

**Laminar Flow Clean Benches, Horizontal and Vertical** 







#### **Main Features**

- Esco **ISOCIDE**™ antimicrobial surface on all painted surfaces.
- Sentinel™ Microprocessor controller supervises all functions.
- Sterile work zone environment created for optimum product protection.
- Long-life ULPA filter for supply airflow.
- Spillage-retention work surface with recessed central area. (Not applicable for Model LVC-6A\_.)
- Available in 0.9, 1.2, 1.5 and
   1.8 meter models (3', 4', 5' and 6')



Labculture Horizontal Laminar Flow Clean Bench Model LHC-4A

#### **Esco Experience**

Esco Laminar Flow Clean Benches are the premium selection for the discerning researcher, offering a combination of value, high quality construction, low operating noise levels, and a wide product range to suit all budgets. Esco is the world's largest supplier of laminar flow clean benches to the life sciences and laboratory markets.

## Horizontal and Vertical Laminar Flow Clean Benches

Esco Labculture Laminar Flow Clean Benches are available in both horizontal and vertical flow models. In both models, air is taken in from above the cabinet and passed through a ULPA filter. In horizontal flow models filtered air is then passed through the main chamber of the cabinet in a horizontal laminar (unidirectional) air stream and is exhausted through the front opening of the cabinet. In vertical flow models, filtered air is passed through the main chamber of the cabinet in a vertical laminar (unidirectional) air stream before being exhausted through the front opening of the cabinet.

In horizontal flow cabinets (Model LHC) there is a slightly reduced level of turbulence compared to vertical flow cabinets (Model LVC) due to the airflow not striking the work surface. However vertical flow cabinets generate less turbulence around large pieces of equipment as compared to horizontal flow cabinets.



Labculture Vertical Laminar Flow Clean Bench Model LVC-4A\_

## Labculture,

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 and electrical outlet); and orange for caution (UV lamp ON). Programmable automatic UV light timer simplifies operation, enhances contamination control, extends UV lamp life and saves energy. A graphical interface indicates cabinet performance.

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. When programmed ON, the Personal Identification Number (PIN) access restricts unauthorized adjustments. When programmed ON, an airflow alarm warns of deviations from normal velocities.

## **Applications**

Uses include applications where there is no generation of biohazardous materials and operator protection is not required.

- Mycology
- Food microbiology
- Plant and mammalian cell culture
- Clinical pharmacy and hospital protocols
- Cleanrooms, semiconductor assembly, pharmaceutical, aerospace, and medical devices industries

## **Designed for Enhanced Usability**

Esco Laminar Flow Clean Benches incorporate a number of features to ensure operator comfort and enhanced productivity.

- The cabinet interior is constructed of stainless steel, making the work zone easy to clean. The interior surface will not chip, rust or generate particles.
- The spillage-retention work top design with a recessed central area ensures that all liquid spills are contained.
- The ergonomically designed work surface with a curved front edge is designed for maximum operator comfort. On our horizontal flow models a raised edge at the back of the work zone prevents spills from damaging the filter.
- Built-in warm white, electronically ballasted, 5000k lighting provides excellent illumination of the work zone and reduces operator fatigue. The reliable lighting system is zero-flicker and instant start.

 The removable perforated filter diffuser on all models provides protection to the filter and improves airflow uniformity.
 On the horizontal flow benches, the diffuser provides additional protection in the event of an accidental spillage and is easy to clean.

## **User-Friendly Control System**

The Esco Sentinel microprocessor-based control system supervises all cabinet functions. The controls are easily configurable to meet user requirements and come equipped with a number of enhanced features.

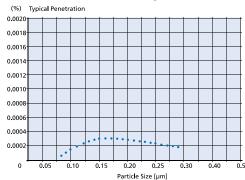
- Accurate true airflow velocity sensing technology, measures all critical cabinet airflow parameters allowing superior monitoring. Temperature compensated sensors ensure increased accuracy.
- Built-in solid state variable speed controllers, with integral RFI and noise filters, are superior to conventional "step" controllers and offer infinite adjustment from zero to maximum setting.

- Password-protected administration can be set to restrict access to the main menu.
- Audible and visual alarms ensure product protection by alerting the user in the event of low airflow.
- A bright, easy-to-read, LCD display provides continuous monitoring of cabinet airflow.
- The intelligent blower system automatically adjusts to maintain airflow as the filter becomes loaded with particulates, eliminating the need for constant adjustment and ensuring optimum performance and product protection.

## **Enhanced Filtration System**

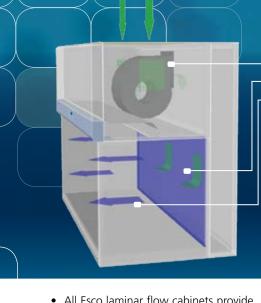
The enhanced filtration system on both horizontal and vertical flow cabinets is designed to provide the highest level of air quality within the work zone, meeting all relevant standards (see technical specifications for details).

## **Esco ULPA Filter Efficiency**



Esco cabinets use ULPA filters (per IEST-RP-CC001.3) instead of conventional HEPA filters commonly found in biological safety cabinets. 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.





#### Horizontal Laminar Flow Clean Bench

Blowe

Supply ULPA Filter

Horizontal Laminar Flow of Clean Air

- Room air is taken in from the top of the cabinet through a disposable pre-filter with 85% arrestance, trapping larger particles and prolonging the life of the main filter.
- Air is forced evenly through an ULPA filter resulting in a stream of clean, horizontal, laminar air within the main chamber with a velocity of 0.475 m/s (95 fpm), flushing all contaminants from the work zone.
- ULPA-filtered air
  Room air / Inflow air
- The purified air travels across the work zone in a horizontal (unidirectional) stream and is exhausted through the entire open front of the cabinet.

- All Esco laminar flow cabinets provide ISO Class 3 air cleanliness within the work zone as per ISO 14644.1, significantly cleaner than the usual Class 5 classification on cabinets offered by the competition.
- High quality ULPA filters, utilizing an improved minipleated separation technique to maximize surface area (improving efficiency and extending the life of the filter), operate at a typical efficiency of >99.999% at 0.1 to 0.3 micron sizes, providing superior product protection over conventional HEPA filters.
- An additional disposable pre-filter on all models traps large particles in the inflow air prior to reaching the main filter, protecting it against damage and prolonging its life.
- Esco's vertical flow cabinets incorporate Auto-Purge™ slots at the back of the work zone which recirculate air back into the blower plenum, minimizing turbulence, eliminating dead air zones, prolonging main filter life and enhancing product and cross-contamination 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.

## The Highest Quality Cabinet Construction

All Esco products are manufactured for the most demanding laboratory applications.

- All components are designed for maximum chemical resistance and enhanced durability for a long service life.
- The main body of the cabinet is constructed of industrial-grade electrogalvanized steel.

- All cabinet components are clean room compatible.
- Isocide eliminates 99.9% of surface bacteria within 24 hours of exposure.

## **Blower Efficiency**

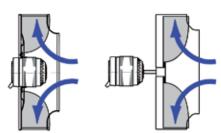
- Esco Laminar Flow Clean Benches incorporate permanently lubricated direct drive centrifugal blowers.
- The energy efficient external rotor motor design reduces operating costs and has extremely low noise and vibration levels.
- The intelligent blower system maintains airflow as the filter becomes loaded, ensuring optimum efficiency and product protection.

# Designed and Built to Exceed Safety Criteria

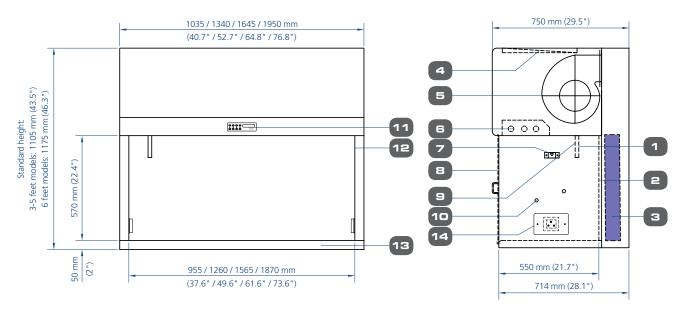
All components used in Esco products meet or exceed all applicable safety requirements.

- Each clean bench is individually factory tested for safety and performance in accordance with international standards.
- All electrical components are UL listed or UL recognized, ensuring superior electrical safety for the operator.
- All Esco Laminar Flow Clean Benches meet general safety requirements set by independent testing laboratories (see technical specifications for details).
- Esco LHC models have been typetested to the EN12469:2000 for crosscontamination and product protection using microbiological testing methods.

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



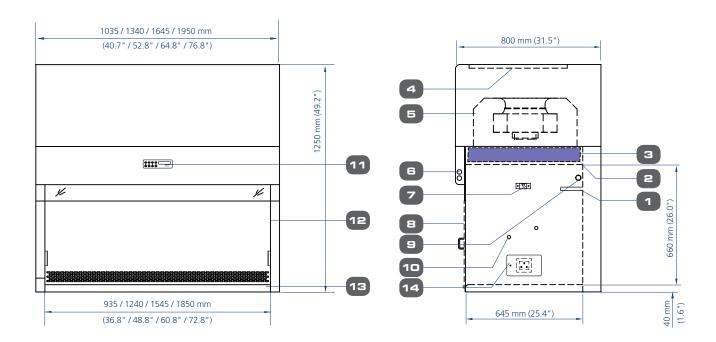
- Esco cabinets use German made ebm-papst® permanently lubricated, centrifugal motor/ blowers with external rotor designs
- Integrated blades narrow the profile and eliminate need for a motor shaft.
- Motors are selected for energy efficiency, compact design, and flat profile. The completely integrated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



- 1. Airflow sensor
- 2. Removable filter diffuser
- 3. ULPA filter
- 4. Pre-filter
- 5. Blower

- 6. Fluorescent lamp
- 7. IV Bar Retrofit Kit<sup>™</sup> provisions
- 8. Front cover Retrofit Kit
- 9. UV light Retrofit Kit provision\*
- 10. Service fixture Retrofit Kit<sup>™</sup> provisions (2 on each side)
- 11. Esco Sentinel microprocessor control
- 12. Internal stainless steel side panel
  13. Stainless steel work surface with
- 13. Stainless steel work surface with Front curved edge
- 14. Electrical outlet Retrofit Kit provision (LHC-3: 1 single outlet; LHC-4 and above: 2 single outlets)

## Model LVC Vertical Laminar Flow Clean Bench Technical Specifications (A-Series)



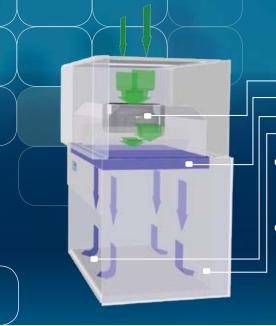
- 1. Downflow velocity sensor
- 2. Downflow filter diffuser
- 3. ULPA filter
- 4. Pre-filter
- 5. Blower

- 6. Fluorescent lamp
- 7. IV bar Retrofit Kit provision
- 8. Optional front cover
- 9. UV lamp Retrofit Kit provision
- 10. Service fixture Retrofit Kit provision (2 on each side)
- 11. Esco Sentinel microprocessor
- 12. Internal stainless steel panel
- 13. Stainless steel work surface with curved front edge
- 14. Electrical outlet Retrofit Kit provision (LVC-3: 1 single outlet ,

LVC-4 and above: 2 single outlets)



5



## Vertical Laminar Flow Clean Bench

Blower

Supply ULPA Filter

Vertical Laminar Flow of Clean Air

Auto-Purge<sup>™</sup> Slots

- Room air is taken from the top of the cabinet through a disposable pre-filter with 85% arrestance, trapping larger particles and prolonging the life of the main filter.
- Air is forced evenly through a ULPA filter resulting in a stream of clean, vertical, laminar air within the main chamber with a velocity of 0.475 m/s (95 fpm), flushing all contaminants from the work zone.

- ULPA-filtered air
   Room air / Inflow Air
- The purified air travels across the work zone in a vertical (unidirectional) stream and is exhausted through the entire open front of the cabinet and through Auto-Purge slots in the back wall. The Auto-Purge slots are designed to eliminate air turbulence and dead-air corners in the work zone. In addition, the Auto-Purge Slots prolong the filter life.

### Warranty

6

All Esco Labculture vertical and horizontal flow clean benches come with an extended 3 year warranty, excluding consumable parts and accessories. Contact your local representative for specific warranty details.

#### **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.

### **Support Stands**

- Fixed height, available 711 mm (28") or 860 mm (34")
  - With leveling feet
  - With casters
- Adjustable height, hydraulic range 711 mm (28") to 860 mm (34")
  - Manual or electrical lift
  - With leveling feet
  - With casters
- Telescoping height, nominal range 660 mm (26") to 960 mm (37.8")
  - Adjustable in 25.4 mm (1") increments

### **Electrical Outlets and Utility Fixtures**

- Electrical outlet, ground fault, North America
- Electrical outlet, Euro/Worldwide
- Petcock (air, gas, vacuum)
  - North America (American) style
  - Euro/Worldwide style DIN 12898, DIN 12919, DIN 3537

#### **Cabinet Accessories**

- Germicidal UV lamp
- Transparent front cover (recommended when UV lamp is used)
- PVC armrest
- Height-adjustable lab chair
- Ergonomic foot rest
- IV Bar, with hooks

Standards
Compliance

AS 1386.5, Australia EN 12469:2000\*, Europe IEST-RP-CC002.2, Worldwide

**Cabinet Performance** 

ISO 14644.1 Class 3, Worldwide AS 1386 Class 1.5, Australia JIS B9920 Class 3, Japan

**Air Quality** 

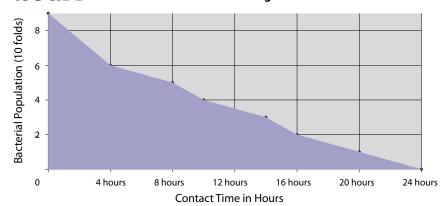
EN-1822 (H14), Europe IEST-RP-CC001.3, Worldwide IEST-RP-CC007.1, Worldwide IEST-RP-CC034.1, Worldwide

**Filtration** 

IEC 61010-1, Worldwide EN 61010-1, Europe UL 61010-1, USA CAN/CSA-22.2, No.61010-1

**Electrical Safety** 

### **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 diminished by repeated cleaning. Performance results are available upon request. Contact Esco or your Esco Sales Representative for details.

## Labculture,

<sup>\*</sup>Type-tested for cross-contamination and product protection using the microbiological testing methods adapted from this biological safety cabinet standard.

#### General Specifications, Labculture Vertical Laminar Flow Clean Benches

Note to customer: Insert electrical voltage number into last model number digit \_ when ordering.

Model		LVC-4A_	LVC-5A_	LVC-6A_	
Nominal Size		1.2 meters (4 ft)	1.5 meters (5 ft)	1.8 meters (6 ft)	
External Dimensions (W x D x H)		1340 x 800 x 1250 mm 52.8" x 31.5" x 49.2"	1645 x 800 x 1250 mm 64.8" x 31.5" x 49.2"	1950 x 800 x 1250 mm 76.8" x 31.5" x 49.2"	
Internal Work Area, Dimensions (W x D x H)		1240 x 645 x 660 mm 48.8" x 25.4" x 26.0"	1545 x 645 x 660 mm 60.8" x 25.4" x 26.0"	1850 x 645 x 660 mm 72.8" x 25.4" x 26.0"	
	Average of 0.48 m/s (96 fpm)				
	Disposable, non-washable polyester fibre, 85% arrestance, EU3 rated				
ncy	>99.999% at particle size between 0.1 to 0.3µm				
Sound Emission Per IEST-RP-CC002.2*		<59 dBA	<62 dBA	<60 dBA	
Fluorescent Lamp Intensity At Zero Ambient		>1510 Lux ( >140 foot candles)	>900 Lux (>84 foot candles)	>1100 Lux (>102 foot candles)	
Main Body	Electrogalvanized steel with white oven-baked epoxy powder-coated finish.  Coated with Isocide antimicrobial coating				
Work Zone	1.2mm (0.05") 18 gauge stainless steel grade 304				
Shipping Weight***		230 kg (507 lbs)	290 kg (639 lbs)	316 kg (698 lbs)	
Shipping Dimensions, Maximum (W x D x H)***		1430 x 910 x 1600 mm	1730 x 910 x 1600 mm	2050 x 910 x 1600 mm	
um***	1.65 m³ (58.3 cu.ft)	2.08 m³ (73.5 cu.ft)	2.52 m³ (90.0 cu.ft)	2.99 m³ (105.6 cu.ft)	
	Model		Voltage		
	LVC-3A1, LVC-4A1, LVC-5A1 & LVC-6A1		220-240V, AC, 50Hz, 1Ø		
Electrical**		LVC-3A2, LVC-4A2, LVC-5A2 & LVC-6A2		110-130V, AC, 60Hz, 1Ø	
		LVC-3A3, LVC-4A3, LVC-5A3 & LVC-6A3		220-240V, AC, 60Hz, 1Ø	
	ensions  ncy  RP-CC002.2*  ty At Zero Ambient  Main Body  Work Zone  ximum (W x D x H)***	### 1.65 m³ (58.3 cu.ft)  ### 25.40 x 49.2  ### 26.00 mm  ### 25.40 x 26.00 mm  ### 25.40 Lux  ### (>130 foot candles)  ### 26.00 mm  ### 1.65 m³ (58.3 cu.ft)  ### Mo  ### LVC-3A1, LVC-4A1, I  ### LVC-3A2, LVC-4A2, I	0.9 meters (3 ft)  1.2 meters (4 ft)  1035 x 800 x 1250 mm 40.7" x 31.5" x 49.2"  20 x H)  21 y 35 x 645 x 660 mm 36.8" x 25.4" x 26.0"  22 Average of 0.48  Disposable, non-washable polyester  Average of 0.48  Disposable, non-washable polyester  25 y dBA  315 y At Zero Ambient  Main Body  Electrogalvanized steel with white over Coated with Isocide a 1.2mm (0.05") 18 gauge  186 kg (410 lbs)  230 kg (507 lbs)  ximum (W x D x H)***  1.65 m³ (58.3 cu.ft)  20 m³ (73.5 cu.ft)  Model  LVC-3A2, LVC-4A2, LVC-5A1 & LVC-6A1 LVC-3A2, LVC-5A2 & LVC-6A2	0.9 meters (3 ft) 1.2 meters (4 ft) 1.5 meters (5 ft) 1035 x 800 x 1250 mm 40.7" x 31.5" x 49.2" 20	

### General Specifications, Labculture Horizontal Laminar Flow Clean Benches

Note to customer: Insert electrical voltage number into last model number digit \_ when ordering.

Model		LHC-3A_	LHC-4A_	LHC-5A_	LHC-6A_
Nominal Size		0.9 meters (3')	1.2 meters (4')	1.5 meters (5')	1.8 meters (6')
External Dimensions (W x D x H)		1035 x 750 x 1105 mm 40.7" x 29.5" x 43.5"	1340 x 750 x 1105 mm 52.7" x 29.5" x 43.5"	1645 x 750 x 1105 mm 64.8" x 29.5" x 43.5"	1950 x 750 x 1175 mm 76.8" x 29.5" x 46.3"
Internal Work Area, Dimensions (W x D x H)		955 x 550 x 570 mm 37.6" x 21.7" x 22.4"	1260 x 550 x 570 mm 49.6" x 21.7" x 22.4"	1565 x 550 x 570 mm 61.6" x 21.7" x 22.4"	1870 x 550 x 570 mm 73.6" x 21.7" x 22.4"
Laminar Airflow Veloc	ity	Average of 0.48 m/s (96 fpm)			
Pre-Filter		Disposable, non-washable polyester fibre, 85% arrestance, EU3 rated			
ULPA Filter Typical Effi	ciency	>99.999% at particle size between 0.1 to 0.3µm			
Sound Emission Per IEST-RP-CC002.2*		<57 dBA	<57 dBA	<59.5 dBA	<59 dBA
Fluorescent Lamp Intensity At Zero Ambient		>2600 Lux (>242 foot candles)	>2500 Lux (>232 foot candles)	>1600 Lux (>149 foot candles)	>2300 Lux (>214 foot candles)
Cabinet Construction	Main Body	Electrogalvanized steel with white oven-baked epoxy powder-coated finish.  Coated with Isocide antimicrobial coating			
	Work Zone	1.2 mm (0.05") 18 gauge stainless steel, grade 304			
Shipping Weight***		197 kg (434 lbs)	228 kg (503 lbs)	270 kg (595 lbs)	300 kg (661 lbs)
Shipping Dimensions, Maximum (W x D x H)***		1130 x 870 x 1480 mm	1430 x 870 x 1480 mm	1730 x 870 x 1480 mm	2060 x 870 x 1480 mm
Shipping Volume, Max	imum***	1.46 m³ (51.6 cu.ft)	1.84 m³ (65.0 cu.ft)	2.23 m³ (78.8 cu.ft)	2.65 m³ (93.6 cu.ft)
		Model		Voltage	
Florenicales		LHC-3A1, LHC-4A1, LHC-5A1 & LHC-6A1		220-240V, AC, 50Hz, 1Ø	
Electrical**		LHC-3A2, LHC-4A2, LHC-5A2 & LHC-6A2		110-130V, AC, 60Hz, 1Ø	
		LHC-3A3, LHC-4A3, LHC-5A3 & LHC-6A3		220-240V, AC, 60Hz, 1Ø	



<sup>\*</sup>Noise reading in open field condition/ anechoic chamber. \*\*Additional voltages may be available; contact Esco for ordering information. \*\*\*Cabinet only; excludes optional stand.

<sup>\*</sup>Noise reading in open field condition/ anechoic chamber. \*\*Additional voltages may be available; contact Esco for ordering information. \*\*\*Cabinet only; excludes optional stand.

#### General Specifications, Labculture Horizontal Laminar Flow Clean Benches Note to customer: Insert electrical voltage number into last model number digit \_ when ordering. Model LHC-3B LHC-4B\_ LHC-5B LHC-6B **Nominal Size** 0.9 meters (3') 1.2 meters (4') 1.5 meters (5') 1.8 meters (6') 1035 x 750 x 1255 mm 1340 x 750 x 1255 mm 1645 x 750 x 1255 mm 1950 x 750 x 1325 mm External Dimensions (W x D x H) 40.7" x 29.5" x 49.4" 52.7" x 29.5" x 49.4" 64.8" x 29.5" x 49.4" 76.8" x 29.5" x 52.1" Internal Work Area, Dimensions 955 x 550 x 725 mm 1260 x 550 x 725 mm 1565 x 550 x 725 mm 1870 x 550 x 725 mm $(W \times D \times H)$ 37.6" x 21.7" x 28.5" 49.6" x 21.7" x 28.5" 61.6" x 21.7" x 28.5" 73.6" x 21.7" x 28.5" Laminar Airflow Velocity Average of 0.48 m/s (96 fpm) Pre-Filter Disposable, non-washable polyester fibre, 85% arrestance, EU3 rated **ULPA Filter Typical Efficiency** >99.999% at particle size between 0.1 to 0.3 $\mu$ m Sound Emission Per IEST-RP-CC002.2\* <57 dBA <57 dBA <59.5 dBA <59 dBA >2600 Lux >2500 Lux >1600 Lux >2300 Lux Fluorescent Lamp Intensity At Zero Ambient (>242 foot candles) (>214 foot candles) (>232 foot candles) (>149 foot candles) Electrogalvanized steel with white oven-baked epoxy powder-coated finish. Main Body Coated with Isocide antimicrobial coating **Cabinet Construction** Work Zone 1.2 mm (0.05") 18 gauge stainless steel, grade 304 Shipping Weight\*\*\* 197 kg (434 lbs) 228 kg (503 lbs) 270 kg (595 lbs) 300 kg (661 lbs) Shipping Dimensions, Maximum (W x D x H)\*\*\* 1130 x 870 x 1480 mm 1430 x 870 x 1480 mm 1730 x 870 x 1480 mm 2060 x 870 x 1480 mm 1.46 m<sup>3</sup> (51.6 cu.ft) 1.84 m<sup>3</sup> (65.0 cu.ft) 2.23 m<sup>3</sup> (78.8 cu.ft) 2.65 m3 (93.6 cu.ft) Shipping Volume, Maximum\*\*\* Model Voltage LHC-3B1, LHC-4B1, LHC-5B1 & LHC-6B1 220-240V, AC, 50Hz, 1Ø Electrical\*\* LHC-3B2, LHC-4B2, LHC-5B2 & LHC-6B2 110-130V, AC, 60Hz, 1Ø

LHC-3B3, LHC-4B3, LHC-5B2 & LHC-6B3

220-240V, AC, 60Hz, 1Ø

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

<sup>\*\*\*</sup>Cabinet only; excludes optional stand.

General Specifications, Labculture Horizontal Laminar Flow Clean Benches							
Note to customer: Insert electrical voltage number into last model number digit _ when ordering.							
Model		LHC-3C_	LHC-4C_	LHC-6C_			
Nominal Size		0.9 meters (3')	1.2 meters (4')	1.8 meters (6')			
External Dimensions (\	W x D x H)	1035 x 750 x 1480 mm 40.7" x 29.5" x 58.2"	1340 x 750 x 1480 mm 52.7" x 29.5" x 58.2"	1950 x 750 x 1480 mm 76.8" x 29.5" x 58.2"			
Internal Work Area, Di (W x D x H)	imensions	955 x 550 x 875 mm 37.6" x 21.7" x 34.4"	1260 x 550 x 875 mm 49.6" x 21.7" x 34.4"	1870 x 550 x 875 mm 73.6" x 21.7" x 34.4"			
Laminar Airflow Veloc	ity	Average of 0.48 m/s (96 fpm)					
Pre-Filter		Disposable, non-washable polyester fibre, 85% arrestance, EU3 rated					
ULPA Filter Typical Effi	ciency	>99.999% at particle size between 0.1 to 0.3µm					
Sound Emission Per IES	ST-RP-CC002.2*	<57 dBA	<57 dBA	<59 dBA			
Fluorescent Lamp Inte	nsity At Zero Ambient	>2600 Lux (>242 foot candles)	>2500 Lux (>232 foot candles)	>2300 Lux (>214 foot candles)			
Cabinet Construction	Main Body	Electrogalvanized steel with white oven-baked epoxy powder-coated finish.  Coated with Isocide antimicrobial coating					
	Work Zone	1.2 mm	ade 304				
Shipping Weight***		197 kg (434 lbs)	228 kg (503 lbs)	300 kg (661 lbs)			
Shipping Dimensions,	Maximum (W x D x H)***	1130 x 870 x 1480 mm	1430 x 870 x 1480 mm	2060 x 870 x 1480 mm			
Shipping Volume, Max	kimum***	1.46 m³ (51.6 cu.ft)	1.84 m³ (65.0 cu.ft)	2.65 m³ (93.6 cu.ft)			
		Mo	Voltage				
Electrical**		LHC-3C1, LHC-	220-240V, AC, 50Hz, 1Ø				
		LHC-3C2, LHC-	110-130V, AC, 60Hz, 1Ø				
		LHC-3C3, LHC-	220-240V, AC, 60Hz, 1Ø				

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

<sup>\*\*</sup>Additional voltages may be available; contact Esco for ordering information.

<sup>\*\*</sup>Additional voltages may be available; contact Esco for ordering information.

<sup>\*\*\*</sup>Cabinet only; excludes optional stand.



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



## WORLD CLASS. WORLDWIDE.

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