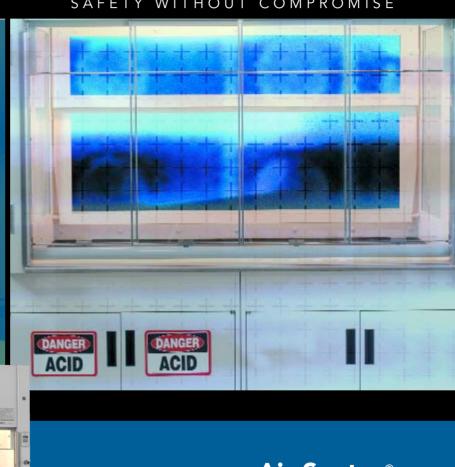


# SAFETY WITHOUT COMPROMISE



Air Sentry® High Performance Fume Hoods

Air

### **Table of Contents**

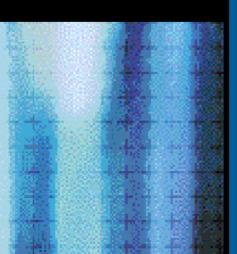
Air Sentry®: Reinventing the Fume Hood1 - 2
Engineering the Vortex
What Makes Air Sentry® Unique
Air Sentry® Bench Mounted Fume Hoods7 - 8
Air Sentry® Specialty Fume Hoods
Air Sentry® Floor Mounted and Distillation Fume Hoods11 - 12
Fume Hood Options
Performance Testing
Air Sentry® Front Views, Air Flow Data,

Model Number Configuration . . . . . . 17 - 20

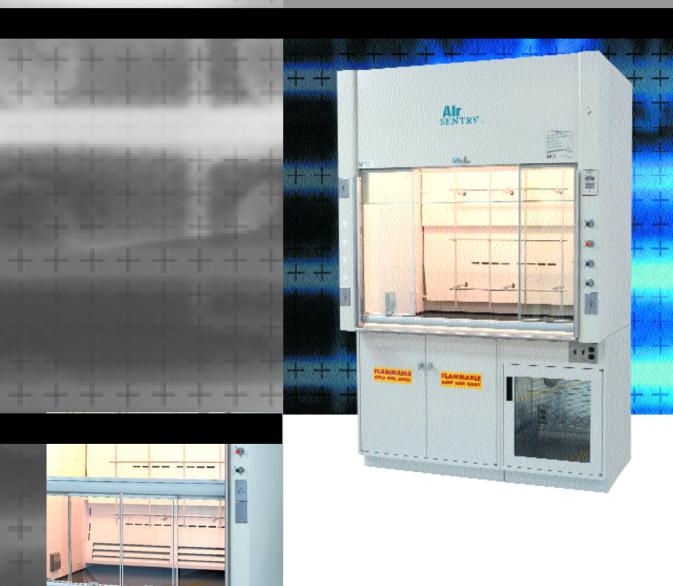
# Air Sentry®: Reinventing the Fume Hood -

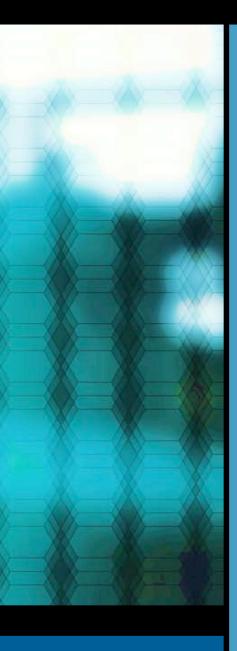
The need to protect personnel from potentially harmful vapors and airborne particulate matter is a fact of life for every modern laboratory. Laboratory Fume hoods are ventilated workstations designed to contain hazardous fumes and exhaust them away from the researcher. Traditional fume hood designs have relied upon high airflow volumes and face velocities to create a "vacuum" effect within the hood chamber to purge the hazardous vapors. Controlling the airflow throughout an entire laboratory facility based upon the requirements of these fume hoods is costly, complicated and inconvenient – and at Lab Crafters, we saw a better way.

The Lab Crafters Air Sentry® rethinks the concept of fume containment by applying principles of fluid dynamics and advanced design features to control the airflow pattern within the hood, along with an integral safety control system built onto the fume hood to provide the safest research environment under the widest range of laboratory conditions. The Air Sentry's efficient design and reduction in exhaust airflow volume typically reduces laboratory fume hood operating costs by half. Air Sentry is the most technologically advanced fume hood on the market and has been proven, time and again, to significantly outperform the competition in terms of both containment and quaranteed energy savings.





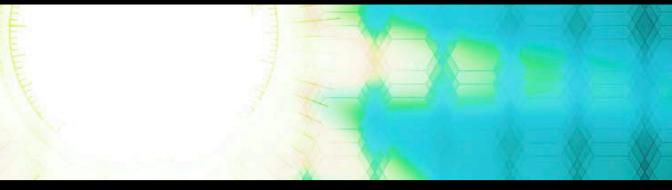




### **Engineering the Vortex -**

The key to effective fume containment is the reduction of airflow turbulence and the steady control of the airflow pattern within the fume hood. All fume hood designs feature a vortex (aka the roll effect) in the upper chamber of the fume hood. Through mathematical modeling and ASHRAE 110 testing, we studied these airflow patterns in the fume hood chamber itself. This rolling airflow pattern is a naturally occurring, predictable phenomenon and is very critical to fume containment. Traditional fume hoods lose containment because the vortex becomes turbulent and collapses. We determined that if, by design, we created a more stable vortex airflow pattern inside the fume hood chamber, the fume hood performance would be greatly enhanced. The result of this work was the Lab Crafters Air Sentry high performance fume hood. The Lab Crafters' design was so innovative and unique that it was awarded a US patent.

There are two main features to our patented hood: the mathematical formula used to determine the optimal aerodynamic dimensions of the fume hood, and our automatically adjusting baffle system. There are critical mathematical relationships between the size of the hood sash opening and the dimensions of the fume hood working chamber. The fume hood itself must be designed to the mathematically correct size and shape to provide the proper boundary envelope for the vortex to form within. This provides the aerodynamically shaped vessel for the airflow pattern to take shape, thus increasing the efficiency of the design. However, like all fume hoods, the Air Sentry is still subject to environmental disturbances found in everyday laboratories, which could potentially disrupt the airflow pattern and challenge fume containment. To enhance containment, Lab Crafters' Air Sentry fume hood utilizes an integral safety control system to adjust the rear baffle slots, maintaining the ideal airflow pattern at all times within the hood. A sensor within the fume hood sidewall detects if the potential exists for a collapse of the vortex. If one is detected, the controls automatically adjust the rear baffle slots in real time to respond to the dynamic lab environment.

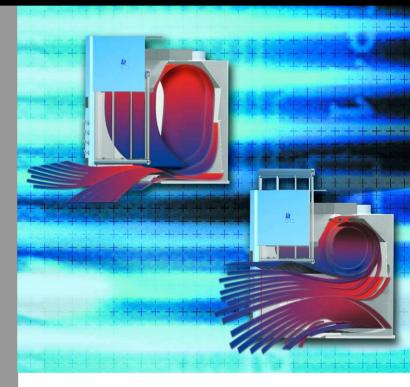


### A History of Precision

Evolving from a supplier of precision sheet metal products to the aerospace industry, Lab Crafters now provides high-end scientific and technical products and services to customers in multiple industries. The same precision manufacturing techniques that produced components for U.S. Air Force fighter jets and NASA's Space Shuttle have contributed to making ours the highest quality line of laboratory furniture ever designed for mass production.

Our highly automated manufacturing facility is capable of running "lights out" while achieving machining tolerances on the order of .003 of an inch. Operationally, we are no less precise, using advanced computer systems to maintain inventory, along with bar coding and a scheduling program to calculate resource capacities against the open orders for optimum production performance.

In short, we meet spec and we meet schedules



#### Air Flow

Adjustable baffle slots have been a staple of fume hood design for decades... but fume hood operators were never trained on how to (or when to) adjust these baffles for maximum safety. In the Air Sentry design, precise baffle adjustments are made automatically to establish and maintain a stable vortex airflow pattern, enhancing containment and energy efficiency. The Air Sentry's control system automatically senses changes at the face of the fume hood – such as walk-bys or room changes – and makes the necessary adjustments, without the need for user input.



# What Makes Air Sentry® Unique

Several exclusive features contribute to making Air Sentry superior to traditional fume hood designs. In operation, they deliver an unequalled set of benefits.

The Air Sentry® fume hood provides superior containment in comparison to conventional fume hoods.

The Air Sentry® fume hood is designed to operate in "real world" conditions with dynamic challenges that are typically found in laboratories, including cross drafts, temperature fluctuations in the lab space, walk-by traffic, fume hood loading, etc.

The highly efficient operation of the Air Sentry® fume hood results in significant and guaranteed cost savings in mechanical equipment (for new construction) and annual operating costs.

The Air Sentry® fume hood's lower airflows result in quieter operation and are ideal for delicate research involving use of powders or precise measuring equipment inside the fume hood.

The Air Sentry® fume hood's robust design allows it to operate in ISO Class 5 (Fed. 209E Class 100) Cleanroom environments.

### Variable vs. Constant Air Volume Systems

The laboratory fume hood can be very costly to operate. The Lawrence Berkeley National Laboratory states: "Each hood uses as much energy as three average U.S. homes, and we estimate that existing fume hoods use up to half a billion dollars of energy each year." (http://ateam.lbl.gov/hightech/fumehood/Ne wsletter.html). The use of the Air Sentry high performance fume hood can offer substantial savings in terms of both annual operating costs and mechanical equipment costs by reducing the fume hood exhaust flows by up to 50%.

Most laboratory fume hoods are installed on Constant Air Volume (CAV) systems. These are HVAC systems which exhaust the same volume of air through the fume hoods 24/7. These systems are easy to design and maintain but offer no operating cost savings based upon hood usage. Installing Air Sentry fume hoods in lieu of traditional fume hood designs on a CAV system can potentially save thousands of dollars per year, per fume hood in annual operating costs. Variable Air Volume (VAV) systems can reduce the exhaust volume through the fume hood when the sash is closed or when a person is not operating the fume hood.

These systems, while more complex and expensive than CAV, can offer additional operating cost savings for hoods when their sashes are lowered. Lab Crafters has successfully integrated high-performance, low-volume fume hoods with CAV exhaust systems and VAV systems as well as Switched, Two-State exhaust systems (a more cost effective flow setback system) offering designers the option of choosing the exhaust system configuration that works best for their application.



The Lab Crafters fume hoods are Classified by Underwriters Laboratories under UL Standard 1805 and are available with a C-UL Listing under UL1805 and CAN/CSA Z316.5-04



#### A. Vortex Chamber

The Air Sentry's Vortex Chamber design is mathematically and aerodynamically correct, optimizing the flow of the vortex within the hood for maximum containment at lower exhaust volumes and face velocities.

#### **B. Vortex Control System**

The Vortex Controls measure the stability of the vortex airflow pattern within the hood c h a m b e r and automatically adjust the articulating baffle to maintain maximum containment. The digital fume

hood monitor provides the user with a display of the fume hood operating conditions, as well as communication with the building automation system.





#### C. Articulating Baffle

The Air Sentry's uniquely designed Baffle pivots to reposition all three of the slot openings when it is adjusted by the Vortex Controls.





#### D. Air Foil

The Air Sentry's Air Foil sill features a multi-slot design, which dynamically directs an airflow pattern over the work surface, reducing turbulence in the bottom area of the fume hood chamber.



The Post Foils allow for the streamlined entry of air into the fume hood around the side posts creating laminar flow jet streams along the fume hood interior side walls.



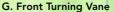


#### F. Horizontal/Vertical Combination Sash

The Combo Sash provides easy access to the interior of the hood and allows the hood operator to use the horizontal panels as a safety shield. Aerodynamic Sash Handle:

The uniquely designed sash handle is rounded to reduce turbulence at a critical air pathway into the fume hood chamber.





The Front Turning Vane (obscured from view in the photograph) forms a smooth transition for the front of the fume hood chamber, increasing the stability of the vortex within the fume hood.

# Air Sentry® Bench Mounted Fume Hoods -

The "workhorses" of most laboratories, Bench Mounted Fume Hoods are set on a work surface between 29" and 36" high. The Air Sentry fume hoods are ergonomically designed to help the operator work in a safe manner. The combination style sash is standard on these hoods and Lab Crafters offers a wide variety of service fixture accessories and work surface options to suit the researcher's needs.

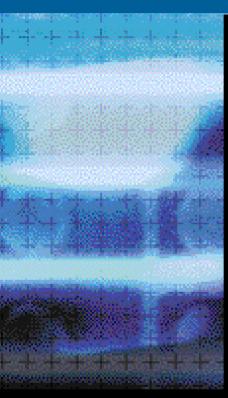
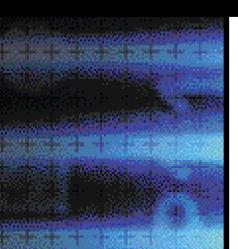




Photo credit: Kevin Chu/KCJP



### **Advanced Manufacturing Techniques**

By employing state-of-the-art manufacturing technologies Lab Crafters is able to manufacture to the highest levels of precision in the industry. CNC punching and laser-cutting lets us maintain tight tolerances while yielding high production output. Our bending operations are computerized, allowing standard programs to be stored for fast and accurate setups. Robotics are used extensively for loading and unloading materials on the automated machinery and in the welding of high-production products. Sub-assembly cells for plumbing, electrical wiring, glazing and fume hood liner installation feed the final assembly department which completes customer orders to the exact plans and specifications.







# Air Sentry® Specialty Fume Hoods -

Lab Crafters offers the widest array of high performance fume hood models of any manufacturer in the industry. The Air Sentry is available in a complete line of specialty hoods, for use with perchloric acid, radioisotopes, and hydrofluoric acid, as well as the Air Sentry InSight® hood; a clear view hood for use in teaching environments. Lab Crafters also manufactures custom sized hoods for specialty research.



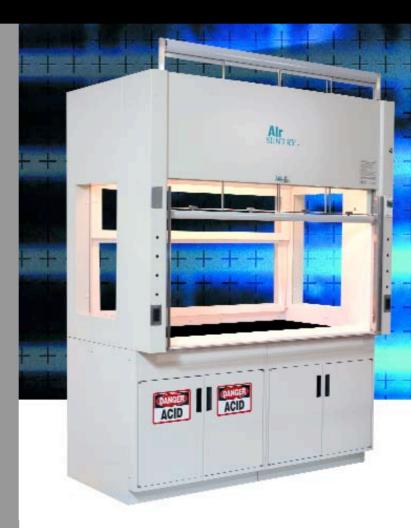


#### Robotics at Lab Crafters

Lab Crafters uses robotic loading and unloading of parts throughout our factory, but robotic welding is truly unique in this industry. Robotic welding offers repeatability and reliability unmatched by conventional welding techniques, and offers a testament to Lab Crafters' precision in manufacturing. The robotic welder has no optics and cannot "look" for the seam to weld. However, our fabrication and manufacturing techniques are so consistent and work with such tight tolerances that our welded seams are in the same location every single time, allowing the welding robot to weld in space.







The Air Sentry InSight® is ideal for classroom settings where the students may gather around the fume hood to view a professor's instructions, or the professor may observe the students' work in the hoods.

# Air Sentry® Floor Mounted and Distillation Fume Hoods -

Lab Crafters is the only manufacturer to offer high performance floor-mount and distillation hoods. Floor Mounted hoods (formerly known as "walk-in" fume hoods) and distillation hoods (also known as "low bench" hoods or "low boy" hoods) are designed to accommodate tall or oversized apparatus. The patent pending design of dual separate exhaust zones for the upper and lower chambers of these hoods allows for greater control of the hood interior airflow patterns and increases fume capture effectiveness and efficiency.



### Precision Fabrication and Quality Assurance

Lab Crafters' engineering team utilizes
3-D Solid modeling software, CAD/CAM
packages and other advanced technologies
in achieving innovative designs. Throughout
the manufacturing processes, Job Tracking
software identifies the exact location of any
component part or assembly as it moves
from one fabrication operation to another.
Each product is labeled and bar-coded,
facilitating phased deliveries and installation

Bar-coding computers at each operation workstation records the work being done, enabling Lab Crafters to keep accurate inventories, identifying each product's location and level of completeness. During the Operations Manager's weekly production meetings, reports generated by this software are analyzed by the Manufacturing Department leaders and a plan of action is developed for completing priority projects to each customer's requirements.





A. Sash Styles

The Air Sentry comes standard with a combination vertical/horizontal sash. We also offer vertical only and horizontal only sashes upon request. The drive mechanisms for our vertical and combo sashes can be either stainless steel cable and pulley or chain and sprocket.





#### B. Work Surfaces

The chemical-resistant work surfaces are available in epoxy resin or phenolic resin in colors that include black, white, gray, blue and green. All work surfaces have a raised edge on the perimeter creating a dished work area for spill containment. Cupsinks, full sized sinks and vent lines can be incorporated in the work surface design. Some specialty hoods, such as perchloric acid and radioisotope hoods, have integral seamless welded stainless steel work surfaces.

### C. Base Cabinets

Lab Crafters manufactures a wide range of steel and stainless steel base cabinets for under hood storage. General storage steel cabinets are low-cost options for non-chemical storage. Flammable liquid or solvent storage cabinets feature double steel wall construction and three point latching systems to comply with the National Fire Protection Association standards (NFPA 30). Our acid storage cabinets feature polypropylene interior liners and plastic door latches to prevent corrosion of the cabinet interior. Vent kits are available to vent the acid fumes into the fume hood. Our vacuum pump cabinets are among the finest in the industry, offering an acoustical liner with a protective foil coating, a stainless steel full extension tray, and interior receptacles switched from the cabinet front and venting to the fume hood for heat abatement.

#### D. Electrical Services

An array of electrical services are available both on the fume hood posts and within the fume hood chamber. Both 110V and 220V (in various NEMA configurations) post-mounted receptacles are available. Variacs are available to control voltage output. We have UL approval to mount receptacles and multi-outlet receptacle raceways within the fume hood chamber, with power switched from the fume hood post. All hoods include fluorescent light fixtures utilizing T8 bulbs as standard. Other lighting options, such as incandescent fixtures, are available. All electrical services are factory pre-wired to a single point junction box located at the front of the fume hood roof.



In addition to controlling our baffle system, Vortex Control models (VCTA or VCTS) offer the finest levels of fume hood airflow monitoring and alarming of any devices available on the market. Digital displays, menu-driven keypad control, precise and easy calibration methods, LED indicators, audible horns and communication with building automation systems are just some of the features that make these devices state-of-the-art. Rechargeable back-up battery for continued use in the event of power failure is available as an option.





A wide range of plumbing service fixtures are available for factory installation onto the fume hoods. We offer both front-loaded and remote control valves, factory plumbed and digitally pressure tested service manifold piping connections, optional single point piping connections, insulated water pipes, high purity gasses, vacuum breakers and service manifolds among many, many more options.



### **G. Interior Liners**

The standard interior liner material is white fiberglass reinforced polyester. We can also provide phenolic resin and polypropylene liners. The liner walls feature precision laser cut removable access panels for maintenance. The panels are airtight and removable with concealed hardware as opposed to clumsy gaskets. Pass-thrus are available options for the hood sidewalls. Some specialty hoods, such as perchloric acid and radioisotope hoods, have integral seamless welded stainless steel walls. Unlike most manufacturers Lab Crafters

utilizes a steel pan wall construction in which the thick fiberglass liner is truly a "liner" and not a structural wall. Our optional distillation racks are secured to this steel superstructure ensuring its stability and rigidity. The distillation racks are available in various materials and flexible configurations.





#### Lab Crafters, Inc.

Results of "As Manufactured" ASHRAE 110 Performance Tests Conducted on the 6-ft Air Settiny Printe Hood

Semember 13, 1999



Represent Commit Technologies, In 191 C Res Internet North Clary, NC 27/19

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# **Test Results**

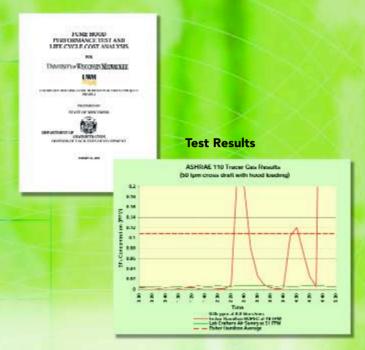
TEST #	SASH POSITION	EJECTOR POSITION	MANNEQUIN HEIGHT	FACE VELOCITY	SMOKE RATING	TRACE GAS TEST TYPE	SF6 RELEASE RATE	ASHRAE RATING
1	VERTICAL FULL OPEN 27.75"H X 63"W	LEFT	67"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
2	VERTICAL FULL OPEN 27.75"H X 63"W	CENTER	67"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
3	VERTICAL FULL OPEN 27.75"H X 63"W	RIGHT	67"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
4	HORIZONTAL LEFT OPEN 26.5"H X 30.5"W	LEFT	67"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM 0.01
5	HORIZONTAL CENTER OPEN 26.5"H X 30.5"W	CENTER	67"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM 0.01
6	HORIZONTAL RIGHT OPEN 26.5"H X 30.5"W	RIGHT	67"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM 0.01
7	VERTICAL FULL OPEN 27.75"H X 63"W	LEFT	63"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
8	VERTICAL FULL OPEN 27.75"H X 63"W	CENTER	63"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
9	VERTICAL FULL OPEN 27.75"H X 63"W	RIGHT	63"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
10	HORIZONTAL LEFT OPEN 26.5"H X 30.5"W	LEFT	63"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM <0.01
11	HORIZONTAL CENTER OPEN 26.5"H X 30.5"W	CENTER	63"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM <0.01
12	HORIZONTAL RIGHT OPEN 26.5"H X 30.5"W	RIGHT	63"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM <0.01
13	VERTICAL FULL OPEN 27.75"H X 63"W	LEFT	59"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM <0.01
14	VERTICAL FULL OPEN 27.75"H X 63"W	CENTER	59"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM 0.01
15	VERTICAL FULL OPEN 27.75"H X 63"W	RIGHT	59"	50 FPM	GOOD	STATIC	4.0 LPM	4.0 AM 0.01
16	HORIZONTAL CENTER OPEN 26.5"H X 30.5"W	CENTER	59"	98 FPM	FAIR	STATIC	4.0 LPM	4.0 AM 0.01
17	VERTICAL FULL OPEN 27.75"H X 63"W	CENTER	59"	50 FPM	GOOD	DYNAMIC SASH MOVEMENT EFFECT TEST	4.0 LPM	4.0 SME-AM 0.01
18	HORIZONTAL CENTER OPEN 26.5"H X 30.5"W	CENTER	59"	98 FPM	FAIR	DYNAMIC SASH MOVEMENT EFFECT TEST	4.0 LPM	4.0 SME-AM 0.01
19	VERTICAL FULL OPEN 27.75"H X 63"W	CENTER	63"	50 FPM	GOOD	DYNAMIC SASH MOVEMENT EFFECT TEST	4.0 LPM	4.0 SME-AM <0.01
20	HORIZONTAL LEFT OPEN 26.5"H X 30.5"W	LEFT	63"	98 FPM	FAIR	DYNAMIC SASH MOVEMENT EFFECT TEST	4.0 LPM	4.0 SME-AM <0.01
21	HORIZONTAL RIGHT OPEN 26.5"H X 30.5"W	RIGHT	63"	98 FPM	FAIR	DYNAMIC SASH MOVEMENT EFFECT TEST	4.0 LPM	4.0 SME-AM <0.01



#### **Fume Hood Testing**

Lab Crafters rigorously tests all of its fume hood designs to the ANSI/ASHRAE 110 test method to ensure acceptable performance, but we don't stop there. Lab Crafters also tests its products to the DIN, BS and InventUK methods. In fact, Lab Crafters has helped pioneer some of the latest advances in fume hood testing methodology, and we strive to see that testing requirements are made tougher and more stringent. We want to ensure that all fume hood products that reach the market represent the highest quality and performance, without compromising operator safety.



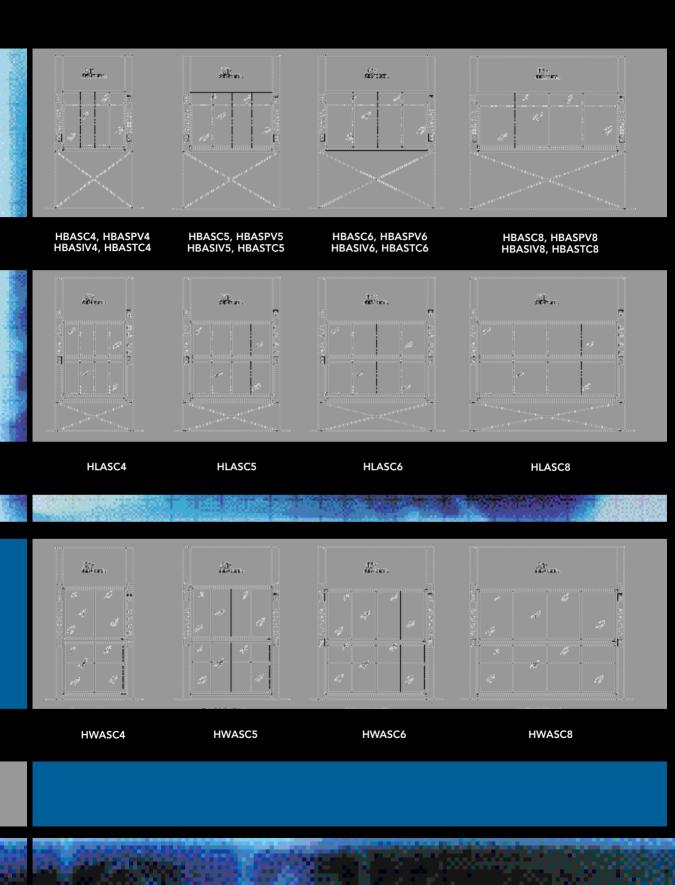


Lab Crafters challenges the performance of its hoods with tests that go beyond the standards, including greater tracer gas release rates, varying and multiple tracer gas sensor locations, and the addition of cross drafts and other dynamic challenges.

Here are two of the many performance tests conducted on the Air Sentry fume hood by independent organizations.

The first was performed by Mr. Thomas C. Smith of Exposure Control Technologies (ECT). Mr. Smith is one of the top experts in the field of fume hood testing and commissioning and is among the most experienced individuals in the world in the ASHRAE 110 test method. The report contains the results of ASHRAE 110-1995 tests performed on a six-foot wide bench top Air Sentry Fume Hood.

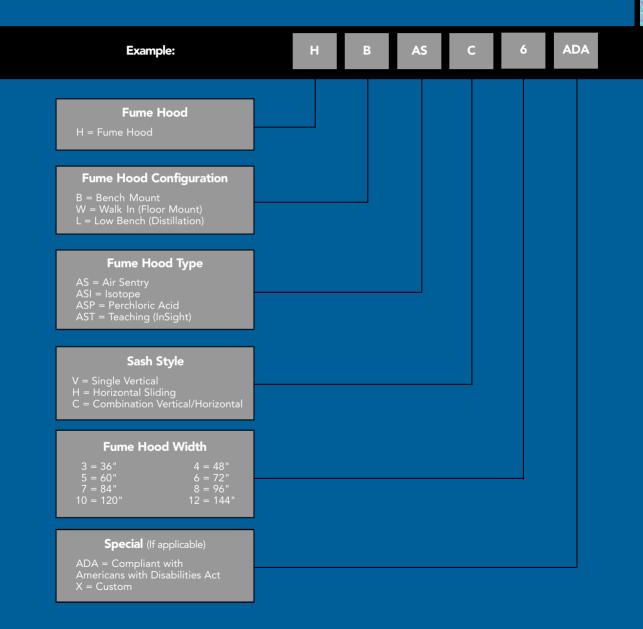
The test on this page was prepared by the State of Wisconsin, Department of Administration, Division of Facilities Development. This report contains the results of modified ASHRAE 110-1995 tests, performed by Mr. Smith of ECT and Mr. Jack Wunder of the University of Wisconsin-Madison, on a five-foot wide bench top Air Sentry fume hood. The Air Sentry fume hood was tested side by side with a Fisher Hamilton, Inc. HOPEC fume hood at the University of Wisconsin-Milwaukee. We have these, along with other current test-reports, available on our website to download.



# **Ordering by Model Number:**

Use the following example to order the correct fume hood type and sash configurations for all fume hoods shown in this section. For custom configurations not shown or described below, please contact the factory for assistance.

Note: Model numbers or standard configurations are subject to change without notice.



# **Air SENTRY® High Performance Fume Hood**Air Flow Data Constant Volume Exhaust

### **Bench Mounted**

	HOOD WIDTH	EXHAUST VOLUME	SASH OPENING		FACE VELOCITY		CTATIC	COLLAD
HOOD MODEL			VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	STATIC PRESSURE	COLLAR SIZE
HBASC3		280 CFM	28" x 27"	26.5" x 12.5"	50 FPM	115 FPM	0.20" W.G.	
HBASC4		400 CFM	28" x 39"	26.5" x 18.5"	50 FPM	115 FPM	0.20" W.G.	
HBASC5		525 CFM	28" x 51"	26.5" x 24.5"	50 FPM	115 FPM	0.20" W.G.	10"
HBASC6		645 CFM	28" x 63"	26.5" x 30.5"	50 FPM	110 FPM	0.20" W.G.	10"
HBASC7		770 CFM	28" x 75"	26.5" x 36.5"	50 FPM	110 FPM	0.25" W.G.	(2) 8"
HBASC8		820 CFM	25" x 87"	26.5" x 42.5"	50 FPM	100 FPM	0.25" W.G.	(2) 8"
HBASC10	10'	1,025 CFM	25" x 111"	26.5" x 48.5"	50 FPM	100 FPM	0.35" W.G.	(2) 10"
HBASC12	12'	1,270 CFM	25" x 135"	26.5" x 66.5"	50 FPM	100 FPM	0.35" W.G.	(2) 10"

### Floor Mounted (aka Walk-In)

		HOOD WIDTH	EXHAUST VOLUME	SASH OPENING		FACE VELOCITY		STATIC	COLLAR SIZE	
HOOD MODEL	VERTICAL			HORIZONTAL	VERTICAL	HORIZONTAL	PRESSURE	FRONT	REAR	
	HWASC5		700 CFM	25" x 51"	60" x 24.5"	75 FPM	65 FPM	0.45" W.G.	10"	3" x 16"
	HWASC6		870 CFM	25" x 63"	60" x 30.5"	75 FPM	65 FPM	0.45" W.G.	10"	3" x 16"
	HWASC8		1210 CFM	25" x 87"	60" x 42.5"	75 FPM	65 FPM	0.45" W.G.	(2) 10"	(2) 3" x 16"
	HWASC10	10'	1380 CFM	25" x 111"	60" x 48.5"	75 FPM	65 FPM	0.55" W.G.	(2) 10"	(2) 3" x 16"
	HWASC12	12'	1890 CFM	25" x 135"	60" x 66.5"	75 FPM	65 FPM	0.65" W.G.	(2) 12"	(2) 3" x 20"

# Distillation (aka Low Bench)

	HOOD WIDTH	EXHAUST VOLUME	SASH OPENING		FACE VELOCITY		STATIC	COLLAR SIZE	
HOOD MODEL			VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	PRESSURE	FRONT	REAR
HLASC4		430 CFM	20.5" x 39"	42" x 18.5"	75 FPM	65 FPM	0.45" W.G.	10"	3" x 16"
HLASC5		565 CFM	20.5" x 51"	42" x 24.5"	75 FPM	65 FPM	0.45" W.G.	10"	3" x 16"
HLASC6		720 CFM	20.5" x 63"	42" x 30.5"	75 FPM	65 FPM	0.45" W.G.	(2) 10"	(2) 3" x 16"
HLASC8		980 CFM	20.5" x 87"	42" x 42.5"	75 FPM	65 FPM	0.45" W.G.	(2) 10"	(2) 3" x 16"

NOTES: INQUIRE FOR EXHAUST FLOWS FOR ALTERNATE FACE VELOCITIES.
INQUIRE FOR SETBACK MINIMUM FLOWS FOR TWO STATE OR VAV EXHAUST SYSTEM.
STATIC PRESSURE LOSSES ARE FOR THE FUME HOOD ONLY.





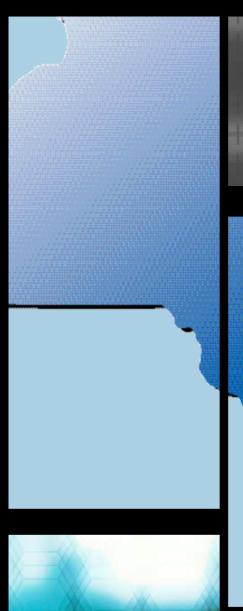


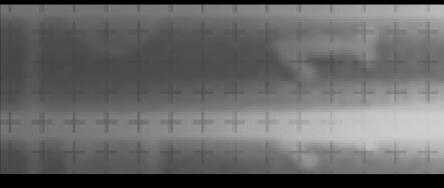




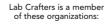


Photo credit: Kevin Chu/KCJF















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