

Purair[®] LF Series

General Purpose Laminar Flow Cabinets, Horizontal and Vertical

24 • 36 • 48 • 60 • 72 • 96

The World's Most Practical Selection of Benchtop Laminar Flow Cabinets



—VLF-48

Provides reliable protection for samples and work processes for a multitude of applications.



Schedule
Contract GS-07-0182P





Purair[®] LF Series

Purair General Application Laminar Flow Cabinet Group

- Excellent protection of equipment and materials inside the cabinet from particulate contamination.
- Rich set of options to customize cabinets for a multitude of applications.
- Easy to change filters.
- High airflow capacity.

Overview of Purair Laminar Flow Cabinets

- Purair VLF cabinets provide vertical airflow and are available in 2', 3', 4', 5', 6' and 8' widths for general applications.
- Purair HLF cabinets provide horizontal airflow and are available in 2', 3', 4', 5', 6' and 8' widths in standard and extra tall heights for general applications.
- HLF-72: shown with optional mobile base stand.



INTRODUCTION

Air Science Purair Laminar Flow Cabinets are a series of high efficiency products designed to protect equipment and other contents of the work zone from particulates, for applications sensitive to such contamination. It is ideally suited for use with non-hazardous contaminants and when flexible access to the equipment in the work zone is desired. At the heart of the Purair Laminar Flow Cabinet product line is the Air Science Multiplex™ ULPA Filtration Technology that creates a clean work environment over a wide range of applications.

APPLICATIONS

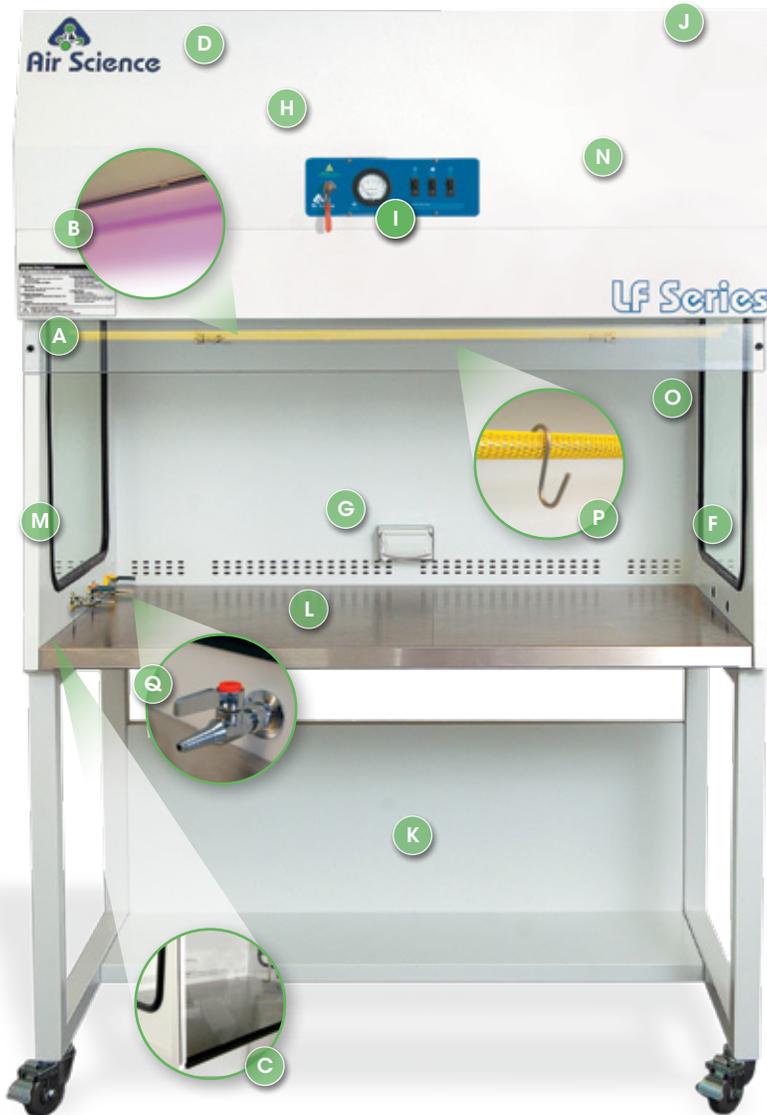
- Uses include applications where there is no generation of biohazardous materials and operator protection is not required:
- Mycology and food microbiology
- Plant and mammalian cell culture
- Clinical pharmacy and hospital use
- Clean rooms
- Semiconductor assembly
- Pharmaceutical
- Aerospace
- Medical device assembly
- Research Laboratories

VERTICAL AND HORIZONTAL AIRFLOW

Performance of Purair vertical and horizontal flow cabinets is the same and the choice is largely a matter of user preference.

- Horizontal flow cabinets create less turbulence at the work surface, as the airflow does not directly impinge upon it but rather is smoothly drawn across it. The airflow on the Purair vertical flow cabinets directly strikes the work surface. However, to minimize this effect, vertical laminar flow cabinets are manufactured with rear wall perforations to reduce turbulence by removing a small amount of air at the rear of the cabinet. Turbulence is a problem only when it is excessive.
- The design of vertical flow cabinets is customized more easily (at a lower cost) as required.
- Airflow in a horizontal flow cabinet exits directly towards the user, whereas the airflow in a vertical flow cabinet strikes the work surface first and exits towards the user indirectly. It should be noted, neither style laminar flow cabinet offers any operator protection.
- Large or tall equipment in a horizontal flow cabinet will interrupt the airflow more than in a vertical flow cabinet. This may create more turbulence and "dead" spots where airflow is lower than elsewhere. Vertical flow cabinets are not so impacted by large equipment.
- In vertical flow cabinets, the ULPA filter is mounted above the work surface. This provides a larger work space, both taller and deeper, that may be appropriate for large equipment in the work zone.





PRODUCT FEATURES:

- A.** Cabinet lighting located away from laminar flow area.
- B.** Optional Ultraviolet lamp to sterilize and decontaminate work zone and cabinet contents between operating periods.
- C.** Optional Night Door/Cover to protect cabinet interior when blowers are off. Contains UV radiation when UV activated.
- D.** Disposable polyester fiber pre filter with 85% arrestance.
- E.** Long-life Camfil-Farr ULPA main filter with efficiency of 99.999% at particle sizes between 0.1 to 0.3µm.
- F.** Side window that allows ambient illumination into the chamber and provides users with an unobstructed view of its contents from three sides.
- G.** GFCI outlet to power equipment in cabinet.
- H.** ebmpapst™ external rotor blower.
- I.** Control panel On/Off switch for fan, lighting, GFCI outlets, Minihelic ULPA pressure gauge to measure filter performance, UV lamp key switch.
- J.** Fan speed control.
- K.** Base Stand: Optional mobile cart with locking casters, includes a convenient lower shelf.
- L.** Stainless steel Work Surface with ULPA filter spill-retention lip on HLF units.
- M.** Ergonomically angled front improves reach and comfort.
- N.** MICROgone™ antimicrobial coating on all painted metal surfaces minimizes contamination – white color.
- O.** Protected work zone environment created for optimum product performance.
- P.** Optional IV Bar with "S" hooks.
- Q.** Optional petcock service fixture (Maximum 4 per unit).

VLF-48, shown with optional mobile base stand and other selected options.



Control panel On/Off switch for fan, lighting, GFCI outlets, Minihelic ULPA pressure gauge to measure filter performance, UV lamp key switch.

THE AIR SCIENCE PERFORMANCE ADVANTAGE

Each Air Science Purair Laminar Flow Cabinet includes features expressed through sound design and certified quality construction. Options and accessories add functional performance to meet specific applications.

Professional Quality. Air Science cabinets comply with current technical and safety regulations.

Advanced Filtration. Air Science Multiplex™ UPLA Filtration provides high performance protection.

Industrial Components. The cabinet frame and work surfaces are durable and chemically resistant for long service life.

All cabinet components are clean room compatible.

Each cabinet is individually factory tested for safety and performance in accordance with international standards.



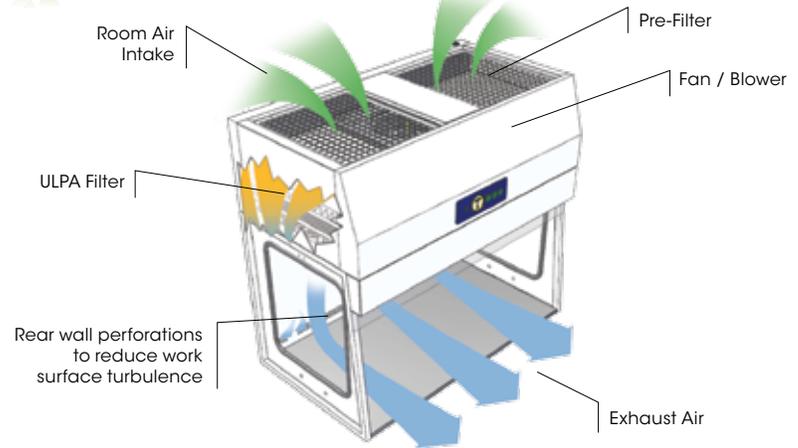
The main filter gasket evenly seals the filter face to prevent bypass air leakage. Our pour-in-place silicone gasket out performs traditional style stick-on "dove-tail" gasketing.

FEATURES AND BENEFITS

- Purair Laminar Flow Cabinets are available in 2 model types with various sizes and options for a total of 18 standard models.
- Purair Laminar Flow Cabinets are shipped fully assembled. No installation is required; just plug them in and use them.
- Products are designed for desktop use, or may be installed on an optional mobile base stand.
- The rear wall of vertical flow cabinets is perforated to reduce work surface turbulence by removing some of the airflow to the rear.
- Horizontal flow cabinets are designed with a lip on the rear of the work surface to protect the ULPA filter from spills.
- High capacity air handling system delivers flow velocity of 0.45 m/s or 90 fpm.
- Purair VLF and HLF cabinets have an ULPA filter pressure gauge to measure filter performance.
- The Air Science filters are easy to access, easy to change.
- Purair Laminar Flow products are constructed of steel with Air Science's exclusive MICROgone™ antimicrobial powder finish coating.

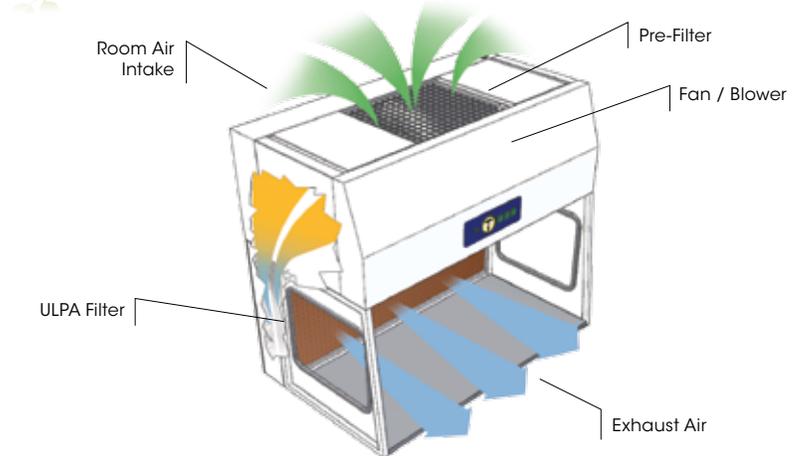
Accessories include an IV bar, service fixtures, base stand, UV lamp, and front door/cover.

PURAIR VERTICAL AIRFLOW PATTERN



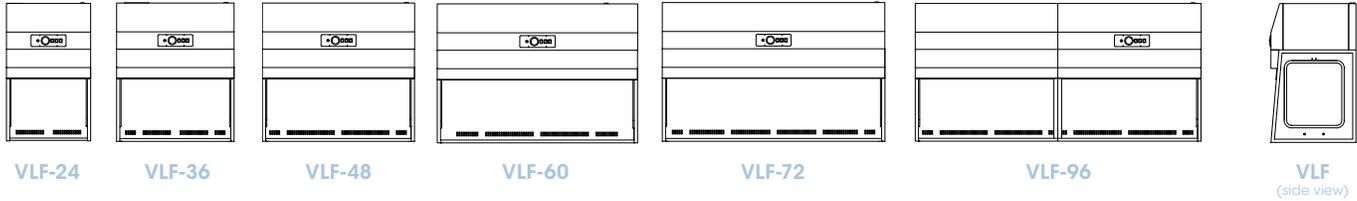
- Room air enters from the top of the cabinet through a disposable pre-filter; this traps larger particles and increases filter life.
- Air is forced evenly across the ULPA filter in a stream of clean, uniform air within the work zone. This dilutes and flushes airborne contaminants from the interior.
- A nominal filter face velocity of 0-45 m/s (90 fpm) ensures a sufficient number of air changes to maintain cleanliness within the work zone.
- The purified air travels down to the work zone in a vertical, unidirectional down flow stream, exiting the work zone across the entire open cabinet front area after deflecting off the work surface. Rear wall perforations are designed to reduce work surface turbulence and minimize the possibility of dead air corners in the work zone.

PURAIR HORIZONTAL AIRFLOW PATTERN



- Purair Laminar Flow Cabinets maintain a 0.45 m/s or 90 fpm airflow velocity, measured 6"/150mm from the filter with a uniformity of +/- 20% across the filter face. This face velocity is in compliance with USA and international standards for safety and performance. The ULPA filters are easy to replace with common tools.
- Room air enters from the top of the cabinet through a disposable pre-filter; this traps larger particles and increases filter life.
- Air is forced evenly across the ULPA filter in a stream of clean, uniform air within the work zone. This dilutes and flushes airborne contaminants from the interior.
- A nominal filter face velocity of 0-45 m/s (90 fpm) ensures a sufficient number of air changes to maintain cleanliness within the work zone.
- The purified air travels across the work zone in a horizontal, unidirectional stream and exits the work zone across the entire open cabinet front.

This Product Exceeds OSHA, ANSI and Other International Standards.

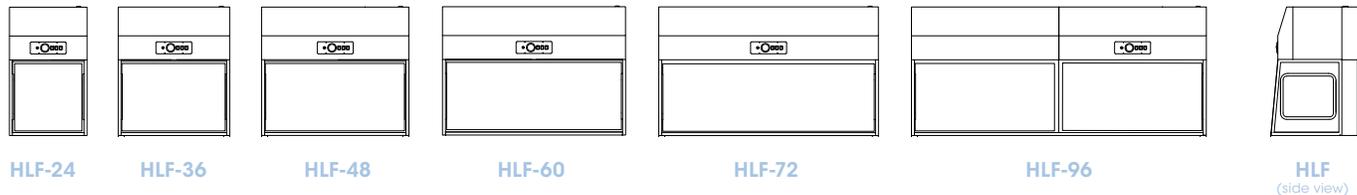


MODEL			DIMENSIONS			WEIGHT (lbs/Kg)	
Model	Nominal Width	Internal Height	Internal Depth	External (W x D x H)	Shipping (W x D x H)	Net	Ship

Vertical Laminar Flow Cabinets

VLF-24	24" 610 mm	24.00" 610 mm	28.25" 718 mm	28.4" x 29.25" x 47.25" 721 x 743 x 1200 mm	40" x 44" x 54" 1016 x 1118 x 1372 mm	181 / 82	288 / 131
VLF-36	36" 914 mm	28.25" 718 mm	28.25" 718 mm	40.4" x 29.25" x 47.25" 1026 x 743 x 1200 mm	45" x 44" x 54" 1143 x 1118 x 1372 mm	268/122	371/168
VLF-48	48" 1219 mm	28.25" 718 mm	28.25" 718 mm	52.4" x 29.25" x 47.25" 1331 x 743 x 1200 mm	60" x 44" x 54" 1524 x 1118 x 1372 mm	322/146	478/217
VLF-60	60" 1524 mm	28.25" 718 mm	28.25" 718 mm	64.4" x 29.25" x 47.25" 1636 x 743 x 1200 mm	70" x 44" x 54" 1778 x 1118 x 1372 mm	401/182	525/238
VLF-72	72" 1829 mm	28.25" 718 mm	28.25" 718 mm	76.4" x 29.25" x 47.25" 1941 x 743 x 1200 mm	91" x 44" x 54" 2311 x 1118 x 1372 mm	478/217	595/270
VLF-96	96" 2438 mm	28.25" 718 mm	28.25" 718 mm	100.4" x 29.25" x 47.25" 2550 x 743 x 1200 mm	110" x 44" x 54" 2794 x 1118 x 1372 mm	620/281	745/338

Specifications are subject to change without notice.

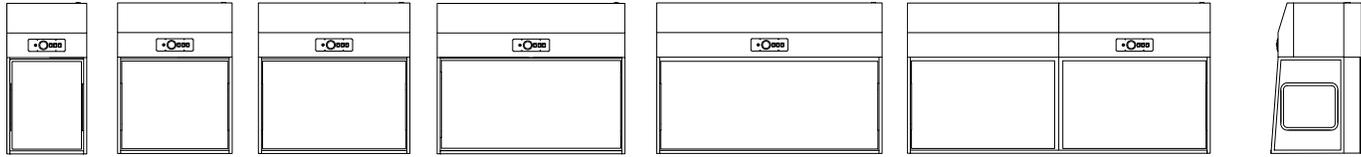


MODEL			DIMENSIONS			WEIGHT (lbs/Kg)	
Model	Nominal Width	Internal Height	Internal Depth	External (W x D x H)	Shipping (W x D x H)	Net	Ship

Horizontal Laminar Flow Cabinets

HLF-24	24" 610 mm	23.75" 603 mm	23.75" 603 mm	25.25" x 29.5" x 42.75" 641 x 749 x 1086 mm	40" x 44" x 54" 1016 x 1118 x 1372 mm	170 / 77	280 / 127
HLF-36	36" 914 mm	23.75" 603 mm	23.75" 603 mm	37.25" x 29.5" x 42.75" 946 x 749 x 1086 mm	45" x 44" x 54" 1143 x 1118 x 1372 mm	246/112	371/168
HLF-48	48" 1219 mm	23.75" 603 mm	23.75" 603 mm	49.25" x 29.5" x 42.75" 1251 x 749 x 1086 mm	60" x 44" x 54" 1524 x 1118 x 1372 mm	289/131	478/217
HLF-60	60" 1524 mm	23.75" 603 mm	23.75" 603 mm	61.25" x 29.5" x 42.75" 1556 x 749 x 1086 mm	70" x 44" x 54" 1778 x 1118 x 1372 mm	344/156	494/224
HLF-72	72" 1829 mm	23.75" 603 mm	23.75" 603 mm	73.25" x 29.5" x 42.75" 1861 x 749 x 1086 mm	91" x 44" x 54" 2311 x 1118 x 1372 mm	439/199	595/270
HLF-96	96" 2438 mm	23.75" 603 mm	23.75" 603 mm	98.5" x 29.5" x 42.75" 2502 x 749 x 1086 mm	110" x 44" x 54" 2794 x 1118 x 1372 mm	878/398	725/329

Specifications are subject to change without notice.



HLF-24XT HLF-36XT HLF-48XT HLF-60XT HLF-72XT HLF-96XT HLF-XT (side view)

MODEL			DIMENSIONS			WEIGHT (lbs/Kg)	
Model	Nominal Width	Internal Height	Internal Depth	External (W x D x H)	Shipping (W x D x H)	Net	Ship

Horizontal Laminar Flow Cabinets with Extra Tall Option

HLF-24XT	24" 610 mm	29.5" 749 mm	23.75" 603mm	25.25" x 29.5" x 48.75" 641 x 749 x 1238 mm	40" x 44" x 60" 1016 x 1118 x 1524 mm	191/87	000/000
HLF-36XT	36" 914 mm	29.5" 749 mm	23.75" 603mm	37.25" x 29.5" x 48.75" 946 x 749 x 1238 mm	45" x 44" x 60" 1143 x 1118 x 1524 mm	266/121	391/177
HLF-48XT	48" 1219 mm	29.5" 749 mm	23.75" 603mm	49.25" x 29.5" x 48.75" 1251 x 749 x 1238 mm	60" x 44" x 60" 1524 x 1118 x 1524 mm	319/145	508/230
HLF-60XT	60" 1524 mm	29.5" 749 mm	23.75" 603mm	61.25" x 29.5" x 48.75" 1556 x 749 x 1238 mm	70" x 44" x 60" 1778 x 1118 x 1524 mm	375/170	525/238
HLF-72XT	72" 1829 mm	29.5" 749 mm	23.75" 603mm	73.25" x 29.5" x 48.75" 1861 x 749 x 1238 mm	91" x 44" x 60" 2311 x 1118 x 1524 mm	479/217	635/288
HLF-96XT	96" 2438 mm	29.5" 749 mm	23.75" 603mm	98.5" x 29.5" x 48.75" 2502 x 749 x 1238 mm	110" x 44" x 60" 2794 x 1118 x 1524 mm	585/265	746/338

Specifications are subject to change without notice.

OPTIONS & ACCESSORIES

		Vertical	Horizontal	Horizontal, Tall
		VLF-24 VLF-36 VLF-48 VLF-60 VLF-72 VLF-96	HLF-24 HLF-36 HLF-48 HLF-60 HLF-72 HLF-96	HLF-24XT HLF-36XT HLF-48XT HLF-60XT HLF-72XT HLF-96XT
Air Science Model				
Mobile Base Stand-Wheels	Floor-standing base for cabinet with locking castors 860mm (34") height.	VLF-BW-24 VLF-BW-36 VLF-BW-48 VLF-BW-60 VLF-BW-72 VLF-BW-96	HLF-BW-24 HLF-BW-36 HLF-BW-48 HLF-BW-60 HLF-BW-72 HLF-BW-96	HLF-BW-24XT HLF-BW-36XT HLF-BW-48XT HLF-BW-60XT HLF-BW-72XT HLF-BW-96XT
Mobile Base Stand-Leveling Feet	Floor-standing base for cabinet with leveling feet 860mm (34") height.	VLF-BL-24 VLF-BL-36 VLF-BL-48 VLF-BL-60 VLF-BL-72 VLF-BL-96	HLF-BL-24 HLF-BL-36 HLF-BL-48 HLF-BL-60 HLF-BL-72 HLF-BL-96	HLF-BL-24XT HLF-BL-36XT HLF-BL-48XT HLF-BL-60XT HLF-BL-72XT HLF-BL-96XT
Mobile Base Stand-Motorized	Floor-standing base for cabinet with motorized height adjustment. Specify locking castors or leveling feet.	VLF-BM-24 VLF-BM-36 VLF-BM-48 VLF-BM-60 VLF-BM-72 VLF-BM-96	HLF-BM-24 HLF-BM-36 HLF-BM-48 HLF-BM-60 HLF-BM-72 HLF-BM-96	HLF-BM-24XT HLF-BM-36XT HLF-BM-48XT HLF-BM-60XT HLF-BM-72XT HLF-BM-96XT
IV Bar and "S" Hooks	Interior bar spanning the width of the cabinet to hang IV bags and other equipment using "S" hooks. Retrofit Kit.	IV-VLF-24 IV-VLF-36 IV-VLF-48 IV-VLF-60 IV-VLF-72 IV-VLF-96	IV-HLF-24 IV-HLF-36 IV-HLF-48 IV-HLF-60 IV-HLF-72 IV-HLF-96	IV-HLF-24XT IV-HLF-36XT IV-HLF-48XT IV-HLF-60XT IV-HLF-72XT IV-HLF-96XT
Service Fixtures	Sidewall mounting for service fixture. Available for petcocks, faucets and valves. Retrofit Kit. Maximum of 4 per cabinet.	SF	SF	SF
UV lamp with Night Door/ Cover*	Ultraviolet lamp for econtamination of interior surfaces. Includes a timer, and key switch UV operation must comply with local codes and facility safety practices. Contact your facility safety officer for details. Includes door/cover of UV absorbing polycarbonate plastic. Includes electrical interlock for blower, if present.	UV-24 UV-36 UV-48 UV-60 UV-72 UV-96	UV-24 UV-36 UV-48 UV-60 UV-72 UV-96	UV-24XT UV-36XT UV-48XT UV-60XT UV-72XT UV-96XT
Ionization Bar	Generates a continuous flow of positive and negative ions balanced to neutralize surface static charges and to protect sensitive work product.	ION-24 ION-36 ION-48 ION-60 ION-72 ION-96	ION-24 ION-36 ION-48 ION-60 ION-72 ION-96	ION-24XT ION-36XT ION-48XT ION-60XT ION-72XT ION-96XT
Static Dissipative Work Surface	Work surface composite resists and dissipates static charges to protect sensitive work product.	SDW-24 SDW-36 SDW-48 SDW-60 SDW-72 SDW-96	SDW-24 SDW-36 SDW-48 SDW-60 SDW-72 SDW-96	SDW-24XT SDW-36XT SDW-48XT SDW-60XT SDW-72XT SDW-96XT

*Sold together; safety precautions must be followed.

PRODUCT SPECIFICATIONS

Airflow Pattern	Vertical	Horizontal
Air Science Model	VLF-24 VLF-36 VLF-48 VLF-60 VLF-72 VLF-96	HLF-24 HLF-36 HLF-48 HLF-60 HLF-72 HLF-96
Airflow ⁽¹⁾	0.45m/s-90fpm	0.45m/s-90fpm

Filter Specifications

Pre-Filter	<... Disposable polyester fibers with 85% arrestance ...>
Main Filter ⁽²⁾	<... ULPA, 99.999% efficient at particle sizes between 0.1 to 0.3µm ...>
Size	<... Full size of Work Zone ...>
Clamping	<... Spring loaded, adjustable tension adjusts for gasket aging ...>
Cabinet Lighting	<... Compact Fluorescent Bulb Removed from Air Stream ...>
UV Lamp ⁽³⁾	Optional
Noise, dBA, 1 meter	<65

Side Windows

Construction	Tempered Glass
Visible Opacity	Transparent
UV Opacity	UV Absorbing
Color	Colorless

Construction

Color	<... White epoxy coated steel frame ...>
Work Surface	Stainless Steel
GFCl outlet	Standard
Finish	<... MICROgone™ Anti-microbial Powder Coat ...>

Shelving

Night Door/Cover	Optional
Blower	<... ebmpapst™ external rotor motor, permanently lubricated, low noise and vibration levels ...>
Electrical	<... 120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering. Other voltage options available. ...>
Electrical Controls	<... Main On/Off Switch; Solid State Fan Speed Control with RFI filter; UV Timer and Key Switch if included ...>
Monitoring	<... Minihelic ULPA pressure gauge ...>
Warranty	3 Years

(1) Average airflow measured 6"/150mm from filter face. Uniformity is +/- 20%.

(2) Camfil-Farr filters; ULPA efficiency: 99.999% at particle sizes between 0.1 to 0.3µm

(3) UV Lamp includes Timer and Key Switch



Purair Laminar Flow Cabinets maintain a 0.45 m/s or 90 fpm airflow velocity, measured 6"/150mm from the filter with a uniformity of +/- 20% across the filter face. This face velocity is in compliance with USA and international standards for safety and performance. The ULPA filters are easy to replace with common tools.

Air Science laminar flow cabinets incorporate ebmpapst™ permanently lubricated direct drive centrifugal blowers. The energy efficient design reduces operating costs and has extremely low noise and vibration levels.

STANDARDS AND COMPLIANCE

Quality Management Systems	ISO 9001:2008
Environmental Management Systems	ISO 14001:2004 EnergyStar Partner
Cabinet Performance	IEST-RP-CC002.2 AS 1386.5
Air Quality	ISO 14644-1, Class 3
Filtration	IEST-RP-CC034.1 IEST-RP-CC001.3 IEST-RP-CC007.1 EN 1822
Electrical Safety	UL-C-61010-1 CE Mark ROHS Exempt under EEE Category 9



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