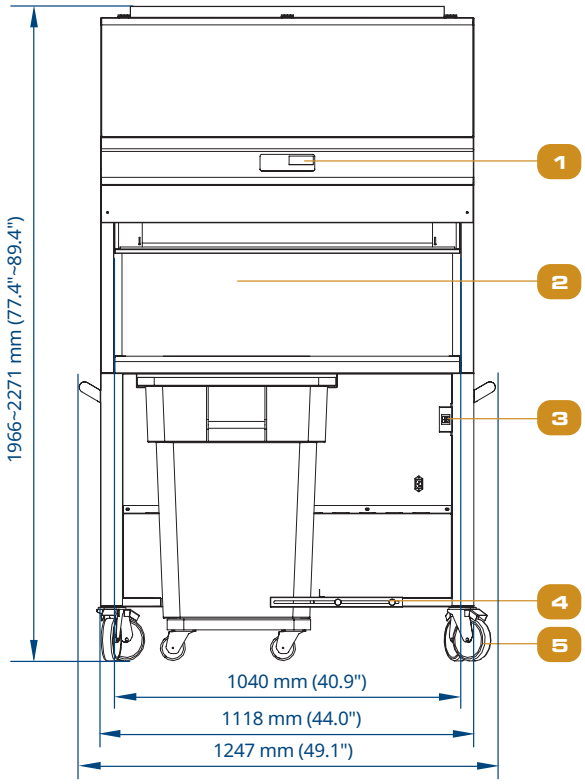


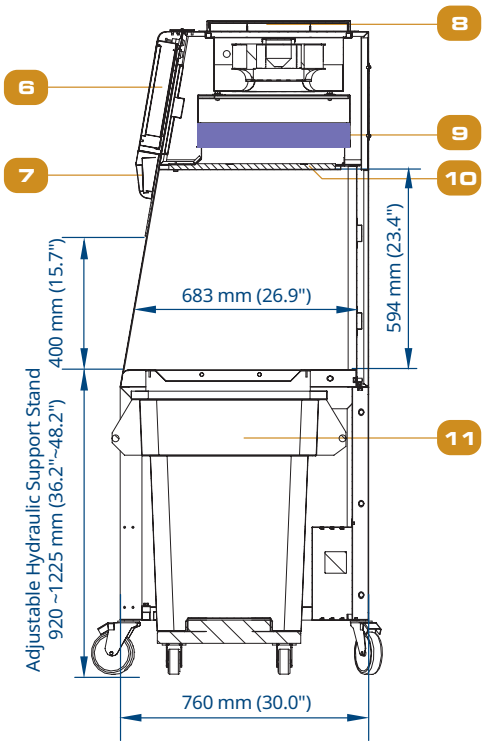
ME-LD-AR360



IQOQ

Engineering Drawing





1. Sentinel™ Microprocessor Control System
2. Stainless Steel single piece Work Zone
3. Switch to adjust stand height
4. Lock for waste container
5. Caster Wheels
6. Electrical Panel
7. Fluorescent Lamp
8. Carbon filter
9. ULPA / H14 filter
10. Pre-filter
11. Waste container

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- CO_2 Incubator
- Ducted Fume Hood
- Ductless Fume Hood
- Filtered Storage Cabinet
- Laboratory Centrifuge
- Laboratory Oven and Incubator
- Laboratory Refrigerator and Freezer
- Laboratory Shaker
- Laminar Flow Cabinet
- PCR Cabinet
- PCR Thermal Cycler
- Powder Weighing Balance Enclosure
- Ultra-low Temperature Freezer

ESCO® LIFESCIENCES

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- Cross-Contamination Facility Integrated Barrier
- Isolation Containment
- Ventilation Containment
- Radiopharmacy
- Adherent Cell Bioreactors
- Adherent Automated Cell Harvesting System
- Cell Culture Monitoring Tools
- Single-use Consumables for Bioprocessing



ESCO® MEDICAL

- Time-Lapse Incubator
- Benchtop Incubator
- ART Workstation
- CO_2 Incubator
- Anti-Vibration Table
- Gas Analyser
- Centrifuges

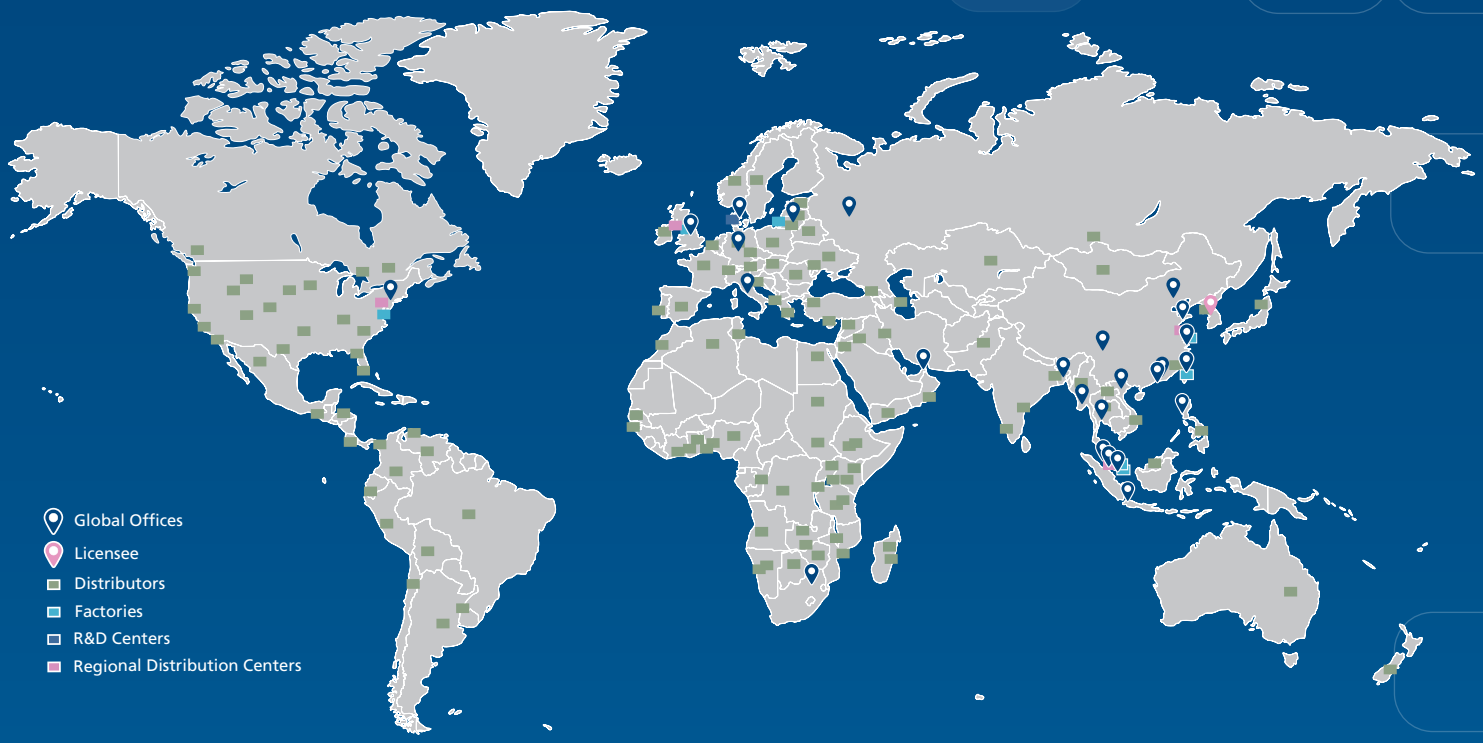
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