Air Science®

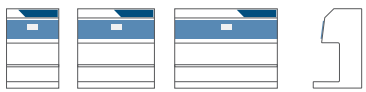
PurairDWS®

Ductless Downflow Workstations

- Provides feature-rich operator safety & facilitates operative-intensive applications with unrestricted access

Model DWS36 offers a redesigned interior, featuring increased interior height, energy efficient Belong fan, LED lighting and a standard rear storage shelf, while delivering negative airflow to the work surface to capture and direct vapors to a carbon filter.

Operator Particulate Vapor



ENERGY STAR PARTNER

CERTIFIED
ISO 9001:2015
ISO 14001:2015

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INTRODUCTION

Air Science® Purair® DWS Downflow Workstations are high efficiency ductless fume hoods designed to protect the user and the environment from hazardous vapors generated on the work surface. Unrestricted front and side access facilitates applications requiring complex and intensive operator involvement, while downward airflow in the chamber protects the operator.

APPLICATIONS

Using innovative filtration technology, the Purair DWS Downflow Workstations create a safe work environment over the widest range of applications in the industry.

Chemical \ Dental \ Forensic \ Histology \ Industrial \ Microscopy \ Pharmaceutical \ Powder Fingerprinting \ Veterinary

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

- Downward airflow protects operator from fume and particle hazards.
- Unrestricted front and side access to work area.
- Redesigned DWS offers increased internal height.
- Easy to change high capacity filters.
- Improved filter clamping eliminates bypass leakage.
- Filter blockage alarm.

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. Carbon filters are available in more than 14 configurations for use with vapors of organic solvents, acids, mercury and formaldehyde. HEPA/ULPA filters can be added for biological safety.

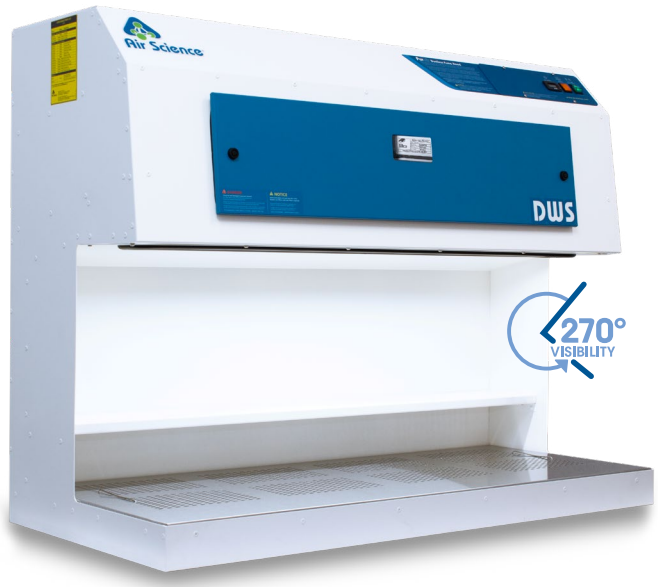
Easy to Install. The ductless fume hood is self-contained and does not require venting to the outside. Many units are portable and may be moved with minimal downtime and without filter changes. Set-up, operation and filter maintenance are straightforward.

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. (select models) Electronic airflow monitoring assures continuous safety. An electronic gas sensor monitors carbon filter performance.



Model DWS48 offers a wide, high-visibility work area with easy access to the perforated negative pressure work surface.

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Model DWS36, shown with optional mobile cart.

DESIGN FEATURES

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

B. Control Panel: Electronic controls and displays include switches for the blower, filter blockage alarm.

C. Filter Blockage Alarm: Continuously monitors filter loading and alerts user when service is needed.

D. Steel Support Frame: The chemical resistant epoxy coated steel frame adds mechanical strength. Optional all polypropylene construction is available if desired; see accessories.

E. Work Surface: Under the perforated stainless steel internal work surface is a polypropylene tray to retain any spillage.

F. Rear Shelf: Epoxy-coated steel rear perforated shelf provides additional storage space for operator tools and analysis materials.

G. Electrostatic Pre-Filter: The electrostatic pre-filter is accessible from inside the chamber and 91% effective down to 1-3 microns.

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

I. Internal Manual Speed Controller: Authorized personnel set the centrifugal fan motor speed as desired.

J. Internal LED Lighting: A vapor proof LED lamp illuminates the interior of the workstation.

ADDITIONAL FEATURES

270 Degree Visibility: Unrestricted user access to the front and sides of the workstation also admits ambient illumination and provides an unobstructed view of its contents.

Construction: All models are available in either metal or polypropylene construction. Specify metal or polypropylene when ordering. See selection chart for specifications and dimensions. Available in 120V, 60Hz and 230V, 50Hz models.

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

PERFORMANCE

The Air Science Multiplex™ Filtration System 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.
- EFT™ filtration technology broadens the Air Science application for ductless fume hoods.

DESIGN

Professional quality Air Science downflow workstations comply with current technical and safety regulations.

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

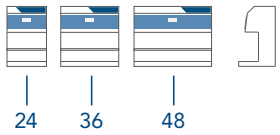
The Air Science filter assembly is easy to access, easy to change, plus a unique filter clamping design eliminates bypass leakage outside the cabinet.

Wider units, comprising two or more workstations can be positioned side-by-side with junction connections option.

RELIABILITY

Internal systems are isolated from fumes, extending product life.

Energy-efficient ebm-papst brand centrifugal blowers promote long life and dependable performance of Purair DWS downflow workstations.



SELECTION

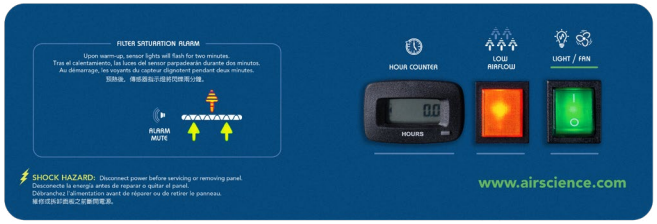
Purair DWS products are available in 3 standard sizes, in metal or polypropylene construction, totaling 6 standard models.

CONTROL

The **advanced control panel** is standard and includes an On/Off switch, Hour Counter and Filter Blockage alarm.

The **optional FSA controller** offers limited detection of low concentrations of hydrocarbon, some gases and organic acids. Audio and visual alarms alert users if filter saturation reaches preset thresholds. An Hour Counter and Low Airflow alarm are also included.

Advanced Control Panel



FSA Control Panel

Model DWS36, shown in black, optional.

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multiplex™ LEARN MORE

FILTRATION

At the heart of the Purair DWS product line is innovative filtration technology. **The Multiplex Filtration System** consists of a pre-filter, main activated carbon or HEPA/ULPA filter and safety activated carbon or HEPA/ULPA filter. The system permits a customized combination of filter media and configuration for chemical and physical adsorption specific to each application need.

The Air Science **carbon filtration technique** is based on enhanced, activated carbon particle formulations from specially selected, naturally occurring raw material that is superior to wood or other organic sources. The carbon is treated to attain the proper porosity and aggregate surface area and to react with several ranges of aerosolized chemicals moved through the filter by an air handling blower.

View available filters and descriptions on page 8.

FILTER CONFIGURATION

The Multiplex feature permits one or more filtration options to be combined to meet a wider range of multiple-use applications.

The Purair DWS can be equipped with a single activated carbon main filter or with a stacked configuration which combines two main filters, each activated to adsorb one or more specific vapors or family of vapors. For safety against particulates, an optional HEPA or ULPA can also be added.

The carbon filter is sized to fit the specified product model number and configured to optimize airflow across 100% of the filter surface area. The self-contained assembly maximizes filter efficiency, prolongs filter life, optimizes diffusion and saturation and improves user safety.

P. Electrostatic Pre-Filter: Protects the main filters from aerosols, mists, dust and particulates.

C. Activated Carbon Main Filter: A single, blended, or stacked filter configuration.

H. HEPA/ULPA Filter, Optional: Both HEPA and ULPA filters use micro-glass fiber media designed to capture fine particles and biologicals. Both filters can capture particles smaller than the micron size for which they are tested. HEPA and ULPA filter efficiencies are 99.97% at 0.3 microns and 99.999% at 0.12 microns respectively.

MULTIPLEX FILTRATION SYSTEM, SUMMARY

Application	Chemical	Powder/ Biological	Chemical & Powder	Chemical within Cleanroom
Primary Filter	C	H	H C	H C
Pre-FIlter	P	P	P	P

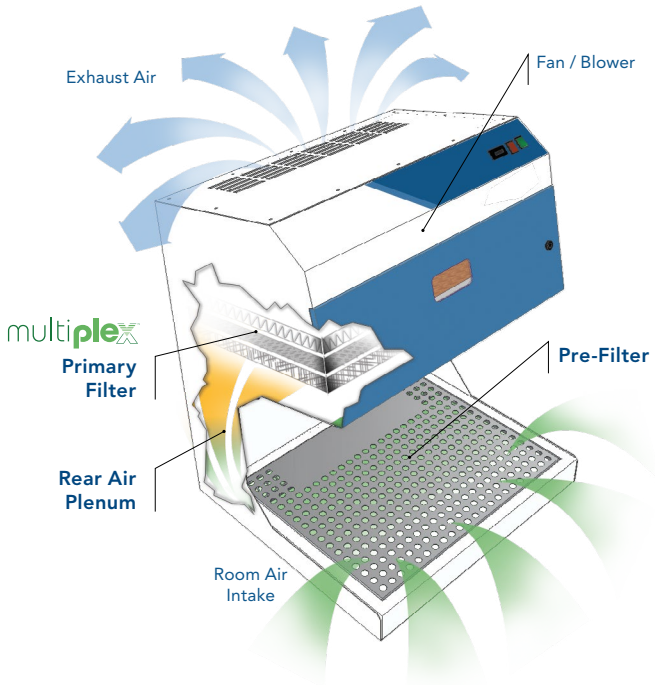
The system can be configured for the capture of acids, bases and particulates, such as biological aerosols, when paired with HEPA or ULPA filters.

AIRFLOW

Purair DWS Downflow Workstations maintain a constant face velocity of 80 fpm at the work surface 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.

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

⚠ **The pre-filter** may be changed from below the work surface while unit is running.



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ENHANCED FILTRATION

The Air Science Enhanced Filtration Technology (EFT) is a universal filtration system developed for use with a wide range of core chemical families. These include organic acids, alcohols, aliphatic hydrocarbons, aromatic hydrocarbons, esters, aldehydes, ketones, ethers, halogens and others. Although the EFT system is weighted to accommodate these families, it can handle inorganic acids as well.

The Air Science EFT system is available as an option on Air Science Purair DWS downflow workstations, standard on Purair Eco Series fume hoods and can be retrofitted on many Air Science ductless fume hoods already in service worldwide.

Independent Test Results Independent testing confirms that the Air Science EFT system is superior in critical areas to other "green" fume hood systems recently introduced to the industry. AFNOR NFX 15-211 requires that three chemicals (isoproponal, cyclohexane and hydrochloric acid) be tested under very precise conditions to ascertain and establish retention capacity at 1% of the threshold limit value (TLV) for each chemical.

Retention capacity (grams) for a single module at 1% of the TLV (Threshold Limit Value)

Specification	**AFNOR NFX 15-211**	
Testing Laboratory	**IBR**	**Intertek**
Product Manufacturer	Air Science	Brand E
Filter Type		Green
Test Results	EFT	
Isopropanol (alcohol)	2052	673
Cyclohexane (aliphatic hydrocarbon)	1531	914
Hydrochloric acid (inorganic acid)*	1205	2729*

**Based on "core" chemical families typically used in ductless fume hood applications, the Air Science EFT filter offers significant advantages over filters marketed as "universal" filters. With moderate to heavy acid applications, all ductless fume hoods made of metal are subject to corrosion and rust. On inorganic acids, the EFT filter provides a lesser, but more realistic, usable capacity.*

secur.
safe disposal service

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

Air Science Purair DWS uses energy efficient blowers for long life, dependable performance.

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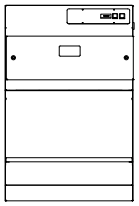
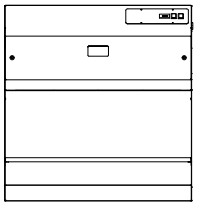
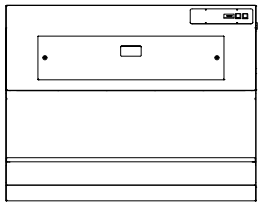
DWS24



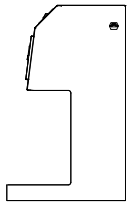
DWS36



DWS48



Side View



MODEL		DIMENSIONS			WEIGHT (LBS/KG)	
Metal	Polypropylene	Internal Height	External (W × D × H)	Shipping (W × D × H)	Net	Ship
Purair DWS Models						
DWS24	**DWS24-PP**	18.17" / 462 mm	24" × 22.81" × 37.55" / 610 × 580 × 954	40" × 40" × 48" / 1016 × 1016 × 1219 mm	120 / 55	160 / 73
DWS36	**DWS36-PP**	18.17" / 462 mm	36" × 22.81" × 37.55" / 914 × 580 × 954	48" × 40" × 48" / 1219 × 1016 × 1219 mm	131 / 60	227 / 103
DWS48	**DWS48-PP**	18.17" / 462 mm	48" × 22.81" × 37.55" / 1219 × 580 × 954	55" × 40" × 48" / 1397 × 1016 × 1219 mm	185 / 84	250 / 114

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PRODUCT SPECIFICATIONS

Filtration	DWS24	DWS36	DWS48
Face Velocity	80 fpm	80 fpm	80 fpm

Construction	DWS24	DWS36	DWS48
Finish	<··· White epoxy coated steel frame and head unit. Stainless steel spill tray. ···>		
Blower	<… Belong fan. …>		
Controls	<··· Main On/Off. ···>		
Electrical	<··· 120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering. Other voltage options available. ···>		
Monitoring	<··· Filter blockage alarm and hour counter, standard. ···>		

Efficiency	DWS24	DWS36	DWS48
Power Consumption[1]	49 watt	73 watt	146 watt
Lighting	<··· LED. ···>		
Noise, dBA[2]	< 60	< 59	< 64

[1] All measurements are with Filter Type ASTM-030.
[2] Measured 12" (30 cm) from the cabinet front and 15" (38 cm) above the work surface plane.

FILTER SPECIFICATIONS

DWS Model	DWS24	DWS36	DWS48
Primary Filter*	(1)	(1)	(1)
Pre-Filter*	(1)	(1)	(1)

** For specific examples refer to Multiplex filtration system summary on page 5.*

FILTER SUMMARY*

Formula	Description
GP Plus!	The most widely used filter in the range, primarily for solvent, organic and alcohol removal.
ACI Plus!/ SUL	Designed to neutralize volatile inorganic acid vapors.
ACR	Iodine and methyl iodide vapors; It is frequently used for iodination reactions with lower level radioactive iodine.
ACM	Mercury vapor.
AMM	Removes vapors from dilute ammonia solutions and to remove low molecular weight amines.
FOR	Designed to oxidize formaldehyde and glutaraldehyde fumes; It is widely used in hospital pathology laboratories.
HEPA/UPLA	Powders and particulates.

**Other formulas may be available.*

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.

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OPTIONS & ACCESSORIES

DWS Model		DWS24	DWS36	DWS48
FSA Controller*	The optional FSA controller offers limited detection of low concentrations of hydrocarbon, some gases and organic acids. Audio and visual alarms alert users if filter saturation reaches preset thresholds. An Hour Counter and Low Airflow alarm are also included.	FSA	FSA	FSA
Spill Tray (Polypropylene)	Located under work surface.	TRAY-DWS24	TRAY-DWS36	TRAY-DWS48
Base Stand, Mobile, With Casters	Mobile base stand, fixed height, with locking casters.	CART-25	CART-36	CART-50
Bottom Shelf	Provides a lower storage shelf for mobile base stand.	CART-25-SHELF	CART-36-SHELF	CART-50-SHELF
Base Cabinet, Fixed (Metal)	Provides storage space below.	CART-MCC-25	CART-MCC-36	CART-MCC-50
Base Cabinet, Fixed (Polypropylene)	Provides storage space below.	CART-SSC-25	CART-SSC-36	CART-SSC-50
Fire Safety Cabinet Base	Flame resistant safe storage for combustible and flammable liquids.	CART-FSC-25	CART-FSC-36	CART-FSC-50
Polypropylene Construction*	Ductless fume hoods are available in all polypropylene construction.	DWS24-PP	DWS36-PP	DWS48-PP
Stainless Steel Hanging Rod*	Hanging rod spans the width of the cabinet.	HANGR-DWS24	HANGR-DWS36	HANGR-DWS48
Side Windows Attachment*	Transparent acrylic side panels for the downflow workstation.	SIDE-DWS	SIDE-DWS	SIDE-DWS
Front Sash Attachment*,**	Tranparent acrylic front sash for the downflow workstation.	SASHDWS-24	SASHDWS-36	SASHDWS-48
Junction Connections*	Connects two or more workstations to form a continuous unit with only one control system.	JUNCT-DWS	JUNCT-DWS	JUNCT-DWS
Black*	Metal units powder coated black; polypropylene units made with black material.	BLACK	BLACK	BLACK

** Factory installed; specify when ordering.*
*** Must order the acrylic side windows option.*

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WARRANTY

This product is protected by the Air Science Legacy Limited Lifetime Warranty™.

For details visit the Warranty section of our website.

STANDARDS & COMPLIANCE

Quality Management Systems	ISO 9001: 2015
Electrical Safety	UL-C-61010-1 CAN/CSA C22.2 61010-1-12 EN 61010-1:2010 CE Mark
OSHA, Occupational Safety and Health Administration	OSHA Standard -29 CFR, Safety and Health Regulations for General Industry, 1910.1450: Occupational exposure to hazardous chemicals in laboratories. Part B, definition, laboratory type hood. This product may assist you with compliance or as part of your chemical hygiene plan. Please consult your Safety Officer and/or Industrial Hygienist.
Environment	ISO 14001: 2015 ENERGY STAR® Partner

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