

Purair[®] NANO

Ductless Nanoparticle Containment Enclosures

24 • 36 • 48

"The World's Most Extensive Selection of Ductless Containment Solutions."



— Purair
P5-24-XT (NANO)

Provides Effective Containment for
Personnel and Environmental Protection

Meets or Exceeds OSHA, ANSI and
other International Standards

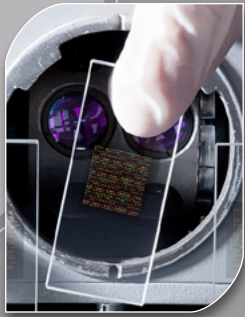
JUMP TO:

Product Features (p.3)

Features
and Callouts (p.4)Control Options and
Multiplex™ Filtration
Technology (p.5)

Airflow (p.6)

Specifications (p.7)

Options and Accessories
and Warranty (p.8)**APPLICATIONS**

- Research
- Academic
- Pharmaceutical

Purair^{NANO}**Ductless Nanoparticle Containment Enclosures**

- Protects the operator from nanomaterial particles (less than 100nm in size) encountered during processing of carbon nanotubes, lithium batteries, and rare earth metals. SafeSwitch™ Filter Shutter System (optional) for safer bag-in/bag-out filter exchange.
- Innovative filter clamping eliminates bypass leakage.
- Exhaust canopy allows for thimble ducting to the facility exhaust system.
- Airflow monitor with low airflow alarm built-in.
- Purair P5-36-XT (NANO). Shown with powder scale. Scale not included.

INTRODUCTION

Nanotechnology continues to advance in a variety of industries, including aerospace, research, pharmaceutical, and academia, yet few effective containment solutions for particles that range in size from 1nm to 100nm exist. The Purair® NANO enclosure is designed to contain nanomaterial particles that are 100nm or less in diameter (ultra fines). With a stainless steel infrastructure, powder coated FFU, and dual filtration options to ensure superior containment, the Purair NANO provides a safe work environment at an affordable price. At the heart of the Purair product line is innovative ductless technology.



This Product Exceeds OSHA, ANSI and Other International Standards.



PRODUCT FEATURES:

- A. Filter I.D. Window:** A strategically placed front cover window shows the installed filter part number and installation date to encourage timely filter replacement.
- B. Glass Side Panels:** (Optional) Purair[®] NANO hoods are available with glass side panels which allows greater visibility and ambient lighting into the work area.
- C. Rear Internal Baffle:** Rear baffle provides smooth horizontal airflow pattern. Removable for easy cleaning.
- D. External Exhaust Connection:** Standard 6 in. diameter exhaust connection port to allow for outside ducting.
- E. Built-in Lighting:** Hoods include standard 60W lights to fully illuminate the work surface.
- F. Air Velometer:** (Optional) An analog air velocity meter in the field of vision of the user.
- G. Hinged Front Sash:** When closed, the cabinet sash protects the contents from inadvertent external contact, and better isolates the air within. The sash is easy to open and close and features a self-locking feature.
- H. Control Panel:** Electronic controls and displays include switches for the blower and low airflow alarm. Ergonomics, safety and aesthetics all come together with the 10° pitch of the face.
- I. Stainless Steel Support Frame:** The 304 grade stainless steel provides excellent strength and chemical resistance and is cleanroom compatible. The satin finish enhances illumination.
- J. Electrostatic Pre-Filter:** The 99.5% effective electrostatic pre-filter is accessible from inside the chamber to contain the release of any particulates that it traps. The pre-filter can be changed while the unit is operating to prevent operator exposure to chemical vapors.
- K. Pass-Through Ports:** Electrical cords and cables are safely routed into the cabinet through 1 5/8" diameter ports on the back and side walls.
- L. Airflow Alarm:** A continuous air velocity monitoring system alerts the operator upon unacceptable values.
- M. Built-in Blower:** All models include an internal blower. The powder coated metal fan filter unit withstands tough environmental conditions. The addition of an optional remote blower and additional ductwork allows the cabinet to be connected to an existing facility exhaust system.
- N. Internal Manual Speed Controller:** Authorized personnel may set the centrifugal fan motor speed as desired.
- O. Stand:** Optional mobile cart with locking casters.
- P. Work Surface:** The epoxy resin worktop has excellent chemical resistance and spill retention. An optional stainless steel worktop is available; see Accessories.
- Q. Filter Door Key:** Filter access keys prevent unauthorized removal or accidental exposure to dirty filters.
- R. Construction:** (Optional) All polypropylene construction is available if desired; see Accessories.

Purair P5-24-XT (NANO),
shown with optional mobile cart.

THE AIR SCIENCE PERFORMANCE ADVANTAGE

Each Air Science NANO hood includes features expressed through sound design and certified quality construction. Options and accessories add functional performance to meet specific applications:

Professional Quality.

Air Science hoods comply with current technical and safety regulations.

Optional ULPA Filtration.

An ULPA filter can be added to better contain nanomaterial contaminants. The optional SafeSwitch™ bag-in/bag-out filter replacement system minimizes exposure during change-out to increase operator safety.

Industrial Components.

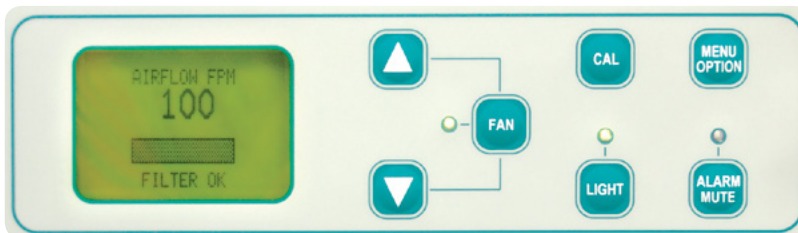
The cabinet frame and work surfaces are durable and chemically resistant.

Reliability.

Internal systems are isolated from fumes, extending product life.



Basic control panel. Standard on Purair® NANO Models. Includes On/Off switch and low airflow alarm.



*The optional **Monitair** microprocessor controller monitors and displays cabinet operating parameters, airflow, containment, and filter condition; emits audio and visual alerts if conditions become unsafe, all on a LCD display.*

multiple^X

AIR SCIENCE FILTRATION TECHNOLOGY

Multiplex Filtration consists of a pre-filter and main filter to create a complex architecture customized to each application. The mechanical design enhances safety, convenience and overall value.

- The electrostatic pre-filter is accessible from within 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 optional SafeSwitch™ Filter Shutter System ensures safer filter replacement by isolating contaminants from the operator during filter changes.
- The filter chamber prevents contaminated air from contacting internal cabinet mechanisms.

- The main filter number and installation date are displayed in a front-access window.
- The Multiplex option permits one or more filtration options to be combined to meet a wider range of multiple-use applications.

Multiplexing permits configuration for the capture of acids, bases and NANO particulates when paired with HEPA and ULPA filters.

- The Air Science carbon filter is a self-contained assembly sized to fit the specific product model number, and configured to optimize airflow across 100% of the filter surface area for maximum efficiency, prolonged filter life, optimal diffusion and saturation capacity, and user safety.

Air Science is the single source supplier for all pre-filters and carbon filters used in its products, plus those of many other manufacturers.

safe SWITCH™

BAG-IN/BAG-OUT FILTER REPLACEMENT

The optional Air Science SafeSwitch bag-in/bagout filter replacement system minimizes exposure to filter contaminants when removing used carbon or HEPA filters for insertion of new filters.

When replacement is required a draw cord manually activates an internal louver set to close the filter face for easy bag-out recovery. See Options.

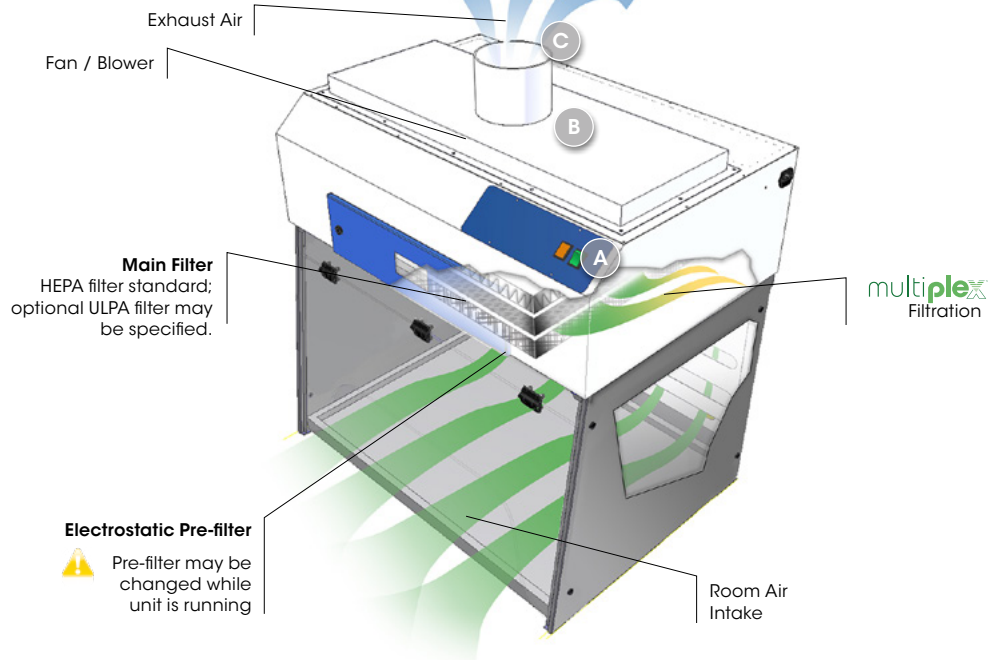
PURAIR NANO FEATURES & BENEFITS

Purair® NANO hoods are available in 3 standard sizes.

- High capacity air handling system delivers face velocity of 100 FPM.
- A low airflow alarm warns of insufficient face velocity.
- The Air Science filter assembly is easy to access, easy to change, and safe.
- A unique filter clamping design eliminates bypass leakage outside the cabinet.



PURAIR® AIRFLOW PATTERN



Purair P5-36-XT (NANO), shown with Multiplex Filtration System.

The Purair NANO Series ductless nanoparticle enclosure maintains a constant face velocity of 100 FPM in compliance with USA and international standards for safety and performance. Contaminated air is pulled through the Multiplex filtration system and clean air is returned to the room.

- A. The main filter is easy to replace, no tools required. The filter clamps tightly against the filter gasket to prevent filter bypass and maintain filter integrity. The optional SafeSwitch™ HEPA Filter Shutter system also ensures that operators are safely separated from trapped contaminants during filter changes.
- B. Exhaust is thoroughly scrubbed of nanomaterials produced from actions within the hood.
- C. Choose from HEPA (ULPA optional) or activated carbon. If HEPA/ULPA is chosen the cabinet can be used without connection to an outside exhaust.



Air Science fume hoods use energy-efficient ebmpapst™ brand centrifugal blowers for long life, and dependable performance.

MULTIPLIX FILTRATION SYSTEM, SUMMARY

	Filter Type	Filter Function
Standard Filters		
Pre-Filter	Electrostatic	Protects the main filter from aerosols, mists, dust and particulates. Pre-filter efficiency is typically 95.5% or greater down to 0.5 microns.
Main Filter	HEPA (ULPA optional)	A self-contained HEPA filter physically captures larger than 0.3 micron particulates. An ULPA filter may be specified to capture particulates larger than 0.12 microns. Specify when ordering.
Safety Filters (Optional, select only one)		
Safety Filter (HEPA/ULPA)	HEPA (ULPA optional)	The safety filter can be a self-contained HEPA filter which physically captures larger than 0.3 micron particulates. An ULPA filter may be specified to capture particulates larger than 0.12 microns. Specify when ordering. When chosen, the HEPA/ULPA safety filter permits the cabinet exhaust to be vented to the room without external ducting.
Safety Filter (Carbon)	Activated Carbon	FILTCO™ sourced, the single carbon filter contains activated carbon granules chemically formulated to capture one or more specific vapors or family of vapors.

This Product Exceeds OSHA, ANSI and Other International Standards.

