Streamline®

Vertical Laminar Flow Cabinets

Streamline Vertical Laminar Flow Cabinet Model SVE-4A_. Shown with optional support stand.

Introduction

Esco is the world leader in premium laminar flow cabinets for the global life sciences market. Since 1978, Esco has installed tens of thousands of laminar flow cabinets providing reliable protection for samples and work processes for a multitude of applications.

Esco laminar flow cabinets 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, from the industry leader.

Designed and Built for Enhanced Usability

Esco Streamline laminar flow cabinets incorporate a number of features to ensure operator comfort and enhanced productivity.

- The angled front improves reach into the work area.
- The cabinet work surface is constructed of stainless steel, making the work zone easy to clean. The interior surface will not chip, rust or generate particles.
- The ergonomically designed work surface with a curved front edge is designed for maximum operator comfort.
- 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 sliding window can be fully opened to insert and remove larger instrumentation and equipment.
- The frameless sash eliminates operator's line of sight blockage.

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.
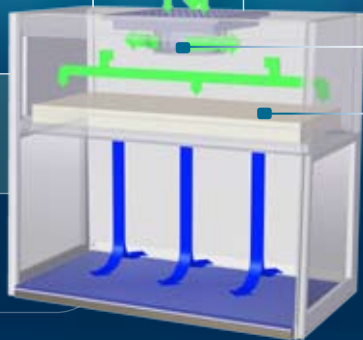
- Accurate true airflow velocity sensing technology, measures all critical cabinet airflow parameters allowing superior monitoring. Temperature compensated sensors ensure increased accuracy.
- Built-in solid state variable speed controllers, with integral RFI and noise filters, are superior to conventional "step" controllers and offer infinite adjustment from zero to maximum setting.
- Audible and visual alarms ensure product protection by alerting the user in the event of low airflow.
- A bright, easy-to-read, LED 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 the vertical flow cabinet is designed to provide the highest level of air quality within the work zone, meeting all relevant standards (see technical specifications for details).

- Streamline laminar flow cabinets provide ISO Class 4 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 HEPA 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 >99.99% at 0.1 to 0.3 micron sizes, providing superior product protection over conventional HEPA filters.

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Vertical Laminar Flow Cabinet

Blower
HEPA Filter

■ During operation, room air is drawn through the top of the cabinet via a washable polyurethane pre-filter with 20% arrestance, trapping larger particles and increasing the life of the main filter.

■ The air is then forced evenly through the HEPA filter with >99.99% efficiency, resulting in a unidirectional stream of clean air projected vertically over the internal work zone. All airborne contaminants are flushed and diluted, resulting in a particulate-free work environment.

■ The purified air then leaves the main work chamber across the entire open front of the cabinet and through Auto-Purge™ slots at the back wall of the work zone to eliminate air turbulence and the possibility of dead-air corners in the work zone.

■ A nominal filter face velocity of 0.30 m/s (60 fpm) ensures that there is a sufficient number of air changes within the enclosed area of the cabinet in order to maintain cleanliness.

■ HEPA-filtered air
■ Room air / Inflow Air

- 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 eliminate turbulence and enhance product protection.

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.

- Transparent tempered glass side panels enhance visibility and create a more comfortable work environment for the operator as opposed to conventional stainless steel or painted steel sides.

- Tempered glass is scratch and abrasion resistant, does not particulate, and decontaminates easily.

Blower Efficiency

- Esco laminar flow cabinets 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 cabinet 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 cabinets meet general safety requirements set by independent testing laboratories (see technical specifications for details).

Warranty

Esco Streamline laminar flow cabinets come with a 12 month 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
- Electrical outlets
- Petcock (air, gas, vacuum)
- Germicidal UV lamp
- PVC armrest
- Height-adjustable lab chair
- Ergonomic foot rest
- IV Bar, with hooks

Standards Compliance	Cabinet Performance	Air Quality	Filtration	Electrical Safety
	AS 1386.5, Australia IEST-RP-CC002.2, Worldwide	ISO 14644.1, Class 4, Worldwide IEST-G-CC1001, Worldwide IEST-G-CC1002, Worldwide	EN-1822 (H14), Europe IEST-RP-CC001.3, Worldwide IEST-RP-CC007.1, Worldwide IEST-RP-CC034.1, Worldwide	UL 61010A-1, USA CAN / CSA-22.2, No. 61010-1 EN 61010-1, Europe

Streamline®

General Specifications, Streamline Vertical Laminar Flow Cabinet

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

Model		SVE-4A_	SVE-6A_
Nominal Size		1.2 meters (4')	1.8 meters (6')
External Dimensions (W x D x H)	Without Base Stand	1340 x 610 x 1070 mm 52.8" x 24.0" x 42.1"	1950 x 610 x 1070 mm 76.8" x 24.0" x 42.1"
	With Base Stand 711 mm / (28") Type	1340 x 610 x 1781 mm 52.8" x 24.0" x 70.1"	1950 x 610 x 1781 mm 76.8" x 24.0" x 70.1"
Internal Work Area, Dimensions (W x D x H)		1270 x 518 x 570 mm 50.0" x 20.4" x 22.4"	1880 x 518 x 570 mm 74.0" x 20.4" x 22.4"
Average Airflow Velocity		0.30 m/s (60 fpm)	
Pre-Filter		Disposable and non-washable polyester fibers with 85% arrestance / EU3 rated	
HEPA Filter Typical Efficiency		99.99% for particles size at 0.3 microns	
Sound Emission Per IEST-RP-CC002.2*		<61 dBA	<63 dBA
Fluorescent Lamp Intensity At Zero Ambient		>800 Lux (74 foot candles)	
Cabinet Construction	Main Body	1.2mm (0.05") 18 gauge electro-galvanised steel with white oven-baked epoxy powder-coated finish	
	Work Zone	1.2mm (0.05") 18 gauge stainless steel grade 304 work surface	
Electrical**	220-240V, AC, 50Hz, 1Ø	SVE-4A1	SVE-6A1
	Cabinet Power/ Amp	350 W / 1.8 A	600 W / 3.2 A
	Outlet Max. Amp	5 A	5 A
	Total Max. Amp	6.8 A	8.2 A
	BTU/ Hr	714	1224
	110-130V, AC, 50Hz, 1Ø	SVE-4A2	SVE-6A2
	Cabinet Power/ Amp	250 W / 2 A	400 W / 3.5 A
	Outlet Max. Amp	5 A	5 A
	Total Max. Amp	7 A	8.5 A
	BTU/ Hr	510	816
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 730 x 1320 mm 56.3" x 28.7" x 52.0"	2110 x 730 x 1320 mm 83.1" x 28.7" x 52.0"
Shipping Volume, Maximum***		1.38 m³ (48.7 cu.ft)	2.03 m³ (71.7 cu.ft)

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

Model SVE Streamline Vertical Laminar Flow Cabinet Technical Specifications
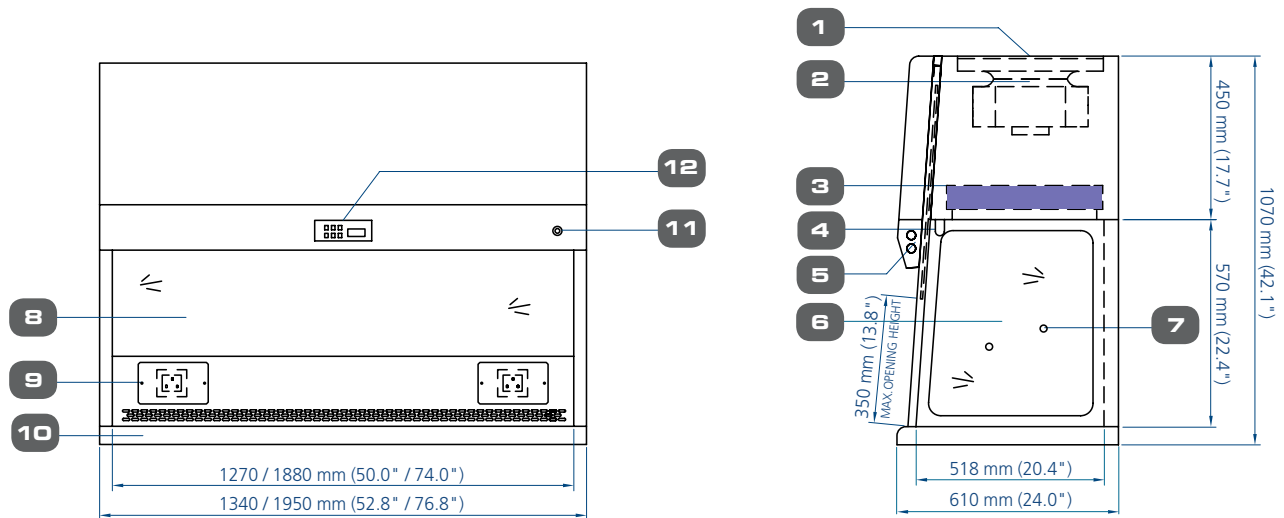
1. Pre-filter
2. Blower
3. Downflow HEPA filter
4. UV light Retrofit Kit™
5. Fluorescent lamps
6. Tempered glass side panel
7. Service fixture Retrofit Kit™ provisions (2 on each sidewall)
8. Sliding front sash window
9. Electrical outlet Retrofit Kit™ provisions (2 pieces)
10. Stainless steel work surface
11. Blower speed controller
12. Sentinel™ microprocessor control

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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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