

DWS™



24

36

48

Ductless Downflow Workstations

- Provides feature-rich operator safety & facilitates operative-intensive applications with unrestricted access
- Meets or Exceeds OSHA, ANSI and other International Standards



Model DWS36 offers a well lit platform with negative airflow on the work surface to capture and direct vapors to a carbon filter.

BenchVent
The Bench Ventilation Company



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PRODUCT OVERVIEW

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INTRODUCTION

Air Science® 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 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.
- Easy to change filter.
- Improved filter clamping eliminates bypass leakage.
- Low airflow alarm.
- High capacity filters.

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.

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

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DESIGN FEATURES

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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, low airflow alarm.
- C. Airflow Alarm:** Low airflow 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. Electrostatic Pre-Filter:** The electrostatic pre-filter is accessible from inside the chamber and 91% effective down to 1-3 microns.
- G. Filter Door Key:** Filter access keys prevent unauthorized removal or accidental exposure to dirty filters.
- H. Internal Manual Speed Controller:** Authorized personnel set the centrifugal fan motor speed as desired.
- I. Internal Fluorescent Lamp:** A vapor proof fluorescent 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.

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. Specify metal or polypropylene when ordering. See selection chart for specifications and dimensions. Available in 120V, 60Hz and 230V, 50Hz models.

Model DWS24, shown with optional mobile cart.

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

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PERFORMANCE & SELECTION

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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.

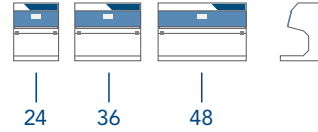
The Air Science filter assembly is easy to access, easy to change, plus a unique filter clamping design eliminates bypass leakage outside the cabinet.

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 DWS downflow workstations.



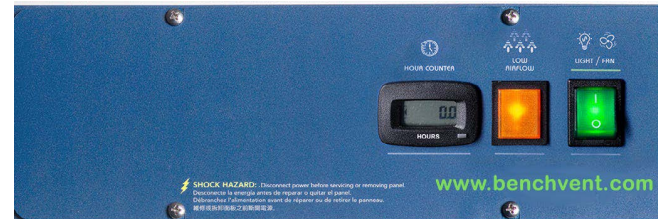
SELECTION

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

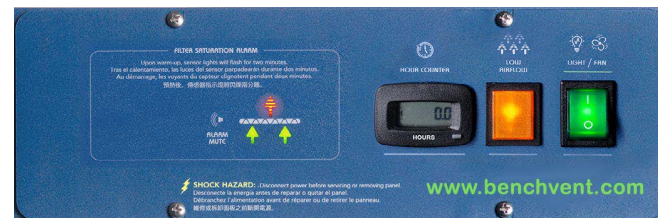
CONTROL

The standard **Advanced control panel** includes an On/Off switch, low airflow alarm and hour meter to aid in determining available filter life.

The optional **FSA controller** uses an electronic gas sensor to detect when the filter needs changed. Audio and visual alarms alert users to filter saturation.



Advanced Control Panel



FSA Control Panel



Model DWS36, shown in black with acrylic side option.

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FILTRATION

At the heart of the 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 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. When used with a HEPA/ULPA filter, the ductless fume hood may be applied as a Class I Biological Safety Cabinet.

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 99.995% at 0.3 microns and 99.9995% at 0.12 microns respectively.

MULTIPLYX 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

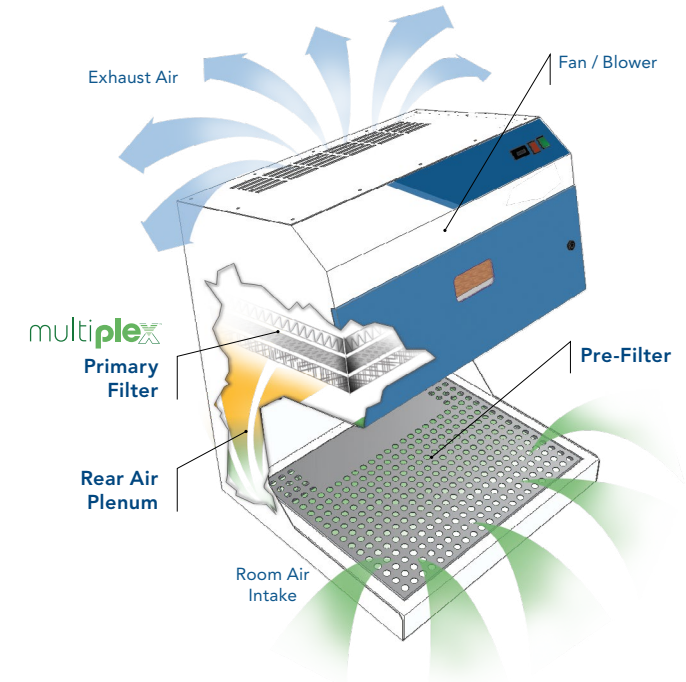
The system can be configured for the capture of acids, bases, and particulates, such as biological aerosols, when paired with HEPA or ULPA filters.

AIRFLOW

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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FILTRATION TECHNOLOGY

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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 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 (isopropanol, 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	
	IBR	Intertek
Testing Laboratory		
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.

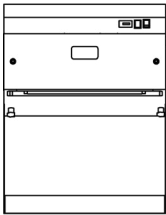


Air Science fume hoods use energy efficient ebm-papst brand centrifugal blowers for long life, dependable performance.

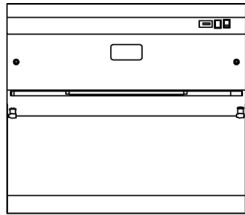
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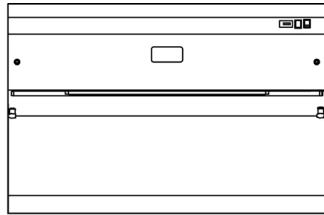
DWS24



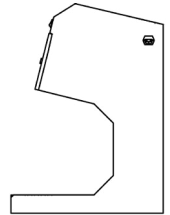
DWS36



DWS48



Side View



MODEL		DIMENSIONS			WEIGHT (LBS/KG)	
Metal	Polypropylene	Internal Height	External (W x D x H)	Shipping (W x D x H)	Net	Ship
DWS Models						
DWS24	DWS24-PP	15.75" / 400 mm	24" x 22.75" x 31.5" / 610 x 580 x 800 mm	40" x 40" x 40" / 1016 x 1016 x 1016 mm	120 / 55	160 / 73
DWS36	DWS36-PP	15.75" / 400 mm	36" x 22.75" x 31.5" / 915 x 580 x 800 mm	40" x 45" x 40" / 1016 x 1143 x 1016 mm	131 / 60	227 / 103
DWS48	DWS48-PP	15.75" / 400 mm	48" x 22.75" x 31.5" / 1220 x 580 x 800 mm	40" x 55" x 40" / 1016 x 1397 x 1016 mm	185 / 84	250 / 114

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SPECIFICATIONS

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PRODUCT SPECIFICATIONS

Filtration	DWS24	DWS36	DWS48
Airflow	145 cfm	290 cfm	435 cfm
Face Velocity	80 fpm	80 fpm	80 fpm
Construction	DWS24	DWS36	DWS48
Finish	<... White epoxy coated steel frame and head unit. Clear side panels. Stainless steel spill tray. ...>		
Blower	<... ebm-papst centrifugal fan. ...>		
Controls	<... Main On/Off. ...>		
Electrical	<... 120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering. Other voltage options available. ...>		
Monitoring	<... Low airflow alarm, standard. ...>		
Lighting	DWS24	DWS36	DWS48
Lighting	<... Compact fluorescent lighting. ...>		

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!	Neutralizes volatile inorganic acid vapors.
ACR	Iodine and methyl iodide vapors as well as low level radioactive iodine.
ACM	Mercury vapor.
AMM	Removes vapors from dilute ammonia solutions and to remove low molecular weight amines.
SUL	Designed to remove hydrogen sulphide and low molecular weight mercaptans.
CYN	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.
FOR	Designed to oxidize formaldehyde and glutaraldehyde fumes. It is widely used in hospital pathology laboratories.
EDU	Designed to handle chemicals normally used in a university level chemistry curriculum.
MIL	Designed for military applications involving war gasses.
HEPA/UPLA	Powders, particulates, and biologicals.

View additional information on the Multiplex Filtration System on [page 5](#).



Through our partner company [Filtco Filters](#), Air Science is a single source supplier of all pre-filters, carbon filters, and HEPA/UPLA filters used in our products and those of many other manufacturers.

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OPTIONS & ACCESSORIES

OPTIONS & ACCESSORIES

DWS Model		DWS24	DWS36	DWS48
FSA Control Panel*	Includes blower and light on/off switch, hour counter, and low airflow and filtration saturation alarms.	FSA	FSA	FSA
Spill Tray (Polypropylene)	Located under work surface.	TRAY-DWS24	TRAY-DWS36	TRAY-DWS48
Base Stand, Mobile, With Casters	The mobile cart provides a lower storage shelf; accommodates wheelchair access. Locking casters fix the hood in place.	CART-25	CART-36	CART-50
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*	Transparent acrylic front sash for the downflow workstation.	<... Must order the acrylic side windows option. ...>		
		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
Rear Shelf	Epoxy-coated steel 15" rear shelf provides additional storage space for operator tools and analysis materials.	DWS-S	DWS-S	DWS-S
Black*	Metal units powder coated black; polypropylene units made with black material.	BLACK	BLACK	BLACK

* Factory installed; specify when ordering.

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OPTIONS & ACCESSORIES

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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 & COMPLIANCE

Quality Management Systems	ISO 9001
Carbon Filter Efficiency	BS 7989-2001 AFNOR NFX 15-211
Biological Safety Filter Efficiency HEPA and ULPA	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 CFR, 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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