

## PCR Laminar Flow Cabinets

- Provides Contaminant-Free Interior for PCR Applications and Protects Against Cross-Contamination
- Meets or Exceeds OSHA, ANSI, and Other International Standards



49 watt<sup>1</sup> Purair PCR 24



49–70 watts<sup>1</sup>

The single EC blower motor assures lower cost of ownership in one of the world's most energy efficient laminar flow cabinets.

## CONTENTS:

- Product Overview (p.2)
- Design Features (p.3)
- Performance & Selection (p.4)
- Containment & Filtration (p.5)
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## INTRODUCTION

The Purair® PCR laminar flow cabinet employs the Air Science [Multiplex™ HEPA Filtration](#) technology to create a safe, energy-efficient, contaminant-free environment. It is ideally suited for use when flexible access to instrumentation inside the cabinet is required.



49–70 watts<sup>1</sup>

*The single EC blower motor assures lower cost of ownership in one of the world's most energy efficient laminar flow cabinets.*

## APPLICATIONS

PCR cabinets are intended for use in non-hazardous applications where biological or biohazard byproducts are not generated and user protection is not required.

PCR Laboratories \ Forensics \ Pharmaceutical \ Sample Preparation \ General Research Protocols



*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.*



## KEY FEATURES

- Provides sterile work zone for aseptic techniques.
- Air cleanliness meets and exceeds ISO Class 5.
- High efficiency ebm-papst EC blower.
- Energy saving LED lighting.
- Vertical laminar airflow with HEPA filtration.
- Equipped with germicidal UV lamp for decontamination.
- 360 degree visibility with UV absorbing polycarbonate construction.

## PCR WORKSTATION

Polymerase chain reaction\* (PCR) is a simple and inexpensive technique to make multiple copies of a targeted nucleotide sequence from a DNA sample and to amplify sequences from small samples. This technique is widely used in genetics laboratories that work with DNA and RNA.

Because PCR amplification is extremely sensitive to contamination, prevention of contamination requires good laboratory practices to minimize external or cross-contamination during reagent preparation, sample preparation, and sample amplification.

\* Polymerase chain reaction (PCR) is a patented process owned by Hoffman La Roche.



70 watt<sup>1</sup> Purair PCR-48 shown with optional mobile cart.

This product exceeds OSHA, ANSI and other International [Certification Standards](#). Specifications are subject to change without notice.

<sup>1)</sup> Energy consumption disclosure is based on internal testing with primary filters during normal operation. Power consumption published is nominal and dependent on cabinet size.

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## DESIGN FEATURES

- A. Control Panel:** The integrated control panel features an On/Off switch for the fan, light, and UV lamp timer.
- B. Main Filter:** Main HEPA filter with 99.99% efficiency for 0.3 micron particulates.
- C. Pre-Filter:** The pre-filter can be changed while the unit is operating to prevent operator exposure to chemical vapors.
- D. Fan:** High-performance ebm-papst EC fan.
- E. Stand:** Optional base stand converts to mobile cart with optional locking casters.
- F. Lighting:** Compact LED cabinet lamp located away from laminar flow area.
- G. UV Lamp:** Built-in ultraviolet lamp with timer permits decontamination between PCR cycles. Includes a double-flap safety cover of 0.2" (5 mm) UV absorbing 254 nm beta radiation resistant polycarbonate; provides superior operator protection while allowing easy access to the work zone. Timer can be set over range of 0 to 60 minutes or set to HOLD.
- H. Pass Through Ports:** Convenient rear wall pass-through ports for safe routing of instrument cords, cables, and leads.
- I. Filter Door Lock:** Prevents unauthorized removal or accidental exposure to dirty filters.
- J. Ergonomic Design:** Ergonomically angled front improves reach and user comfort.

- K. Work Surface:** Large polypropylene work surface, white or black standard with optional stainless steel work surface available.
- L. Decontamination Shelf:** Mounted on the back wall near the UV lamp for maximum exposure.
- M. Magnetic Door Latch:** Safety interlock prevents operator exposure to UVs when door is opened during decontamination cycle.
- N. Double-Hinged Self-Locking Front Sash:** The magnetic sash closure protects samples on the work surface from contamination with up to 90 fpm airflow.

## ADDITIONAL FEATURES

**360 Degree Visibility:** Clear back and side panels allow ambient light into the chamber and provide users with an unobstructed view of contents.

**Standards Compliant:** Performance specifications and construction meet or exceed relevant standards to ensure operator safety.

**Construction:** All models are available in either metal or polypropylene construction, specify when ordering. Available in 120V, 60Hz or 230V, 50Hz models.



49 watt<sup>1</sup> Purair PCR-24, shown with optional stainless steel spill tray and mobile cart.

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PCR

Laminar Flow Cabinets

24 • 36 • 48

PERFORMANCE & SELECTION

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Each Air Science PCR work station is expertly designed to meet specific applications and certified for quality construction. Standard features, options, and accessories are developed purposefully to enhance user-friendliness.

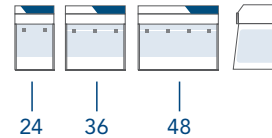
## PERFORMANCE

The Air Science [Multiplex Filter](#) offers a range of options for high performance protection.

**Multiplex filter** configuration permits a customized combination of filter media for a broad range of chemical families and biological agents if required.

PCR work stations maintain up to 0.45 m/s (90 fpm) airflow velocity, measured 6" (150 mm) from the filter face.

The HEPA filters are easy to replace; no tools required.



## SELECTION

Purair PCR cabinets are available in three model sizes with various options. Designed for desktop use or installation on an optional base stand or mobile cart.

## CONTROL

The **standard integrated control panel** features an On/Off switch for the fan, light, and UV lamp timer.

The optional **Monitair® microprocessor controller** with LCD display monitors cabinet operating parameters, airflow, containment, and filter condition and emits audio and visual alerts if conditions become unsafe.

## DESIGN

Professional quality Air Science laminar flow hoods comply with current technical and safety regulations.

The cabinet frame and work surfaces, comprised of industrial components, are durable and chemically resistant.

The Air Science filter assembly is easy to access, easy to change, plus a unique filter clamping design eliminates bypass leakage of the main filter.

An optional stainless steel work surface includes lips on all four sides to contain spills.

Stackable sections make cabinets highly portable and enable quick setup.

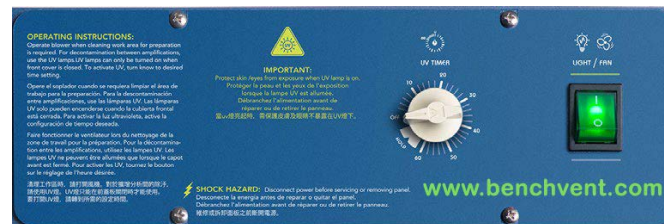
## RELIABILITY

Air Science PCR work stations use an energy-efficient ebm-papst EC blower for long life and dependable performance.

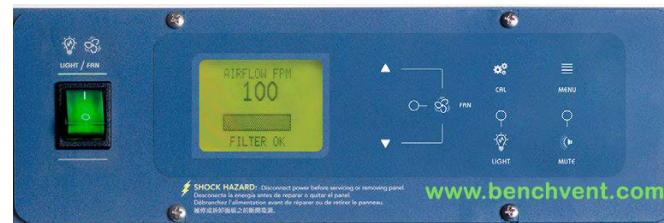
Air Science uses long-life HEPA filters without aluminum separators to increase filter efficiency, minimize the potential for leakage, and increase filter life.



**Energy-efficient** ebm-papst brand EC blowers promote long life and dependable performance of Purair PCR Laminar flow cabinets.



Standard Controller



Monitair Control Panel

This product exceeds OSHA, ANSI and other International Certification Standards. Specifications are subject to change without notice.

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# multiple<sup>x</sup>

## FILTRATION

At the heart of the PCR work station is innovative filtration technology. **The Multiplex Filtration System** consists of a pre-filter and main filter. The mechanical design enhances safety, convenience, and overall value.

- The disposable pre-filter is accessible from the exterior top of the cabinet.
- A filter clamping mechanism allows for the filter to be easily installed and ensures an even seal at the filter peripheral face at all times to prevent bypass leakage.
- The filter chamber prevents contaminated air from contacting internal cabinet mechanisms.



## SECUR. safe disposal service

Filter disposal services are available in selected markets providing responsible destruction or recycling of used saturated filters in authorized facilities.

## AIRFLOW

Room air enters from the top of the cabinet through the disposable pre-filter where larger particles are trapped, increasing the service life of the main HEPA filter.

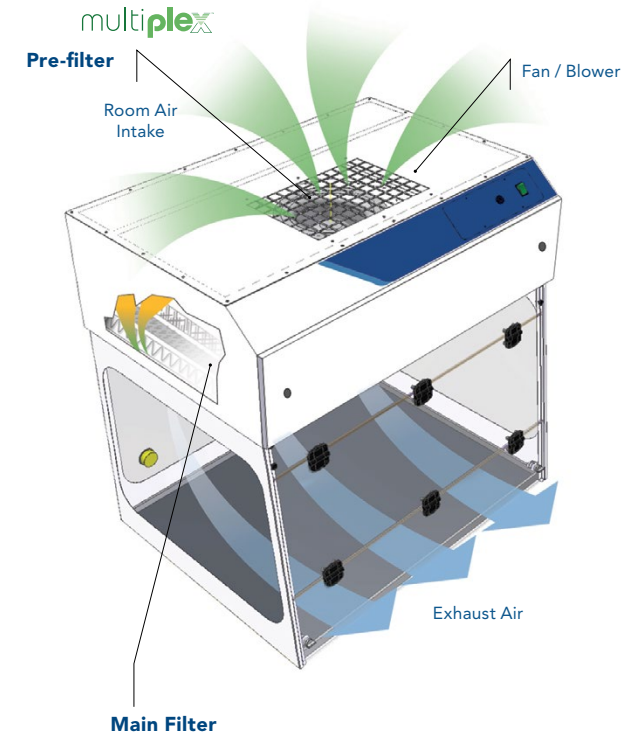
Air is forced evenly across the HEPA filter to deliver a flow of pure, uniform air within the work zone to dilute and flush airborne contaminants from the work area. A nominal filter face velocity of up to 0.45 m/s (90 fpm) ensures that there is sufficient number of air changes within the work zone to eliminate cross-contamination and to maintain optimum cleanliness.

Purified air travels across the work zone to the work surface in a vertical, unidirectional downflow stream and then exits the work zone across the open cabinet front.

## FILTER CONFIGURATION

**P.** ⚠️ **The pre-filter** may be replaced while unit is in operation.

**H.** **The main filter** is easy to replace; no tools required. The filter clamps tightly against the filter gasket to prevent filter bypass and to maintain filter integrity.



### MULTIPLY FILTRATION SYSTEM, SUMMARY

Pre-Filter	P	Disposable polyester fibers with 85% arrestance.
Main Filter	H	A self-contained filter designed to physically capture particles larger than 0.3 microns (HEPA) or 0.12 microns (ULPA).



Through our partner company [Filtco Filters](#), 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.

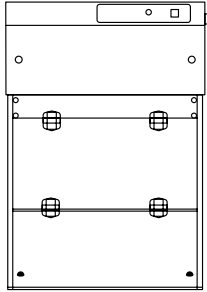
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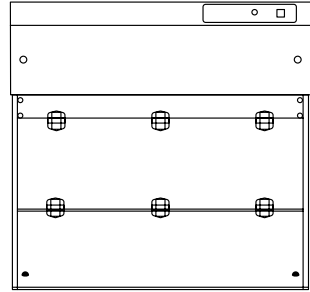
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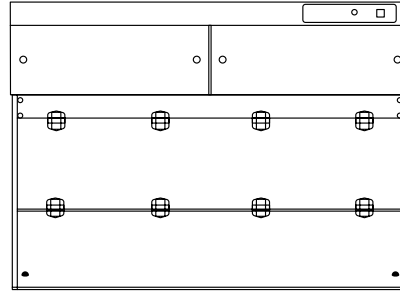
**Purair PCR-24**



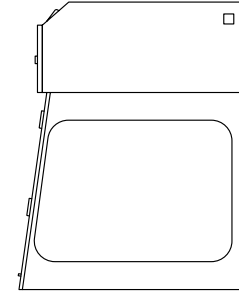
**Purair PCR-36**



**Purair PCR-48**



**Side View**



MODEL	DIMENSIONS			WEIGHT (LBS/KG)			
	Nominal Width	Internal Height	Internal Depth	External (W × D × H)	Shipping (W × D × H)	Net	Ship
PCR-24	24" / 610 mm	24" / 610 mm	26.75" / 679 mm	24" × 27" × 35" / 610 × 686 × 889 mm	48" × 40" × 45" / 1219 × 1016 × 1143 mm	72 / 33	150 / 68
PCR-36	36" / 914 mm	24" / 610 mm	26.75" / 679 mm	36" × 27" × 35" / 914 × 686 × 889 mm	48" × 40" × 45" / 1219 × 1016 × 1143 mm	99 / 45	175 / 79
PCR-48	48" / 1219 mm	24" / 610 mm	26.75" / 679 mm	48" × 27" × 35" / 1219 × 686 × 889 mm	60" × 40" × 45" / 1524 × 1016 × 1143 mm	138 / 63	225 / 102

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## PRODUCT SPECIFICATIONS

Filtration	PCR-24	PCR-36	PCR-48
Airflow <sup>1</sup>	<… Vertical downflow; 0.3 m/s - 0.45 m/s (60 - 90 fpm). …>		
Pre-Filter	<… Disposable polyester fibers with 85% arrestance. …>		
Main Filter	<… HEPA efficiency, 99.99% at 0.3µm. …>		
Clamping	<… Screw compression clamp. …>		
Construction	PCR-24	PCR-36	PCR-48
Finish (exterior)	<… White epoxy-coated steel frame with white legs on cabinet sides. …>		
Windows	<… Polycarbonate, transparent, UV absorbing. …>		
Blower	<… ebm-papst EC. …>		
Controls	<… Main On/Off switch for fan and lighting. Solid-state fan speed control with RFI filter maintains blower uniformity. UV timer, safety interlock shut-off. …>		
Electrical	<… 120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering. Other voltage options available. …>		
Work Surface	<… Standard, black polypropylene. Optional, white polypropylene or stainless steel. Specify when ordering. …>		
Pass Through Ports	<… Two standard, knockout. …>		
Shelving	<… Decontamination shelf on rear wall. …>		
Front Sash	<… Standard, hinged double with safety interlock. …>		
Efficiency	PCR-24	PCR-36	PCR-48
Power Consumption <sup>1</sup>	49 watt	61 watt	70 watt
Lighting	<… LED lighting …>		
UV Lamp	<… 1 × 253.7 nanometer 15 watt. …>		
Noise, dBA <sup>2</sup>	< 64	< 65	< 63

<sup>1</sup> All measurements are with Filter Type ASTS-030.

<sup>2</sup> Measured 12" (30 cm) from the cabinet front and 15" (38 cm) above the work surface plane.

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**OPTIONS AND ACCESSORIES**

<b>Purair Model</b>		<b>PCR-24</b>	<b>PCR-36</b>	<b>PCR-48</b>
ULPA Filter	ULPA filter efficiency 99.999% at particle sizes between 0.1 to 0.3µm.	ASTS-030U	ASVLP536-030U	2 x ASTS-030U
Monitair Controller*	Microprocessor controller monitors cabinet operating procedures, airflow, UV, and filter condition; emits audio and visual alerts if conditions become unsafe. Not TUV compliant.	MON-P	MON-P	MON-P
Spill Tray (Polypropylene)	Removable for easy cleaning.	TRAY-P5-24	TRAY-P5-36	TRAY-P5-48
Spill Tray (Stainless Steel)	Removable for easy cleaning.	SS-TRAY-P5-24	SS-TRAY-P5-36	SS-TRAY-P5-48
Base Stand, Mobile, with Casters	Provides a lower storage shelf; accommodates wheelchair access. Locking casters fix the hood in place.	CART-24	CART-36	CART-48
Base Cabinet, Fixed (Metal)	Provides storage space below.	CART-MCC-24	CART-MCC-36	CART-MCC-48
Base Cabinet, Fixed (Polypropylene)	Provides storage space below.	CART-SSC-24	CART-SSC-36	CART-SSC-48
Fire Safety Cabinet Base	Flame resistant safe storage for combustible and flammable liquids.	CART-FSC-24	CART-FSC-36	CART-FSC-48
Polypropylene Construction*	Cabinets are available in all polypropylene construction.	PCR-24-PP	PCR-36-PP	PCR-48-PP

\* Factory installed; specify when ordering.

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.

**STANDARDS & COMPLIANCE**

Quality Management Systems	ISO 9001
Chemical Fume Containment	ANSI/ASHRAE 110 1995
Carbon Filter Efficiency	BS 7989-2001 AFNOR NFX 15-211
Biological Safety Filter Efficiency HEPA and ULPA	IEST-RP-CC0034.2 IEST-RP-CC007.1 IEST-RP-CC001-4 EN 1822
Electrical Safety	UL-C-61010-1 CAN/CSA C22.2 61010-1-12 EN 61010-1:2010 CE Mark ROHS Exempt under EEE Category 9
Product Design	ANSI Z 9.5-2003 ANSI Z 9.7-1998
OSHA, Occupational Safety and Health Administration	OSHA Standard -29 CRF, Safety and Health Regulations for General Industry, 1910.1450: Occupational exposure to hazardous chemicals in laboratories. Part B, definition, laboratory type hood. All Air Science products meet this definition.
Environment	ISO 14001 ENERGY STAR® Partner

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**PCR**

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PCR LAMINAR FLOW CABINETS

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Unit 1 Levens Hall Park, Lund Lane, Killinghall. Harrogate. HG3 2BG. UK  
T: + 44 (0)1423 790039 E: sales@benchvent.com W:www.benchvent.com

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