

General Purpose Laminar Flow Cabinets

- Horizontal and Vertical
- Provides Reliable Protection for Samples and Work Processes for Numerous Applications

LFSeries

LF Series model VLF-48









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INTRODUCTION

Air Science® Purair® Laminar Flow cabinets are designed to protect equipment and other contents of the work zone from particulates.

The series includes Vertical Laminar Flow (VLF) cabinets and Horizontal Laminar Flow (HLF) cabinets and is ideally suited for use with non-hazardous contaminants when flexible access to 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 which creates a clean work environment over a wide range of applications.

APPLICATIONS

Purair Laminar Flow cabinets are suitable for applications that generate no biohazardous materials and do not require operator protection. Mycology and Food Microbiology \ Plant and Mammalian Cell Culture \ Clinical Pharmacy and Hospitals \ Cleanrooms \ Semiconductor Assembly \ Pharmaceutical \ Aerospace \ Medical Device Assembly \ Research Laboratories







KFY FFATURES

- Provides sterile work zone for aseptic techniques.
- Air cleanliness meets and exceeds ISO Class 4.
- All models use ULPA filters (99.999% efficient at particle sizes between 0.1 to 0.3 µm).
- Available in horizontal or vertical flow configurations.
- All models equipped with a stainless steel work surface.

PERFORMANCE ADVANTAGE

Each Air Science Purair Laminar Flow cabinet includes features expressed through sound design and certified quality construction.

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

Advanced Filtration. Air Science Multiplex ULPA 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 cleanroom compatible.



LF Series HLF-48



Deep into its second generation, Air Science embraces the diversity and cultural heritage of the founders and co-workers who are continuing a tradition of excellence. Demonstrating a commitment to adaptation, inclusion, and quality output from a United States-based company with a domestic and global reach.

24 • 36 • 48 • 60 • 72 • 96

DESIGN FEATURES





- A. Control Panel: The control panel includes On/Off
- **B.** Main Filter: Long-life Camfil Farr ULPA main
- **C.** Pre-Filter: Disposable polyester fiber pre-filter
- **D.** Blower Motor: ebm-papst external rotor blower.
- E. Stand: Optional mobile cart with locking casters,
- F. Lighting: Compact LED cabinet lamp located away
- **G.** UV Lamp: Optional ultraviolet (UV) lamp to sterilize
- **H.** Ergonomic Design: Ergonomically angled front
- I. Work Surface: Stainless steel work surface with
- J. Fan Control: Recessed fan speed control.
- K. IV Bar: Optional IV bar with "S" hooks.
- L. Night Door: Optional night door/cover to protect
- M. Power Supply: GFCI outlet to power equipment
- **N.** Service Fixtures: Optional petcock service fixture

ADDITIONAL FEATURES

Visibility: Side windows allow ambient light into the

ISP Sterile Compounding Compliant: When used 797 encourages compliance with criteria set forth

Construction: Choose from standard powder coated

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Options and accessories add functional performance to meet specific applications. Accessories include an IV bar, service fixtures, base stand, UV lamp, and front door/cover.

PERFORMANCE

Air Science <u>Multiplex ULPA Filtration</u> provides high performance protection.

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.

The high capacity air handling system delivers flow velocity of 0.4 m/s - 0.5 m/s (80 - 100 fpm).

Purair VLF and HLF cabinets have an ULPA filter pressure gauge to measure filter performance.

DESIGN

Air Science Laminar Flow cabinets incorporate an ebm-papst external rotor blowers. The energy efficient design reduces operating costs and has low noise and vibration levels.

Products are designed for desktop use or installation on the 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.



SFI FCTION

Purair Laminar Flow cabinets are available in vertical and horizontal configurations with various sizes and options for a total of 36 models to choose from in 6 different widths. Select from standard powder coated interior or stainless steel interior (-SS models).

CONTROL

The **standard control panel** features On/Off switches for blower, lighting, GFCI outlets, in addition to a Minihelic ULPA pressure gauge to measure filter performance.

The standard **UV control panel** includes the same features as the standard control panel with the addition of a UV lamp key.



Standard Controller



UV Controller

RELIABILITY

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

Purair Laminar Flow cabinets are shipped fully assembled. No installation is required; just plug them in and use them.





Through our partner company <u>Filtco Filters</u>, Air Science is a single source supplier of all pre-filters, carbon filters, and HEPA/ULPA filters used in our products and those of many other manufacturers.



AIRFIOW

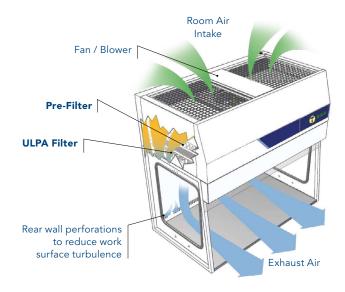
Both VLF and HLF Purair Laminar Flow cabinets offer the same level of quality and performance. When deciding between a VLF or HLF cabinet the differences come down to personal preference for your specific application.

Vertical Airflow

- The airflow on the Purair LF Series vertical flow cabinets directly strikes the work surface.
- Vertical laminar flow cabinets are manufactured with rear wall perforations that remove a small amount of air at the rear of the cabinet to reduce turbulence.
- In vertical flow cabinets, the ULPA filter is mounted above the work surface which provides a taller and deeper work space. This allows for larger equipment in the work zone without interrupted airflow.
- · Vertical flow cabinets are more easily customized to specific applications.

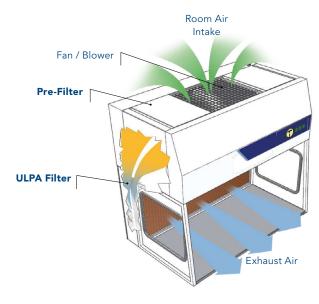
Horizontal Airflow

- In horizontal flow cabinets the airflow does not directly impinge on the work surface but rather is smoothly drawn across it. This creates less turbulence.
- Airflow in a horizontal flow cabinet exits directly towards the user.
- Large or tall equipment in a horizontal flow cabinet can interrupt airflow more than in a vertical flow cabinet. This may create more turbulence and possible "dead" spots where airflow is lower.



Vertical Airflow:

1. Room air enters from the top of the cabinet through a disposable pre-filter; this traps larger particles and increases filter life. 2. 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. 3. A nominal filter face velocity of 0.4 m/s - 0.5 m/s (80 - 100 fpm) ensures a sufficient number of air changes to maintain cleanliness within the work zone. 4. The purified air travels down to the work zone in a vertical, unidirectional downflow 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.



Horizontal Airflow:

LF Series

1. Purair Laminar Flow Cabinets maintain a 0.4 m/s - 0.5 m/s (80 - 100 fpm) airflow velocity, measured 6"/150 mm from the filter. 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. 2. Room air enters from the top of the cabinet through a disposable pre-filter; this traps larger particles and increases filter life. 3. 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. 4. A nominal filter face velocity of 0.4 m/s - 0.5 m/s (80 - 100 fpm) ensures a sufficient number of air changes to maintain cleanliness within the work zone. 5. The purified air travels across the work zone in a horizontal, unidirectional stream and exits the work zone across the entire open cabinet front.



Purair Laminar Flow cabinets maintain a 0.35-0.45 m/s (80-100 fpm) airflow velocity measured 6"/150 mm from the filter.

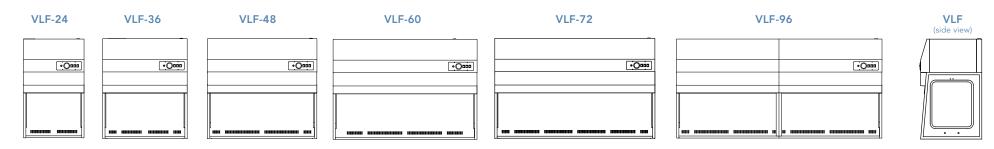
This face velocity is in compliance with USA and international standards for safety and performance. The ULPA filters are easy to replace with common tools.

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SPECIFICATIONS

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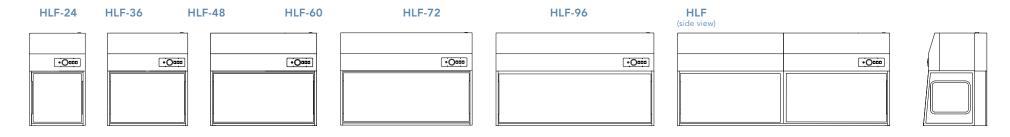
M	ODEL	DIMENSIONS					WEIGH	T (LBS/KG)
Metal Interior	Stainless Interior	Nominal Width	Internal Height	Internal Depth	External (W × D × H)	Shipping (W \times D \times H) without base stand	Net	Ship

Vertical Laminar Flow Cabinets

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

Specifications are subject to change without notice.

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N	ODEL	DIMENSIONS					WEIGHT (LBS/KG)	
Metal Interior	Stainless Interior	Nominal Width	Internal Height	Internal Depth	External (W \times D \times H)	Shipping (W \times D \times H)	Net	Ship

Horizontal Laminar Flow Cabinets

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

Specifications are subject to change without notice.

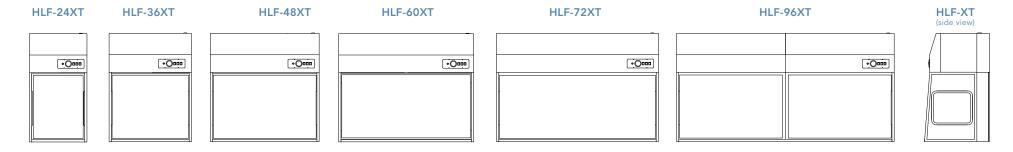
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МС	DDEL	DIMENSIONS						T (LBS/KG)
Metal Interior	Stainless Interior	Nominal Width	Internal Height	Internal Depth	External (W × D × H)	Shipping (W × D × H)	Net	Ship

Horizontal Laminar Flow Cabinets with Extra Tall Option

HLF-24XT	HLF-24XT-SS	24" / 610 mm	29.5" / 749 mm	23.75" / 603 mm	25.25" × 29.5" × 48.75" / 641 × 749 × 1238 mm	40" × 44" × 60" / 1016 × 1118 × 1524 mm	191 / 87	295 / 134
HLF-36XT	HLF-36XT-SS	36" / 914 mm	29.5" / 749 mm	23.75" / 603 mm	37.25" × 29.5" × 48.75" / 946 × 749 × 1238 mm	45" × 44" × 60" / 1143 × 1118 × 1524 mm	266 / 121	391 / 177
HLF-48XT	HLF-48XT-SS	48" / 1219 mm	29.5" / 749 mm	23.75" / 603 mm	49.25" × 29.5" × 48.75" / 1251 × 749 × 1238 mm	60" × 44" × 60" / 1524 × 1118 × 1524 mm	319 / 145	508 / 230
HLF-60XT	HLF-60XT-SS	60" / 1524 mm	29.5" / 749 mm	23.75" / 603 mm	61.25" × 29.5" × 48.75" / 1556 × 749 × 1238 mm	70" × 44" × 60" / 1778 × 1118 × 1524 mm	375 / 170	525 / 238
HLF-72XT	HLF-72XT-SS	72" / 1829 mm	29.5" / 749 mm	23.75" / 603 mm	73.25" × 29.5" × 48.75" / 1861 × 749 × 1238 mm	91" × 44" × 60" / 2311 × 1118 × 1524 mm	479 / 217	635 / 288
HLF-96XT	HLF-96XT-SS	96" / 2438 mm	29.5" / 749 mm	23.75" / 603 mm	98.5" × 29.5" × 48.75" / 2502 × 749 × 1238 mm	110" × 44" × 60" / 2794 × 1118 × 1524 mm	585 / 265	746 / 338

Specifications are subject to change without notice.

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SPECIFICATIONS

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A: (I D	V e l					
Airflow Pattern	Vertical		Horizontal			
Filtration	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-96XT	HLF-72XT		
Airflow ¹		0.4 m/s -0.5 m/s (80 - 100 fpm).		0.35 m/s - 0.45 m/s (70 - 90 fpm)		
Pre-Filter		<··· Disposable polyester fi	bers with 85% arrestance. ···>			
Main Filter		<··· ULPA, 99.999% efficient at par	ticle sizes between 0.1 to 0.3 µm. ···>			
Clamping		<··· Spring loaded, adjustable te	ension adjusts for gasket aging. ···>			
Construction						
Finish (exterior)	< White epoxy coated steel frame>					
Finish (interior)		< Standard models, powder coated int	teriorSS models, stainless steel interior. ···>			
Windows		<··· Tempered glass, transpara	nt, not available on SS models. ···>			
Blower		<··· ebm-papst external rotor motor, permane	ntly lubricated, low noise and vibration levels. $\cdot\cdot$	·>		
Controls	<··· Main On/C	off switch; Solid state fan speed control with RFI f	iler; UV timer and key switch if included, specify	when ordering. ···>		
Electrical	<····	120V, 60Hz or 230V, 50Hz voltages available. Spe	cify when ordering. Other voltage options availa	ble>		
Work Surface		<··· Stainle	ess steel. ···>			
GFCI outlet		<··· Standard,	5A maximum. ···>			
Monitoring		< Minihelic ULP	A pressure gauge. ···>			
Efficiency						
Lighting		<··· LED I	lighting. ···>			
Noise, dBA, 1 meter			≤72>			

¹ Average airflow measured 6"/150 mm from filter face.

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		OPTIONS & ACCESSORIES		
		Vertical	Horizontal	Horizontal, Tall
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	HLF-24XT HLF-36XT HLF-48XT HLF-60XT HLF-72XT HLF-96XT
Work Surface (Static Dissipative)	Work surface composite resists and dissipates static charges to protect sensitive work product.	TRAY-VLF-24-SDW TRAY-VLF-36-SDW TRAY-VLF-48-SDW TRAY-VLF-60-SDW TRAY-VLF-72-SDW TRAY-VLF-96-SDW	TRAY-HLF-24-SDW TRAY-HLF-36-SDW TRAY-HLF-48-SDW TRAY-HLF-60-SDW TRAY-HLF-72-SDW TRAY-VLF-96-SDW	TRAY-HLF-24-SDW TRAY-HLF-36-SDW TRAY-HLF-48-SDW TRAY-HLF-60-SDW TRAY-HLF-72-SDW TRAY-VLF-96-SDW
Base Stand, Mobile, with Casters	Floor-standing base for cabinet with locking castors 860 mm (34") height.	CART-VLF-BW-24 CART-VLF-BW-36 CART-VLF-BW-48 CART-VLF-BW-60 CART-VLF-BW-72 CART-VLF-BW-96	CART-HLF-BW-24 CART-HLF-BW-36 CART-HLF-BW-48 CART-HLF-BW-60 CART-HLF-BW-72 CART-HLF-BW-96	CART-HLF-BW-24 CART-HLF-BW-36 CART-HLF-BW-48 CART-HLF-BW-60 CART-HLF-BW-72 CART-HLF-BW-96
Base Stand, Mobile, with Leveling Feet	Floor-standing base for cabinet with leveling feet 860 mm (34") height.	CART-VLF-BL-24 CART-VLF-BL-36 CART-VLF-BL-48 CART-VLF-BL-60 CART-VLF-BL-72 CART-VLF-BL-96	CART-HLF-BL-24 CART-HLF-BL-36 CART-HLF-BL-48 CART-HLF-BL-60 CART-HLF-BL-72 CART-HLF-BL-96	CART-HLF-BL-24 CART-HLF-BL-36 CART-HLF-BL-48 CART-HLF-BL-60 CART-HLF-BL-72 CART-HLF-BL-96
Base Stand, Mobile, Motorized	Floor-standing base for cabinet with motorized height adjustment and leveling feet.	CART-VLF-BM-24 CART-VLF-BM-36 CART-VLF-BM-48 CART-VLF-BM-60 CART-VLF-BM-72 CART-VLF-BM-96	CART-HLF-BM-24 CART-HLF-BM-36 CART-HLF-BM-48 CART-HLF-BM-60 CART-HLF-BM-72 CART-HLF-BM-96	CART-HLF-BM-24 CART-HLF-BM-36 CART-HLF-BM-48 CART-HLF-BM-60 CART-HLF-BM-72 CART-HLF-BM-96
Service Fitting	Sidewall mounting for service fixture. Available for petcocks, faucets and valves. Retrofit Kit. Maximum of 4 per cabinet.	SF-WALL	SF-WALL	SF-WALL
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.	V-VLF-24 V-VLF-36 V-VLF-48 V-VLF-60 V-VLF-72 V-VLF-96	IV-HLF-24 IV-HLF-36 IV-HLF-48 IV-HLF-60 IV-HLF-72 IV-HLF-96	IV-HLF-24 IV-HLF-36 IV-HLF-48 IV-HLF-60 IV-HLF-72 IV-HLF-96
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-48 ION-72 ION-96	ION-24 ION-36 ION-48 ION-48 ION-72 ION-96	ION-24 ION-36 ION-48X ION-60 ION-72 ION-96
UV Lamp*	Ultraviolet lamp for decontamination 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. Includes removable front cover.	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-24 UV-36 UV-48 UV-60 UV-72 UV-96
Removable Front Cover	To enclose work zone when unit is not in operation.	FCOVER-VLF-24 FCOVER-VLF-36 FCOVER-VLF-48 FCOVER-VLF-60 FCOVER-VLF-72 FCOVER-VLF-96	FCOVER-HLF-24 FCOVER-HLF-36 FCOVER-HLF-48 FCOVER-HLF-60 FCOVER-HLF-72 FCOVER-HLF-96	FCOVER-HLF-24XT FCOVER-HLF-36XT FCOVER-HLF-48XT FCOVER-HLF-60XT FCOVER-HLF-72XT FCOVER-HLF-96XT

^{*}Sold together; safety precautions must be followed. Factory installed; specify when ordering.

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OPTIONS & ACCESSORIES



WARRANTY



___ This product is protected by the Air Science **Legacy Lifetime Warranty™** which starts on the date of shipment from our factory. This limited warranty is the result of thousands of successful Air Science production applications in pharmaceutical, laboratory, forensic, industrial, and educational applications.

This warranty covers defects in materials and workmanship. Our liability under the Legacy Lifetime Warranty is, at our option, to repair or replace any defective parts of this equipment if you document that these parts were defective at the time we sold the product to you. Normal conditions apply.

For details visit the Service section of our website at www.airscience.com.

STANDARDS AND COMPLIANCE					
Quality Management Systems	ISO 9001:2015				
Environment	ISO 14001:2015 ENERGY STAR® Partner				
Cabinet Performance	IEST-RP-CC002.2 AS 2252.6				
Air Quality	ISO 14644-1, Class 3				
Sterile Compounding	USP 797				
Filtration	IEST-RP-CC034.1 IEST-RP-CC001.3 IEST-RP-CC007.1 EN 1822				
Electrical Safety	UL, CSA, EN, CE (230V)				

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