



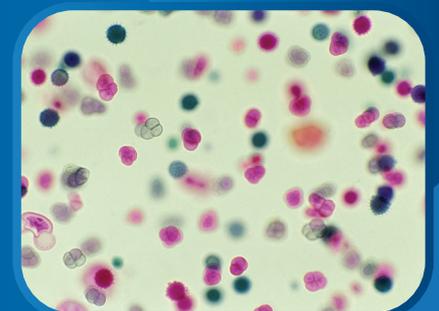
Model ACB-4E  
Available in 1.2 and 1.8 meter models (4' and 6').  
Shown with optional stand.

# OptiMAIR™

**Vertical Laminar Flow Cabinet**  
**The World's Quietest and Safest Choice for Sample Protection Needs**

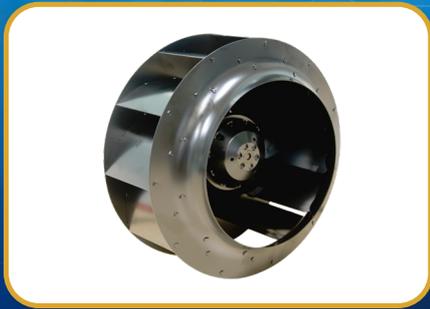
## KEY BENEFITS:

- Sliding Sash with Ergonomic Handle
- ULPA Filter (ISO Class 3 Work-zone)
- Sentinel™ Silver Microprocessor Control System
- German-made ebm-papst® Centrifugal Motor
- Isocide™ Antimicrobial Powder Coating
- Stable and Self-compensating Airflow



# OptiMair™ Vertical Laminar Flow Cabinet

Provides reliable protection of samples and work processes through the continuous supply of clean laminar air blowing across the work zone.



## High Performance Motor Fan

- German made ebm-papst® permanently lubricated motor fan.
- Provides a smooth, quiet, and vibration-free operation.
- Compact design with completely integrated assembly which optimizes motor cooling.



## ULPA Filter

- 10x filtration efficiency with ISO class 3 work zone instead of industry-standard ISO class 5.
- Efficiency of >99.999% at particle size between 0.1 to 0.2 µm.



## Advanced Filtration System

- Creates ISO Class 3 work zone instead of industry-standard ISO Class 5
- Long 10 years filter life for lower operating cost

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

## Sliding Sash Window

- Sliding sash with ergonomic handle
- UV resistant tempered glass



### Air Cleanliness Standards

(ISO 14644-1, Air Cleanliness Particle Limits (No. of Particles / m<sup>3</sup>))

Particle Size (µm)	Cleanliness Class					
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
0.1	10	100	1000	10000	100000	1000000
0.2	2	24	237	2370	23700	237000
0.3	-	10	102	1020	10200	102000
0.5	-	4	35	352	3520	35200
1.0	-	-	8	83	835	8320
5.0	-	-	-	-	29	293

## Superior Air Cleanliness

All Esco laminar flow cabinets with ULPA filter provide ISO class 3 air cleanliness within the work zone per ISO 14644.1, significantly cleaner than the usual ISO class 5 on cabinets offered by the competition.

	Cabinet Performance	Air Quality	Filtration	Electrical Safety
Standards Compliance	IEST-RP-CC002.2, Worldwide	ISO 14644.1, Class 3, Worldwide AS 1386 Class 1.5, Australia JIS B9920, Class 3, Japan	EN-1822 (H14), Europe IEST-RP-CC001.3, Worldwide IEST-RP-CC007, Worldwide IEST-RP-CC034.1, Worldwide	IEC61010-1, Worldwide EN 61010-1, Europe UL61010-1, USA CAN/CSA-22.2, No.61010-1

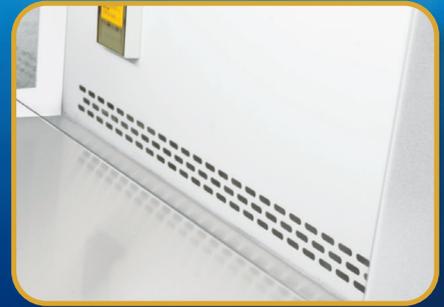
## Sentinel™ Silver Microprocessor Controller

- Supervises all cabinet functions with large display monitor and operational parameters.
- Centered and angled down placement for easy reaching and viewing.



## AutoPurge™ Slots

- Eliminates air turbulence and possible dead air corners in the work-zone giving more stability in the airflow.



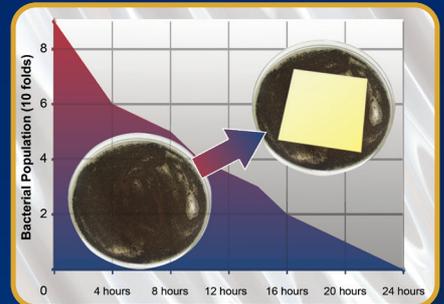
## Work Top

- Raised at the front edge to contain any accidental liquid spills.



## Isocide™ Antimicrobial Powder Coating

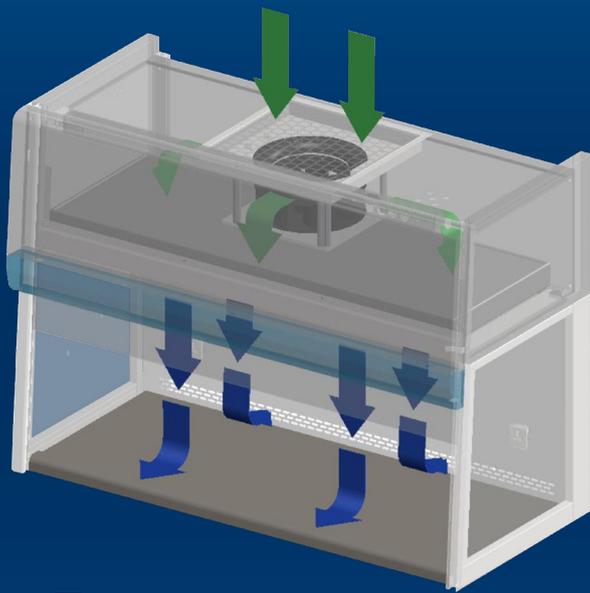
- Silver-ion impregnated powder coat
- Inhibits microbial growth to improve safety



OptiMair™ Vertical Laminar Flow Cabinet  
Model: ACB-4E\_

## Guide to Models

ACB -							
1st Placeholder	2nd Placeholder	3rd Placeholder		4th Placeholder			
Product Line	Width	Control		Electrical			
OptiMair™	ACB	4 feet	4	Sentinel™ Silver	E	230 VAC, 50 Hz	1
		6 feet	6			115 VAC, 50/60 Hz	2
						230 VAC, 60 Hz	3

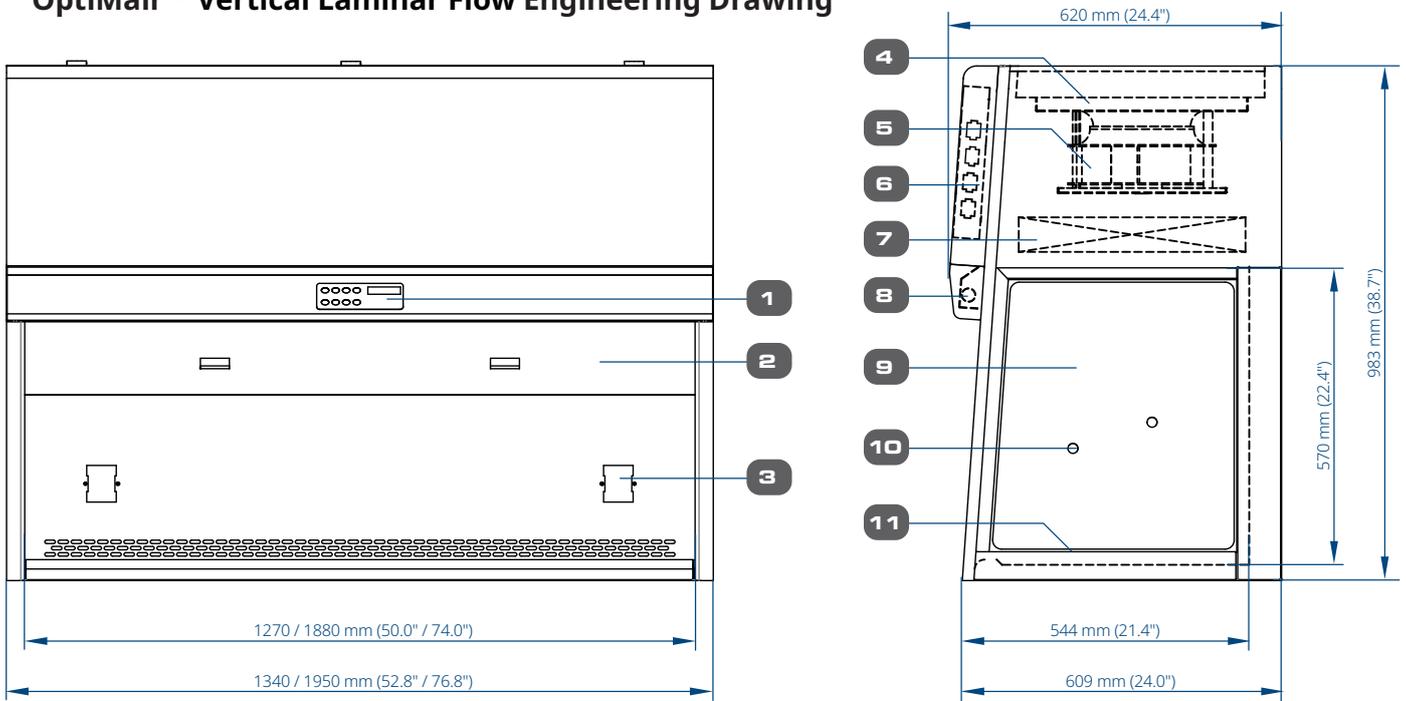


- ULPA-filtered air
- Room air / Inflow air

## Cabinet Filtration System

- Air is drawn from the top of the cabinet and will pass through the pre-filter. The ebm-papst® motor fan will then facilitate air movement towards the ULPA filter to produce a stream of clean laminar air within the work zone, diluting and flushing contaminants present in the interior. The purified air travels in a vertical, unidirectional stream across the front and back of the work-zone.
- A nominal filter face velocity of 0.30 m/s (60 fpm) ensures that there are enough air changes within the enclosed area of the cabinet to maintain cleanliness.

## OptiMair™ Vertical Laminar Flow Engineering Drawing



- |   |                     |                             |  |
|---|---------------------|-----------------------------|--|
| 1. Sentinel™ Silver Microprocessor Controller | 4. Pre-filter       | 7. Main Filter              | 10. Service Fixture Retrofit Kit Provision |
| 2. Tempered Glass Sliding Sash Window         | 5. Motor Fan        | 8. LED Lamp                 | 11. Stainless Steel Work Tray              |
| 3. Electrical Outlet                          | 6. Electrical Panel | 9. Tempered Glass Side Wall |  |

## Applications

- Microbiology (Non-pathogenic microorganisms)
- Plant and Mammalian Cell Culture
- Forensics
- Biotechnology (e.g. PCR)
- Compounding non-hazardous sterile products
- Medical Device Industry
- Semiconductor Assembly

## General Specifications, OptiMair™ Vertical Laminar Flow Cabinet

Model		ACB-4E1 2120765	ACB-6E1 2120769
		ACB-4E2 2120781	ACB-6E2 2120782
		ACB-4E3 2120778	ACB-6E3 2120780
Nominal Size		1.2 meter (4')	1.8 meters (6')
External Dimensions (W x D x H)	Without Base Stand	1340 x 620 x 983 mm (52.8" x 24.4" x 38.7")	1950 x 620 x 983 mm (76.8" x 24.4" x 38.7")
	With Optional Base Stand, 711 mm (28") type	1340 x 620 x 1694 mm (52.8" x 24.4" x 66.7")	1950 x 620 x 1694 mm (76.8" x 24.4" x 66.7")
Internal Work Area, Dimensions (W x D x H)		1270 x 524 x 570 mm (50.0" x 20.6" x 22.4")	1880 x 524 x 570 mm (74.0" x 20.6" x 22.4")
Usable Work Zone		0.67 m <sup>2</sup> (7.2 sq.ft.)	0.99 m <sup>2</sup> (10.7 sq.ft.)
Initial Airflow Velocity		0.3 m/s (60 fpm)	
Air Volume		566 m <sup>3</sup> /h (333 cfm)	850 m <sup>3</sup> /h (500 cfm)
Filtration 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 IEST-RP-CC002.2*		<61 dBA	<63 dBA
LED Lamp Intensity At Zero Ambient		800-1000 Lux (74.3 -93 ft.cd)	
Cabinet Construction	Main Body	1.2 mm / 0.05" / 18 gauge electro-galvanized steel with white oven-baked epoxy powder-coated finish	
	Work Zone	1.2 mm (0.05") 18 gauge stainless steel, grade 304, 4B finish	
	Side Walls	Tempered glass	
Electrical Power Rating 1: 220-240 VAC, 50Hz, 1Ø	Cabinet Full Load Amps (FLA)	6.3 A	6.5 A
	Optional Outlets FLA	5 A	
	Cabinet Nominal Power	275 W	285 W
	Cabinet BTU	938	972
Electrical Power Rating 3: 220-240 VAC, 60Hz, 1Ø	Cabinet Full Load Amps (FLA)	1.3 A	1.6 A
	Optional Outlets FLA	5 A	
	Cabinet Nominal Power	198 W	224 W
	Cabinet BTU	676	764
Net Weight**		140 kg (308 lbs)	182 kg (400 lbs)
Shipping Weight**		178 kg (392 lbs)	231 kg (508 lbs)
Shipping Dimensions, Maximum (W x D x H)**		1430 x 749.5 x 1233 mm (56.3" x 29.5" x 48.5")	2110 x 749.5 x 1233 mm (83.1" x 29.5" x 48.5")
Shipping Volume, Maximum**		1.32 m <sup>3</sup> (46.6 cu.ft)	1.95 m <sup>3</sup> (68.9 cu.ft)

\*Noise reading in open field condition/ anechoic chamber.

\*\*Cabinet only; excludes optional stand.

## Accessories for OptiMair™ Vertical Laminar Flow Cabinet

Model	4 ft.	6 ft.
UV Lamp	UV-30A (5170255)	
Electrical Outlet	EO	
Support Stand with Caster Wheels	SPC-4E0 (5131346)	SPC-6E0 (5131347)
	SPC-4F0 (5131355)	SPC-6F0 (5131356)
Supports Stand with Levelling Feet	SAL-4E0 (5131349)	SAL-6E0 (5131350)
	SAL-4F0 (5131352)	SAL-6F0 (5131353)
Service Fixtures	SF-1G50 (5170015)	
	SF-IV50 (5170004)	
	SF-1N50 (5170012)	
	SF-1A50 (5170007)	
	SF-1W50 (5170009)	
	SF-2U50 (5170019)	
	CU-Pipe (5170026)	
IV Bar	IV-XXX-XXX (Specify model when ordering)	

*Note: 2 Universal (European/ American/ Japanese / Asia-Pacific) electrical outlets are standard on all OptiMair™ Cabinets.*



**UV Lamp**



**Service Fixture**



**Electrical Outlet**



**Stainless Steel IV Bar**



**Support Stand with Levelling Feet (28 and 34 in)**



**Support Stand with Caster Wheels**

providing

reliable product protection

and

energy-efficient technology



Green Product



Airstream® Gen 3  
Horizontal Laminar Flow Cabinet  
Model: LHG-4AG



Airstream® Gen 3  
Vertical Laminar Flow Cabinet  
Model: LVG-4AG



Airstream® Horizontal Laminar Flow Cabinet  
for Plant Tissue Culture  
Model: LHG-4DS



Enterprise® Laminar Flow Straddle Units,  
Model EQU/06-ESUS

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