General Application Ductless Fume Hoods


Provides Feature-Rich Operator Safety for General Applications
Meets or Exceeds OSHA, ANSI and other International Standards

Air Science®
INTRODUCTION

The Purair® Basic ductless fume hoods are a series of high efficiency products designed to protect the user and the environment from hazardous vapors generated on the work surface. At the heart of the Purair fume hood product line is the innovative Air Science Multiplex™ Filtration Technology that creates a safe work environment over the widest range of applications in the industry.

DUCTLESS TECHNOLOGY: The Eco-friendly Choice

Advanced carbon filtration technology offers a safe, high performance alternative to conventional ducted fume hoods for a broad range of applications.

• Environmental Benefits. Air Science ductless fume hoods isolate and trap chemical vapors to prevent ecological impact through release into the environment.

• Versatile. Each filtration system is selected for its specific application. The Multiplex Filter broadens the range of applications. Carbon filters are available in more than 14 configurations for use with vapors or organic solvents, acids, mercury and formaldehyde. HEPA/ULPA filters can add to biological safety.

• Easy to Install. The ductless fume hood is self-contained and does not require venting to the outside. Many units are portable and may be moved from one location to the next with minimal down-time and without filter changes. Set-up, operation and filter maintenance are straightforward.

• Energy Efficient. Because filtered air is returned to the room, no demands are required of the facility HVAC capacity for make-up air.

• Cost Effective. Facility ductwork, HVAC and construction costs are eliminated.

• Safe to Use. Cabinet airflow and face velocity protect users from incidental exposures to fumes.

• Self testing. (selected models) Electronic airflow monitoring assures continuous safety. An electronic gas sensor monitors carbon filter performance.
PRODUCT FEATURES:

A. Filter I.D. Window: A strategically placed front cover window shows the installed filter part number and installation date for convenience and to encourage timely filter replacement.

B. Air Velometer: (Optional) An analog air velocity meter in the field of vision of the user.

C. 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.

D. Control Panel: Electronic controls and displays include switches for the blower and low airflow alarm.

E. Steel Support Frame: The chemical resistant epoxy coated steel frame adds mechanical strength. Optional all polypropylene construction is available if desired; see accessories. The pre-filter can be changed while the unit is operating to prevent operator exposure to chemical vapors.

F. 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.

G. Pass Through Ports: Electrical cords and cables are safely routed into the cabinet through ports on the back and side walls.

H. Color: The cabinet is white with blue trim; side and back panels are clear.

I. Airflow Alarm: A continuous air velocity monitoring system alerts the operator upon unacceptable values.

J. Manual Speed Controller: The operator may set the centrifugal fan motor speed as desired.

K. Stand: Optional mobile cart with locking casters.

L. Work Surface: The internal work surface can be fitted with an optional polypropylene tray; see Accessories.

M. Filter Door Key: Filter access keys prevent unauthorized removal or accidental exposure to dirty filters.

OTHER FEATURES:

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

Standards Compliant: Performance specifications and construction meet or exceed OSHA, ANSI and relevant international standards to assure operator safety.

Construction: All models are available in either metal or polypropylene construction. See selection chart for specifications and dimensions. Specify metal or polypropylene when ordering. Available in 110V, 60Hz or 220V, 50Hz models.

Purair P5-24, shown with optional mobile cart.
Multiplex™ Filtration consists of a pre-filter and main filter to create a combination of chemical and physical 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 patented 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.
- The main filter number and installation date are displayed in a front-access window.

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

**THE AIR SCIENCE PERFORMANCE ADVANTAGE**

Each Air Science fume 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 fume hoods comply with current technical and safety regulations.
- **Multiplex Filtration.** The Air Science Multiplex™ Filter offers a range of options for high performance.
- **Industrial Components.** The cabinet frame and work surfaces are durable and chemically resistant.
- **Reliability.** Internal systems are isolated from fumes, extending product life.

**MULTIPLEX FILTRATION SYSTEM, SUMMARY**

<table>
<thead>
<tr>
<th>Pre-Filter</th>
<th>Main Filter</th>
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<tr>
<td>Electrostatic</td>
<td>Protects the main filters from aerosols, mists, dust and particulates with filter efficiency superior to 95.5% down to 0.5 microns.</td>
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<tr>
<td>Standard</td>
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<tr>
<td>Activated Carbon</td>
<td>FILTCO® Sourced. A single carbon filter containing activated carbon granules chemically formulated to capture one or more specific vapors or family of vapors.</td>
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<td>Single: One type of activated carbon.</td>
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<td>Stacked: Two or more single filters each with a different type of carbon.</td>
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<tr>
<td>HEPA/ULPA</td>
<td>A self-contained filter designed to physically capture particles larger than 0.3 microns (HEPA) or 0.12 microns (ULPA). When used with a HEPA/ULPA filter the ductless fume hood may be applied as a Class I Biological Safety Cabinet.</td>
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<td>Specify</td>
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The Purair Basic Series ductless fume hood maintains a constant face velocity of 100FPM in compliance with USA and international standards for safety and performance. Contaminated air is pulled through the Multiplex filtration system where activated carbon adsorbs chemical vapors and/or particulates if HEPA/ULPA filters are used. 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.
### Purair Basic Features & Benefits

Purair Basic products are available in 3 standard sizes, each with 4 configuration options and metal or polypropylene construction, totaling 24 standard models.

- 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.
- A unique filter clamping design eliminates bypass leakage outside the cabinet.
- Accessories include an optional filter saturation alarm.

### Purair Specifications

**Airflow CFM**: 135.9

**Face Velocity FPM**: 100

**Noise, dBA, 1 meter**: < 50

**Lighting**

- Compact fluorescent lamp. ...>

**Construction**

- White epoxy coated steel frame and head unit. Clear sides and back panel. ...>

**Blower**

- ebmpapst™ centrifugal fan. ...>

**Electrical**

- 120V, 60Hz or 220V, 50Hz voltages available. Specify when ordering. Other voltage options available. ...>

**Electrical Switches**

- Main On/Off ...>

**Monitoring**

- Low airflow alarm, standard. ...>

### Filter Specifications

<table>
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<tr>
<th>Pre-Filter</th>
<th>Main*</th>
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<tbody>
<tr>
<td>Electrostatic, 1 lbs / .45 kg (nominal)</td>
<td>(1) 11 lbs / 5 kg</td>
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</table>

* Single stack; double stack doubles weight of all (i.e. 22, 22, 44).
The UV operation must include a timer, door microswitch, and fully closing front sash, all of which need to be followed. The UV kit includes a UV-P20 or UV-P5 lamp that mounts into the tray.*

Cabinets are available in fixed or mobile configurations. Contact Air Science for information.

** Includes timer, door microswitch, and fully closing front sash, all of which need to be followed. **

* Factory installed; specify when ordering.

## Options & Accessories

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<tbody>
<tr>
<td>Filter Saturation Alarm*</td>
<td>An electronic gas sensor emits audio and visual alerts when the main filter needs to be changed.</td>
<td>FSA</td>
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<td>Spill Tray</td>
<td>Polypropylene spillage tray, available in white or black, slides out for easy cleaning.</td>
<td>TRAY-PS-P5</td>
<td>TRAY-PS-P5-S</td>
<td>TRAY-PS-P5-36</td>
<td>TRAY-PS-P5-36-S</td>
<td>TRAY-PS-P5-48</td>
<td>TRAY-PS-P5-48-S</td>
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<tr>
<td>Dwyer Air Flow Meter</td>
<td>Continuous display of face velocity.</td>
<td>DWYER</td>
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<td>Base Stand, Mobile, with Casters</td>
<td>Provides a lower storage shelf; accommodates wheelchair access. Locking casters fix the hood in place.</td>
<td>P5-CART</td>
<td>P15-CART</td>
<td>P20-CART</td>
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<td>Base Cabinet, Fixed</td>
<td>Provides storage space below and a cup sink, swan neck faucet, and service fixtures.</td>
<td>P5-ENCb</td>
<td>P15-ENCb</td>
<td>P20-ENCb</td>
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<td>ADA Compliance*</td>
<td>Provides wheelchair access and lowered remote controls.</td>
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<td>Duplex Electrical Outlet *</td>
<td>Two NEMA-1420R receptacles with ground fault interrupter. 110V service standard; international fixtures available.</td>
<td>AS-GFI</td>
<td>AS-GFI</td>
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<tr>
<td>Service Valve*</td>
<td>Cabinets can be fitted with service fixtures such as petcocks, faucets, or valves.</td>
<td>SF-X</td>
<td>Specify service fitting type when ordering.</td>
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<tr>
<td>Stainless Steel Hanging Rod*</td>
<td>Hanging rod spans the width of the cabinet.</td>
<td>HANGR-PS-24</td>
<td>HANGR-PS-36</td>
<td>HANGR-PS-48</td>
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<tr>
<td>Cup Sink, Mounts into Tray*</td>
<td>Cup sink is fitted into the base tray.</td>
<td>SINK</td>
<td>SINK</td>
<td>SINK</td>
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<td>UV lamp**</td>
<td>A UV lamp is available for overnight decontamination of interior surfaces. The UV kit includes a timer, door microswitch fully closing front sash, and UV filtering clear polycarbonate panels. The UV operation must comply with local codes and facility safety practices.</td>
<td>UV-P5</td>
<td>UV-P15</td>
<td>UV-P20</td>
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## Standards & Compliance

<table>
<thead>
<tr>
<th>Filter</th>
<th>Description</th>
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<tbody>
<tr>
<td>GP Plus!</td>
<td>The most widely used filter in the range, primarily for solvent, organic, and alcohol removal.</td>
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<tr>
<td>ACI Plus!</td>
<td>Neutralizes volatile inorganic acid vapors.</td>
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<tr>
<td>ACR</td>
<td>Iodine and methyl iodide vapors. It is frequently used for iodination reactions with low level radioactive iodine.</td>
</tr>
<tr>
<td>ACM</td>
<td>Mercury vapor.</td>
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<tr>
<td>AMM</td>
<td>Removes vapors from dilute ammonia solutions and to remove low molecular weight amines.</td>
</tr>
<tr>
<td>SUL</td>
<td>Designed to remove hydrogen sulphide and low molecular weight mercaptans.</td>
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<tr>
<td>CYN</td>
<td>Removal of hydrogen cyanide. Many cyanide compounds will evolve HCN gas if acidified, so this filter is normally specified if working with any cyanide compound.</td>
</tr>
<tr>
<td>FOR</td>
<td>Designed to oxidize formaldehyde and glutaraldehyde fumes. It is widely used in hospital pathology laboratories.</td>
</tr>
<tr>
<td>ETH</td>
<td>Diethyl ether is adsorbed on activated carbon, but because of its low boiling point, local heat adsorption can reduce the capacity of the filter. Special impregnation allows a chemical reaction which increases the filter capacity.</td>
</tr>
<tr>
<td>HEPA/UPLA</td>
<td>Powders and particulates.</td>
</tr>
</tbody>
</table>

## Standards & Compliance

- **Quality Management Systems**: ISO 9001
- **Chemical Fume Containment**: ANSI/ASHRAE 110 1995
- **Carbon Filter Efficiency**: BS 7899-2001 SEFA Standard 9 ANFOR NF15-211
- **Biological Safety Filter Efficiency**: IEST-RP-CC-0034.2
- **HEPA and ULPA**: IEST-RP-CC007.1 IEST-RP-CC001-4 EN 1822
- **Electrical Safety**: UL-C-61616A CE Mark ROHS Exempt under EEE Category 9
- **OSHA, Occupational Safety and Health Administration**: OSHA Standard -29 CFR, Safety and Health Regulations for General Industry, 1910.1490: 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