SUNWAY
TECHNOLOGIES

Worldwide Leader In Exposure Control Devices

THE WORLD'S FIRST

Intelligent Laboratory Fume Hood

THE ULTIMATE

SMART CHEMICAL CONTAINMENT DEVICE

BY SUNWAY

Next Generation Chemical Containment Device

www. SunwayTechnologies.com

Not Everything That Looks Like a Fume Hood is a Fume Hood

Understanding the Evolution of Laboratory Containment Devices

In laboratory environments, the importance of proper containment and ventilation cannot be overstated. But not everything that *looks like* a laboratory fume hood is a fume hood. In today's lab settings, a wide array of ventilated and ductless devices can resemble traditional fume hoods, yet serve entirely different functions, or they can have advanced features and enhanced performance beyond the capabilities of a traditional fume hood.

Some of these devices are engineered for very specific purposes. A **biological safety cabinet**, for example, looks like a fume hood but is designed to protect the user and the material being worked on, using HEPA filtration to trap biological contaminants. A **laminar flow bench**, on the other hand, directs filtered air across the work surface to protect sensitive samples, but offers little to no protection for the user. Neither of these devices are appropriate for handling volatile chemicals, yet in the absence of clear labeling or understanding, users may mistakenly treat them as equivalent to a chemical fume hood.

Then there's the growing prevalence of **ductless fume hoods** or filtered enclosures. These units recirculate air through carbon or specialty filters instead of exhausting it outdoors. While suitable for light-duty applications involving non-toxic substances or trace chemicals, they are not always adequate for more hazardous procedures. Their effectiveness depends on proper filter selection, regular maintenance, and strict adherence to usage guidelines, factors that are frequently overlooked or misunderstood.

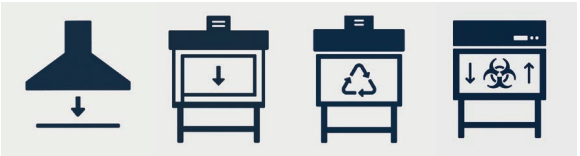
But now, the game is changing. Enter a new class of laboratory of containment devices, an evolution that some call an "**intelligent fume hood**," but that might be more accurately described as a **smart chemical containment device**. These systems may look like traditional fume hoods, but they represent a radical departure in function and capability.

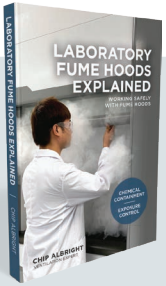
Take, for example, a device dubbed "**The Ultimate**." Though its physical appearance mirrors that of a conventional fume hood, its functionality is far more advanced. Unlike traditional hoods, which are, in effect, passive and heavily reliant on the building's mechanical ventilation systems, this smart device is active. It continuously monitors environmental conditions, adjusts internal airflow dynamically, and employs sensors and integrated intelligence to maintain containment in real time. It doesn't just depend on the laboratory's HVAC—it interacts with it.

This self-aware, adaptive approach means "The Ultimate" isn't just protecting the user through brute force airflow. It is intelligently controlling exposure risks based on actual conditions, making it less vulnerable to fluctuations in duct pressure, airflow disruptions, or external variables that compromise conventional hoods.

In short, traditional fume hoods are **slaves to the mechanical system**. They work only as well as the ductwork, fans, and building systems behind them. But this new generation of intelligent containment devices is **an active partner in lab safety**. It's capable of recognizing changes, responding to threats, and maintaining performance without relying solely on external systems.

As laboratories evolve, so must the tools we use to keep researchers safe. The lesson is clear: in the world of lab safety, appearances can be deceiving. If it looks like a fume hood, don't assume it *is one*—or that it performs like one. And if it *is one*, it may be smarter than you think.





Chip's Book

We first read Chip's book in 2020 and were so impressed that we translated it into Chinese and distributed it widely throughout China. Chapter 14 was particularly compelling, as it explored the future of fume hoods and introduced several potential features and capabilities. This inspired us to develop "***The Ultimate***."

In the past, we viewed fume hoods primarily as components of the ventilation system. Chip's holistic perspective on Laboratory Ventilation opened our eyes to a broader approach. One that sparked many ideas we've since integrated into our R&D program.

What Makes The Ultimate Smart?

In today's high-stakes lab environments, a chemical containment device needs to do more than just house hazardous experiments—it needs to think. That's why we created ***The Ultimate***—a next-generation smart fume hood that's more than just equipment. It's an intelligent lab partner engineered to enhance safety, optimize performance, and evolve with your needs.

But what exactly makes The Ultimate smart?

It starts with a brain. At the core of ***The Ultimate*** is a powerful onboard computer system. It's operating system (OS) manages all hardware and software functions, allowing it to process data, run applications, and perform multiple tasks simultaneously. But brains alone aren't enough. To be truly smart, The Ultimate also needs awareness.

Using an array of advanced sensors, ***The Ultimate*** monitors both its internal environment and user behavior. This creates a sense of "self-awareness" that enables it to respond intelligently to real-time conditions. Unlike traditional fume hoods that simply operate passively, ***The Ultimate*** actively manages containment, airflow, and safety alerts to ensure optimal performance at all times.

Its intuitive **touchscreen interface** transforms the way you interact with your lab equipment. With just a tap or swipe, users can access real-time data, control sash positions, run diagnostics, and much more—without ever leaving the workstation.

Connectivity is key to any smart system, and ***The Ultimate*** is no exception. Full **network and internet integration** allows remote monitoring, data logging, software updates, and communications with other smart lab systems. This makes your lab more efficient and interconnected than ever before.

But what really sets The Ultimate apart is its intelligent hardware integration:

RFID technology
provides customizable security, logging user access and enhancing overall safety.

Sash management
automates sash movement and ensures the proper positioning to maintain containment.

Containment verification systems
constantly monitor airflows and provide real-time alerts if containment is compromised.

Built-in fire suppression
systems respond instantly in emergencies—providing the ultimate peace of mind.

And here's where it truly earns its name: ***The Ultimate*** gets smarter over time. With **constant software updates**, your fume hood gains new features, improvements, and capabilities long after installation. That means your investment continues to deliver value, performance, and safety well into the future.

In short, The Ultimate is not just a piece of lab furniture. It's a digitally connected, safety-focused lab assistant. It adapts to your workflows, evolves with your needs, and helps you maintain a safer, smarter, and more productive laboratory environment.

Experience the future of Chemical Containment. Experience The Ultimate.

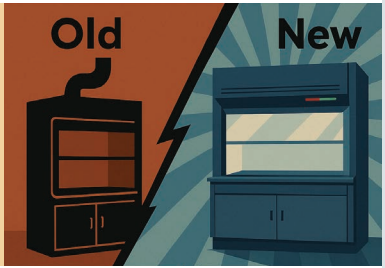
What Is Digital Transformation?

Digital Transformation is the integration of modern technology into every aspect of business to work smarter, faster, and more efficiently. It's about reimagining processes, using digital tools to not only enhance safety but also to deliver better results with greater consistency. When it comes to laboratory safety, traditional fume hoods haven't changed much—until now.

By integrating advanced sensors, digital instrumentation, and intelligent software, we've transformed the fume hood into a smart device. This upgrade turns a passive system into an active contributor to lab safety and performance.

The result? Real-time data that drives smarter decisions, improves operational efficiency, and empowers labs to adapt, innovate, and stay ahead in a rapidly evolving world. Welcome to the future of lab safety powered by digital transformation.

Every 100 Years



Every 100 years or so, an idea comes along that challenges the ways of the past and forever changes how we see and do things. Every so often, a revolution takes place that has consequences so far reaching that nothing it touches is ever quite the same.

Laboratory Ventilation and Fume Hoods haven't changed much in the last 50 years. While the processes, procedures, and technology for conducting scientific investigation and research have changed dramatically over the past 25 years, the fume hoods that are supposed to provide user safety are virtually unchanged.

Not everything that looks like a fume hood is a fume hood, and nothing could be truer when evaluating Sunway's new class of product. Sunway has introduced a Smart Chemical Containment Device (sCCD).

Sunway has branded this product "**Ultimate**" because it offers the ultimate in User Protection.

The Ultimate is about to spark a revolution by changing the way we ensure user protection when working with chemicals in the laboratory. While an sCCD does not replace the need for user training, it enhances safety without increasing additional operational requirements.

This isn't a fume hood even though it may look like one. It is an engineering platform that manages containment and provides the ultimate in exposure control. It is totally digital and its features are plug and play. Meaning it won't become obsolete. As new features are added, older devices can be **undated**.

As the product is rolled out in the US, we will discuss the many features including Self-Validation of containment, Advanced Sash Management, and Fire Suppression as well as some of the ergonomic features.

This digital transformation is a leap forward in our mission of making labs safer one fume hood at a time. It changes the focus from the somewhat useless metric of Face Velocity to Containment, which was the primary function of the traditional fume hood.

Self- Validation is the New Metric for Containment

How Do I Know My Fume Hood Is Safe? Now You Can See for Yourself.

One of the most common questions we hear is, *"How do I know my hood is performing safely?"* And the honest answer used to be: ***You don't–unless you test it.***

But frequent containment testing has historically been inconvenient, expensive, and limited by the lack of real-time, meaningful metrics. Without good tools to visualize airflow and containment, users have often been left to rely on assumptions or infrequent certification visits.

That's why we knew we had to think outside the box.

When we first saw Tri-Color technology, it was a lightbulb moment. For the first time, we had a simple and intuitive way to visualize dynamic containment performance, live and in color. We realized that if this kind of real-time feedback could be integrated directly into a fume hood, we could change the game for lab safety.

So we did.

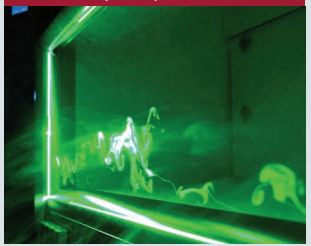
Our latest model, "The Ultimate," includes built-in Tri-Color functionality. We call this feature Self-Validation. With it, users can initiate a containment test anytime to test the hood's setup or simply to ensure it's still operating as expected.

Just press the button to start the test cycle. In about one minute, you'll see a clear visual indication of how well the hood is containing. No waiting, no third-party tester required, no guesswork.

Self-Validation gives lab users control, confidence, and peace of mind.

Because when it comes to safety, seeing is believing and now you can.

Instantly verify containment



Introducing Predictive Containment: A Smarter Way to Ensure Lab Safety

Inspired by the science behind weather forecasting, we've developed a groundbreaking advancement in fume hood safety: Predictive Containment. Just as meteorologists collect and analyze atmospheric data to forecast weather patterns, Predictive Containment uses real-time data to anticipate the performance and containment of your laboratory fume hood.

So, what exactly is Predictive Containment?

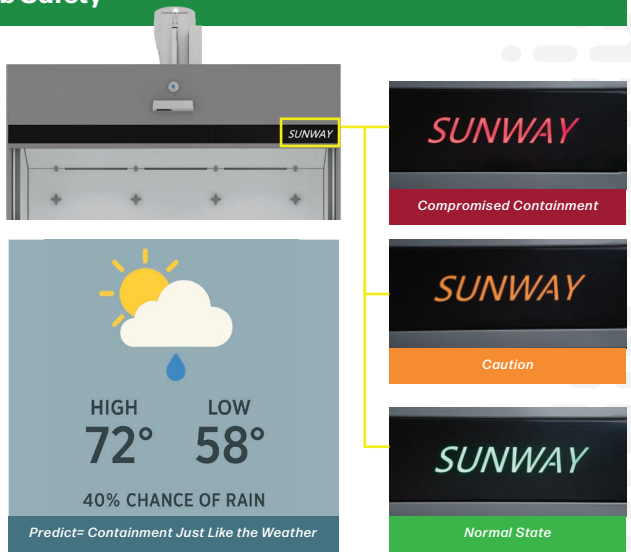
It's an intelligent process that predicts whether your fume hood is actively and effectively containing hazardous fumes. Using an array of high-precision digital instruments, we continuously monitor conditions in and around the hood—airflow, face velocity, turbulence, and other environmental factors. This stream of data is then analyzed to provide a predictive assessment of the hood's containment performance.

Think of it this way: in weather forecasting, you might hear there's a 30% chance of rain tomorrow based on dynamic environmental data. Similarly, our system evaluates the conditions in real-time and predicts the likelihood that the hood is functioning safely and within established containment parameters.

The centerpiece of this innovation is our intuitive visual indicator. The Sunway logo acts like a traffic light for lab safety. When conditions are optimal and containment is within acceptable limits, the logo glows green. However, if data indicates compromised containment, it turns red, prompting immediate attention.

A red logo doesn't mean panic. It means airflow volume or wind speed has moved outside the safe range. This alert is focused solely on air velocity and air volume, not sash or door position. When you see red, it's time to evaluate your hood's airflow performance and restore safe operating conditions.

With Predictive Containment, you get more than data. You get foresight. It's smart, proactive, and designed to keep your lab environment safe, efficient, and informed.



The Hood Knows

When you first bring a fume hood into your lab, it's a constant, quietly supporting safety through thoughtful design and controlled airflow. The hood itself doesn't change. But the world around it does.

Every day, room conditions shift: doors open and close, ventilation patterns fluctuate, new equipment is wheeled in, and researchers adjust how they work in and around the hood. These small changes can add up to big risks. What was once a safe setup can, in a heartbeat, becomes a potential hazard.

That's where the smart hood sets itself apart. It's not just a silent bystander; it's a vigilant partner. The smart hood senses when the invisible balance of containment is disrupted. It notices what you can't see—air currents gone astray, unsafe practices creeping in—and it speaks up.

With a message on the controller and a glowing, highly visible colored logo, it doesn't whisper; it signals. Boldly. Clearly. The hood knows when conditions aren't right, and it alerts you in time to act.

It's more than equipment—it's awareness made visible. A guardian that adapts as your lab evolves, keeping user protection at the forefront. Because safety isn't static. And neither is your hood anymore.

Because true safety isn't reactive—it's predictive.

Smart Sash Management

Safety Starts Here

Making Labs Safer, One Fume Hood at a Time

Proper sash management is a simple yet powerful way to improve lab safety and energy efficiency. Sunway's "The Ultimate" takes sash management to a whole new level. Now the sash is smart also. It can sense the environment and adjust accordingly.

This minimizes the risk of exposure to hazardous fumes and significantly reduces energy costs by limiting the amount of conditioned air exhausted.

Combining auto-sash technology with intelligent controls optimizes safety while managing energy use. Like traditional sashes, it serves as a protective barrier against splashes, chemical reactions, and other unexpected incidents. Auto-sash technology supports safe user behavior and helps minimize human error.

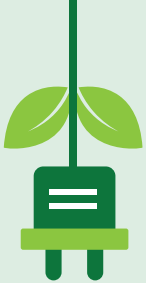
User training helps staff understand how the sash supports safe lab practices. Because vertical and horizontal sashes operate differently, users should be trained to adjust their use accordingly.

Make sash management part of your lab's culture. Include it in SOPs, safety checklists, and training sessions. Routine monitoring and peer accountability can go a long way in maintaining a safe environment.

Smart sash use protects people, reduces energy waste, and demonstrates your commitment to a safer, more efficient laboratory.

Eco-Friendly

Safety First–Efficiency Always

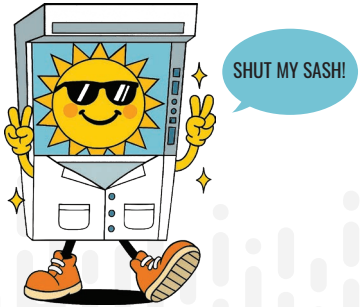


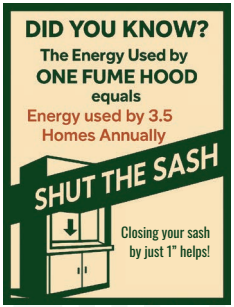
While safety is always the top priority in any laboratory environment, reducing the carbon footprint is also a critical objective. The Ultimate system seamlessly addresses both. By continuously monitoring fume hood containment and detecting changes in real-time conditions, The Ultimate goes beyond traditional safety measures. It not only ensures the highest level of user protection but also intelligently manages airflow to match actual usage needs–no more, no less.

This adaptive approach means energy is used only when and where it's truly needed, resulting in significant reductions in both energy consumption and operating costs. Unlike conventional systems that rely on fixed settings or periodic checks, The Ultimate responds instantly to changes such as sash position, user presence, or lab activity levels.

This real-time adaptability allows lab managers and facility teams to uphold the strictest safety standards while actively minimizing environmental impact. It's a smarter, more sustainable solution for modern labs that are as committed to the planet as they are to their people.

With The Ultimate, you don't have to choose between safety and sustainability–you get both, working in harmony.





Plug and Play – The Future-Ready Fume Hood

What does "Plug and Play" have to do with a fume hood? Quite a lot, especially when you're talking about ***The Ultimate***.

Traditional laboratory fume hoods often remain in service for 20 to 30 years. While this longevity is impressive, it also means that many hoods currently in use lack the performance, safety, and energy-efficiency features that modern laboratories demand. Retrofitting or replacing outdated hoods can be expensive, disruptive, and time-consuming.

That's why ***The Ultimate*** was designed with the future in mind. Much like a desktop computer's motherboard or a smartphone's operating system, The Ultimate embraces a modular, upgradeable approach. But unlike your smartphone, you don't have to throw away the whole device when new features become available.

With ***The Ultimate***, software upgrades are seamless and easy, allowing your hood to stay current as technology evolves. And when new hardware is developed, whether it's sensors, control systems, or energy-saving components–***The Ultimate*** is ready. Built-in provisions allow you to simply plug in and play, without major renovations or downtime.

This forward-thinking design makes ***The Ultimate*** a smart, sustainable investment. You're not just buying a fume hood. You're investing in a platform that grows with you, adapts to new standards, and remains at the forefront of lab safety and performance.

So, what does Plug and Play have to do with a fume hood?
With The Ultimate, everything.

Future-Proofing Your Fume Hood

Think about your smartphone. The one you bought just a few years ago probably looked like the latest and greatest until it wasn't. New features came along, new apps appeared, and suddenly your device felt outdated. The only way to catch up? Replace it with the newest model.

Now imagine if your laboratory fume hood worked the same way. Locked into the day it was built, destined to become outdated as technology advanced. That used to be the reality. But not anymore.

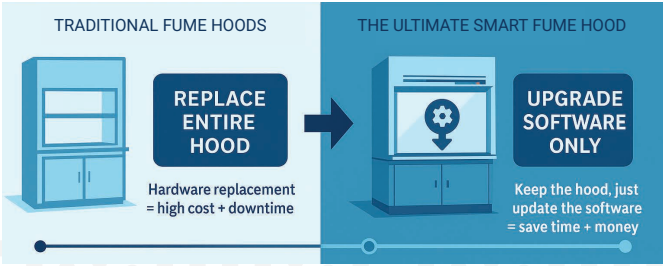
With our **future-proofed, plug-and-play fume hood**, you don't have to rip out and replace equipment just to keep up with the times. Instead, you can simply **upgrade**. New sensors, smarter controls, enhanced safety features. When new technology emerges, your hood is ready to grow with it. Just like adding a new app to your phone, you add new capabilities to your hood.

This approach doesn't just save money; it protects your investment. Your hood isn't a relic of the year it was purchased. It's a living, adaptable safety device designed to evolve. That means your laboratory remains on the cutting edge of safety and performance, year after year.

Most importantly, future-proofing ensures your hood is always capable of meeting the changing demands of modern science. As your work evolves, so does your hood. You don't have to settle for yesterday's safety in tomorrow's lab.

Think of it as a promise: ***The hood you buy today will be ready for the science of tomorrow.***

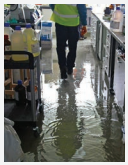
Because when it comes to protecting people and enabling discovery, standing still is not an option.



When the Flames Go Out, the Loss Still Burns

A laboratory fire does more than scorch walls and equipment. **It can erase years of effort, data, and discovery in a matter of minutes.** Behind every research project are countless hours of planning, testing, and documenting. When fire strikes, it often consumes not only the building but the invisible work that lived within the notebooks, samples, prototypes, and hard drives that held the story of progress.

For many scientists, research is more than a job. It is a calling built on curiosity and persistence. A single incident can unravel years of dedication. The loss of irreplaceable data and specimens can bring entire projects to a halt, leaving researchers without the foundation to rebuild. Grants may be withdrawn. Publications delayed. Students may lose their theses, and careers that once looked promising can suddenly stall.



The physical damage to a facility is costly, but the deeper wound is often emotional and intellectual. A laboratory fire shakes the confidence of a research community. It disrupts collaboration and morale. The sense of safety and continuity that fuels discovery can take years to restore. For principal investigators, the responsibility is even heavier. They must lead their teams through grief and uncertainty while navigating complex insurance claims, regulatory investigations, and the long process of reconstruction.

Prevention, then, is not just about protecting equipment or meeting compliance requirements. It's about preserving human potential. **Every researcher who enters a lab deserves to know that their work, their future, and their safety matter.** Investing in training, risk assessment, and routine inspection is far less costly than rebuilding what a fire can destroy in moments.

In the end, a laboratory is not defined by its walls or instruments. It is defined by the people and the ideas that live inside. When we protect those, we protect the very essence of science itself; the relentless pursuit of knowledge that should never be left vulnerable to the flames. So having fire suppression on fume hoods is more than insurance.

Safe Fire Suppression for Fume Hoods

A **Perfluorohexanone fire suppression system**, commonly known by the trade name **FK-5-1-12** or **Novec 1230**, is a clean agent fire suppression technology designed to extinguish fires quickly without harming sensitive equipment or leaving behind a residue. It's widely used in data centers, laboratories, museums, and other critical areas where water or powder-based systems could cause damage.

The system stores the agent as a liquid in pressurized cylinders. Upon fire detection, usually through heat, smoke, or flame sensors, the system activates and releases the agent through a network of piping and discharge nozzles into the protected area.

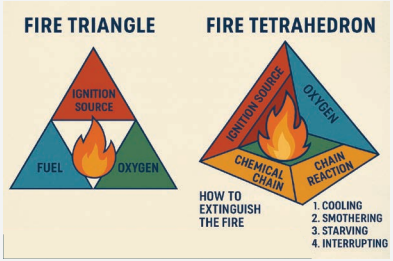
Once discharged, perfluorohexanone rapidly vaporizes and fills the room. It extinguishes fire through a combination of **physical and chemical mechanisms**. Primarily, it absorbs heat from the flame zone, **lowering the temperature below the combustion threshold**. This process disrupts the fire triangle removing the heat necessary to sustain the chemical reaction of combustion. Unlike traditional fire suppressants, perfluorohexanone does not displace oxygen, making it **safe for occupied spaces**.

In addition to heat absorption, perfluorohexanone molecules interact at a molecular level with the combustion process to **inhibit the chain reaction of free radicals** that sustain the fire, further suppressing flame propagation.

One of the key advantages of this system is its **clean, fast-acting, and non-conductive** nature. After discharge, the agent dissipates quickly and requires no cleanup, allowing systems and operations to resume with minimal downtime.

Environmentally, perfluorohexanone has a **low global warming potential** and a short atmospheric lifetime compared to other halocarbon agents, making it a more sustainable choice in fire suppression.

In summary, perfluorohexanone systems offer a safe, efficient, and eco-friendly solution to suppress fires in environments where uptime, cleanliness, and equipment protection are top priorities.



Fume Hood Performance Tracker

When you buy a Sunway hood, you're not just getting equipment. You're getting its digital heartbeat. Every hood ships with a Fume Hood Certified HIN label, a small identifier with a very big purpose.

Imagine having every manual, reference document, and hood history stored in one secure place. The hood's lifetime record of maintenance, testing data, current status, etc. allowing users and owners to know and evaluate this hood. Without these records, details about hood performance become fragile, passed down verbally as tribal knowledge that disappears as lab teams change.

The HIN label changes that. Scan it anytime to access preloaded documentation and logged activity for the life of the hood. And that's where the **Smart Hood Performance Tracker** steps in.

The **Fume Hood Performance Tracker** becomes more than a database. It's a living record. Test results are no longer just numbers filed away. They become data points in a timeline that reveals airflow volume and velocity performance trends. Maintenance isn't just a checklist. It becomes part of a documented proof trail showing the hood is cared for, evaluated, and performing within safe expectations. When something shifts, you don't scramble to guess, you verify the data, spot the trend, and make informed decisions.

Your hoods don't just operate, they communicate. They retain history, strengthen accountability, and protect user safety through documented performance, not assumption.

Record Keeping

Hood Identification Number (HIN)

Every Sunway fume hood receives a unique HIN at the time of certification. This number unlocks a secure, permanent digital record that stores factory specifications, installation documents, test reports, and maintenance logs.

The system tracks long-term airflow performance using air volume and velocity readings only. It does not monitor sash height or regulating door position.

Benefits for Your Facility:

- All documentation in one secure location
- Airflow performance tracking (volume and velocity only)
- Proactive maintenance and planning
- Audit-ready safety and compliance records
- Data-backed decisions for upgrades or replacement

FUME HOOD
Performance Tracker

What Does “Future-Proof” Mean for Laboratory Equipment?

When laboratory professionals refer to equipment as “future-proof,” they mean it is designed to remain useful, adaptable, and compliant over time, even as technology evolves and standards change. In other words, future-proof laboratory equipment won’t become obsolete in just a few years. It’s built with longevity, flexibility, and innovation in mind.

In practice, this means equipment that is modular, upgradeable, and scalable. A future-proof fume hood, for example, might allow for easy retrofitting with new airflow sensors, digital monitoring systems, or energy-saving technologies as they become available. It may also meet or exceed the latest safety standards such as ANSI/ASHRAE 110 or EN 14175. That means even as regulations tighten, the equipment stays compliant without needing full replacement.

Connectivity is another key aspect. Equipment that can integrate with Building Management Systems (BMS), digital lab platforms, or remote monitoring tools ensures long-term functionality in increasingly data-driven lab environments.

Investing in future-proof solutions also saves money over time. Instead of buying new equipment every time standards shift or new features are needed, labs can upgrade or reconfigure existing units. This sustainability mindset not only supports budgets but reduces environmental impact.

Finally, future-proofing means preparing for the unknown. Whether it’s a new type of experiment, a sudden change in lab layout, or increased demand for energy efficiency, future-proof lab equipment gives scientists and safety managers the agility to adapt without compromise.

In short, future-proof laboratory equipment is an investment in reliability, safety, and readiness for today, tomorrow, and years down the road.

Think back to the early days of Microsoft Windows where each new version brought new capabilities. Sometimes a simple software patch, other times a full upgrade with new hardware requirements. Yet the idea was always the same: your investment wasn’t just in the box sitting on your desk, it was in a system that could grow, adapt, and keep pace with your needs.

That’s exactly the philosophy Sunway is bringing to the modern fume hood. We call it the operating system of safety. Much like your computer, your hood will not remain static. Some improvements will come as straightforward software updates, seamlessly downloaded into the system. Others may require a new sensor or controller. But thanks to our plug-and-play design, these hardware additions can be installed without ripping out or replacing the hood itself.

This means your investment is not just in a piece of lab equipment. It’s in an evolving ecosystem designed to support your laboratory for years, even decades, into the future. Every hood becomes part of a living platform, one that gets smarter and more capable as science advances.

We’ve already charted enhancements for the next five years, from performance monitoring to smarter safety alerts. But the story doesn’t stop there. As our community of scientists, lab managers, and safety professionals provide feedback, their voices will shape the next wave of updates. What your lab needs tomorrow may not be the same as today and Sunway is listening.

In a world where research moves faster than ever, the ability to keep your equipment current is more than convenience, it’s peace of mind. With Sunway, your hood evolves alongside your science, ensuring you always have the safest, smartest tools at your fingertips.

The Story Behind the Name "Cheng Wei" and the Brand "Sunway"

Every great brand begins with a story, and Cheng Wei is no exception. Written in Chinese characters, Cheng Wei (成威) carries a meaning that is both timeless and universal.

The first character, "**Cheng**" (成), means to accomplish, to succeed. But in our philosophy, success is not luck or chance. It is born of **sincerity**. True achievement can only come from honesty:

- Being sincere with customers by protecting quality, avoiding exaggeration, and standing behind our products.
- Being sincere with partners by honoring commitments, building fair relationships, and walking the long road together.
- Being sincere with ourselves by resisting short-term fads and instead creating real, lasting value.

That is why we say: "*Success comes from sincerity.*"

The second character, "**Wei**" (威), might suggest power or strength at first glance, but in our story it means something deeper: **influence that comes from trus**t. This kind of strength is not forced; it is earned:

- Earned by keeping promises to customers about performance and service.
- Earned by living up to responsibilities in the industry and community.
- Earned through consistency—aligning words with actions until credibility becomes second nature.

That is why we say: "*Strength is built on trust.*"

Together, Cheng Wei forms a name that reflects our values: sincerity creates success, and trust builds lasting strength.

But when we looked outward to the international stage, we knew we needed a name that would carry this same spirit across cultures. That name became **Sunway**.

Like the sun, Sunway represents **warmth, light, and clarity**. The values we want to bring into every laboratory, every partnership, every solution we provide. Like a **pathway**, it suggests progress, movement, and guidance helping our clients move forward with confidence and safety.

So while Cheng Wei captures the heart of who we are in its original Chinese form, Sunway carries that same promise to the world: a brand built on honesty, strengthened by trust, and dedicated to creating a brighter, safer way forward.

When you choose Sunway, you choose more than a product. You choose a philosophy, a promise, and a partner whose foundation is sincerity and trust—**成出于诚，威建于信.**

About Sunway

Sunway Technologies: From Humble Beginnings to Global Leadership in Lab Safety

Sunway Technologies, known domestically in China as Sunway/Chengwei, has grown from modest beginnings into one of the world's leading producers of laboratory fume hoods. Founded in 1994 under the name **Beijing Chengwei Laboratory Equipment Co., Ltd.**, the company initially specialized in manufacturing kitchen cabinets. However, the founders guided by a passion for innovation and a deep understanding of manufacturing, soon identified a need in the market for high-quality, safe, and accessible laboratory equipment.

As the company shifted its focus to science and laboratory products, it adopted the brand name **Sunway**, signaling a new direction with a broader vision. Today, Sunway Technologies is recognized as **China's market leader in laboratory fume hoods**, with a rapidly expanding international presence. The company is now attracting attention worldwide for its **cutting-edge technology, design-forward engineering,** and **rigorous quality standards** that rival those of long-established global competitors.

At its core, Sunway remains a **family-owned and operated business**, and it's these family values—integrity, responsibility, and long-term commitment, that continue to shape its growth. The leadership fosters a culture of trust and craftsmanship, ensuring that every product reflects their commitment to laboratory safety and user-centered innovation.

With decades of experience and a relentless focus on research and development, Sunway is not only advancing fume hood technology but also raising the standard for safety and performance across the laboratory industry. As the company continues to expand into new markets, its dual legacy as **Chengwei** and **Sunway** serves as a proud reminder of its journey—from cabinetmaker to global safety innovator.

Mr. Zhou

Mr. Zhou is a second-generation leader at Sunway, having been raised in the business and immersed in its values from an early age. As a key figure in the new generation of innovators, he is helping to reimagine the fume hood industry with a forward-thinking approach rooted in safety, performance, and user trust. Passionate about laboratory safety, Mr. Zhou is dedicated to driving meaningful changes that create safer environments for scientific research. His leadership extends beyond Sunway, as he plays an active role in influential industry organizations such as SLEA and SEFA. Through these platforms, he contributes to the development of critical specifications and standards, while also prioritizing education and outreach for all fume hood stakeholders – from end users to architects and engineers. Understanding the responsibility that comes with being a market leader, Mr. Zhou has made **trust** a guiding principle at Sunway, shaping the company's reputation and future.

Break the Myth:
Face Velocity Doesn't Equal Safety

For decades, face velocity (the speed of air entering a fume hood) has been wrongly treated as the gold standard for containment. But the truth is more complicated and more critical for lab safety. Face velocity is not containment. It's merely one piece of a complex puzzle.

Laboratory fume hoods are exposure control devices designed to *capture, contain, dilute,* and *exhaust* hazardous materials. A high face velocity doesn't guarantee that harmful vapors stay inside the hood. In fact, many hoods that pass face velocity checks still fail containment tests, exposing users to risk.

So why the confusion? After OSHA required velocity indicators in the 1990s, many assumed that a "safe" reading meant proper containment. But face velocity readings, often based on a single point, can't account for real-world factors like room turbulence, equipment setup, or user activity. These variables dramatically impact containment.

Air behaves like water—it flows, eddies, and surges. Even in hoods with good design, room conditions or improper work practices can cause backflow or escape of hazardous fumes. A fume hood might "pass" in a controlled environment (ASHRAE 110 AM test) and still fail when installed or in use.

We need to move beyond the illusion that face velocity tells the whole story. The only reliable way to assess fume hood performance is with containment testing and a comprehensive evaluation of face velocity *profiles*, not averages.

Face Velocity is not containment.
Containment is safety.

CURRENT INDUSTRY STANDARDS

Fume Hood Safety and Performance Standards: What You Need to Know

Laboratory fume hoods are essential tools for protecting personnel from hazardous chemical exposure. Their performance and safety are governed by a series of interrelated standards and protocols designed to ensure effective containment and maintain safe working conditions. Understanding and following these standards is critical for compliance, safety, and operational excellence.

ASHRAE 110 – Benchmark for Performance Testing

The *ANSI/ASHRAE Standard 110-2016*, "Methods of Testing Performance of Laboratory Fume Hoods," is the industry's primary protocol for evaluating fume hood containment. It includes both quantitative and qualitative methods such as airflow visualization, tracer gas containment testing, and face velocity measurements. Though originally designed for factory testing, ASHRAE 110 is widely used to assess performance in installed hoods as well.

Z9.5 – Laboratory Ventilation

ANSI's Z9.5 Standard underscores the necessity of routine testing and certification. It recommends annual performance evaluations, testing before first use, and re-certification after any system modifications. Operators are also encouraged to conduct daily visual checks for cleanliness and airflow blockages. These proactive measures help ensure continued containment performance and safety.

SEFA 1 – Practical Recommendations for Safer Labs

The *Scientific Equipment and Furniture Association (SEFA) 1 Guidelines* offer recommendations for fume hood face velocities, tailored to the toxicity of the chemicals in use. While not a codified standard, SEFA 1 provides valuable guidance for optimizing performance and aligning with best safety practices. SEFA 1, ASHRAE 110, and Z9.5 often reference one another, forming a comprehensive framework for lab safety.

Tri-Color Dynamic Containment Protocol

Enhancing traditional static testing, the *Tri-Color Laboratory Fume Hood Dynamic Containment Protocol* introduces a more visual and practical approach. Using haze and laser technology, Tri-Color makes airflow patterns visible in real-time, revealing how the hood performs under actual working conditions. This method builds on ASHRAE 110's suggestion that real-world testing is essential for verifying safe operating procedures.

OSHA Laboratory Standard – Legal Obligation

Under the *OSHA Laboratory Standard (29 CFR 1910.1450)*, laboratories are legally required to ensure that fume hoods and other protective equipment function effectively. This includes regular inspection and maintenance as part of a chemical hygiene plan, reinforcing the importance of consistent oversight.

NFPA 45 – Fire Safety in Labs

Issued by the National Fire Protection Association, *NFPA 45* sets guidelines for fire protection in labs using hazardous chemicals. It includes design and operational requirements for fume hoods that help mitigate fire risks, particularly those involving flammable substances.

UL 1805 – Construction & Safety Integrity

The *UL 1805 Standard* addresses the structural, electrical, and fire safety of fume hoods, ensuring that the unit itself is built to rigorous safety standards.

The Bottom Line

Regular testing, adherence to standards, and embracing new testing protocols like Tri-Color all contribute to safer laboratories. By following this collection of complimentary standards and best practices, laboratories can ensure their fume hoods are doing what they're designed to do—protecting people.

Redefining Lab Safety, One Innovation at a Time

Introducing ***The Ultimate*** – a first-generation smart fume hood that represents a quantum leap in laboratory safety and user experience. Built with cutting-edge technology and intuitive design, The Ultimate is more than just a fume hood. It's the next evolution in creating safer, smarter labs.

But at Sunway, we believe lab safety isn't a destination. It's a journey. That's why The Ultimate is designed to grow with you. From the start, it delivers intelligent features that support best practices and empower users. And it doesn't stop there. We're committed to continuous improvement, with regular updates that enhance performance, functionality, and user interaction.

Our R&D team is already developing more than a dozen new features that will be seamlessly integrated into future versions of The Ultimate. These upgrades are designed to respond to real-world needs, streamline workflows, and further reduce risk in the lab environment.

Yet the most powerful improvements won't come from technology alone. They'll come from the community of users. As more people adopt The Ultimate, real-time feedback and practical insights will drive innovation. With every lab that uses it, The Ultimate becomes even smarter, more responsive, and more aligned with the demands of modern science.

Whether you're upgrading your lab or setting a new standard for safety, The Ultimate is the smart choice, both today and tomorrow.

Experience the future of lab safety. Experience The Ultimate.

Knowledge Improves Safety – and Prevents Accidents

"Safety" has become a catch-all phrase, broad, vague, and often misunderstood. At Sunway, we choose to focus on something more precise and impactful: **Accident Prevention**. By reframing the objective, we achieve better, more measurable outcomes–**fewer incidents and a significantly improved user experience** in laboratory environments.

In today's labs, traditional fume hoods place the entire responsibility for hazard identification, risk assessment, and safe operating procedures on the user. While education and training are absolutely essential, they are not always enough. Human error is inevitable. That's why we've developed ***The Ultimate***. A smarter, more intuitive fume hood that helps share the burden of safety.

The Ultimate isn't just a piece of equipment. It's like having your own **built-in safety coach**. By integrating knowledge of risk and real-time feedback, it can assist users in making safer decisions and responding to changing conditions. This intelligent technology doesn't replace training; it enhances it, turning passive equipment into an **active partner in safety**.

When knowledge is embedded into the hood itself, safety becomes proactive not reactive.

Accident prevention isn't just a goal. With The Ultimate, it becomes a reality.

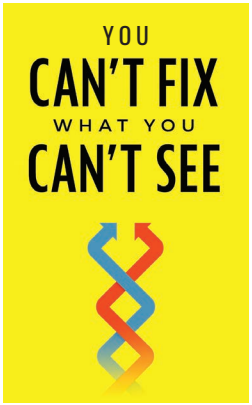
If You Can't See a Problem, You Can't Fix It

The Hidden Risks of Laboratory Work

In laboratories around the world, danger doesn't always announce itself. Hazards are often invisible odorless gases, poor airflow, equipment that's just slightly out of spec. And when we can't see a problem, we're less likely to act. That's why visibility (literal and figurative) is a cornerstone of lab safety.

We believe that risk can only be reduced when it's recognized. Whether it's room conditions, fume hood issues or user work practices, problems need to be seen before they can be solved. Too often, facilities rely on outdated assumptions or under-trained personnel, missing the very signals that could prevent an accident.

That's where we come in.



Our approach is built on a simple principle: **make safety visible**. We use the multi-color Sunway logo to give fume hood users **instant visual feedback** on airflow performance. Green means safe, yellow means caution, red means stop. No guesswork. No jargon. Just clarity.

We also go beyond the hardware. With factory certified inspections, user training programs, and educational resources empower researchers and lab managers to understand how their equipment should work and what to do when it doesn't.

In short, we help you ***see the problem*** before it becomes a costly incident. Let's stop flying blind. Let's start building labs where safety is obvious, intuitive, and actionable.

Because if you can't see a problem, you can't fix it.

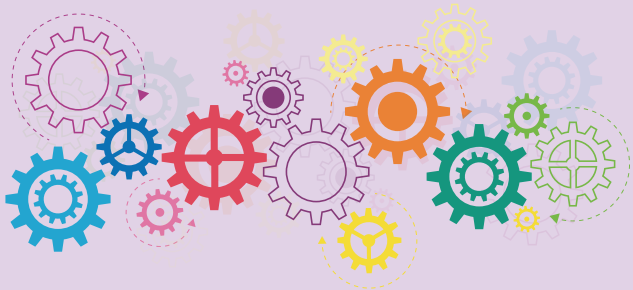
Teamwork Makes the Lab Work

In every high-performance lab, safety and success go hand in hand and both require teamwork. ***The Ultimate*** control panel is more than just a monitoring tool; it's a visual cue that reinforces the partnership between the fume hood and the user. It constantly reminds us of the hood's performance role and our own responsibilities when using it.

The more visual prompts we have, the more likely we are to process critical safety information. Just like pilots rely on pre-flight checklists, safe fume hood users should follow routine safety checks before starting work. ***The Ultimate*** encourages this mindset by keeping vital safety data in view and top of mind.

Safety should never be a distraction—it should be second nature, a collection of good habits built over time. When users engage with the fume hood as an active safety partner, risks are reduced, and confidence increases.

With ***The Ultimate*** and the user working together, safety becomes a shared responsibility. The result? A smarter, safer, and more productive lab environment for everyone.



What Does an Airplane and Fume Hood Have in Common?

In the early days of aviation, many airline companies did not have stringent maintenance protocols. Technical problems were not uncommon, and when an issue was fixed, there wasn't always a detailed record of the repair. Sometimes problems would be detected, "fixed" temporarily, and then forgotten, only to resurface later.

In an effort to improve safety, the industry introduced a robust maintenance log system. Every minor tweak, repair, or replacement was diligently recorded. The logs provided clarity, accountability, and allowed for better planning of periodic maintenance.

These maintenance logs led to a revolution in airline safety; emphasizing the importance of diligence, accountability, and always learning from the past. The idea was simple, yet revolutionary. Every inspection, every part replacement, every anomaly, no matter how minor, was to be logged with dates, details, and the technician's name. It ensured accountability and created a record that could be reviewed and cross-referenced.

Over time, these logs became vital not just for routine checks, but for understanding the lifecycle of parts, predicting wear and tear, and advancing aviation technology itself. They also ensured that no issue, no matter how minor, was not overlooked.

The maintenance log was a silent testament to the integrity of aviation. It was not just about recording data, but about upholding the sacred trust between human and machine.

Fume Hood Performance Tracker is a hood's diary, just like that of the plane's log, and the reason for our Fume Hood Performance Tracker is to build trust between the user and a safety device as a means to protect them from potentially harmful exposure. The Fume Hood Performance Tracker is a record of the hood's health and history.

So how do we know if a laboratory fume hood is working safely? Well, the truth is we don't know unless it has been tested. And if we don't have a record of the tests and inspections and system adjustments, how can we trust that our hood is performing safely? Just like a single component on an aircraft, the fume hood is part of a complex system. And a few years from now the people using the hood and maybe even the lab management has changed. Without a written record, all the history is lost.

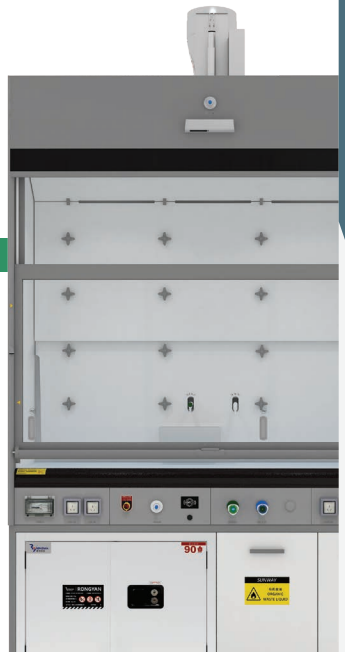
For the user, it is virtually impossible to know if your fume hood is performing safely. But our digital repository captures all the details, year after year, and gives the users confidence their hood is safe.

Performance Tracking Software

Every fume hood we certify is enrolled in Fume Hood Certified's exclusive **Fume Hood Performance Tracking** system. It's an advanced software tool developed by Fume Hood Certified to ensure long-term safety, compliance, and efficiency. Each hood is assigned a unique **Hood Identification Number (HIN)** that functions like a medical record number in a patient portal. This HIN unlocks a secure, digital repository of data for the life of the hood.

From the moment a fume hood leaves the factory, its journey is documented. Manuals, factory specifications, and installation details are uploaded first. Over time, every test report, safety inspection, maintenance event, and performance assessment is logged in the system. As years go by, these records build into a valuable archive creating trend lines that reveal changes in airflow performance, sash usage, containment effectiveness, and more.

This digital history allows facility managers, EH&S teams, and service professionals to track wear and tear, plan maintenance proactively, and even justify upgrades or replacements with data-driven insights. With our Performance Tracking system, your hoods are no longer isolated pieces of equipment. They're part of a smarter, safer, and fully documented lab environment. Stay informed. Stay compliant.



And most importantly—keep your users safe.

BIAS FOR ACTION

Innovation Without Limits

At Sunway, we pride ourselves on a unique advantage that sets us apart from traditional manufacturers—our **bias for action**. Based in China, we operate without the weight of legacy systems and overly restrictive regulations that often hinder innovation in Western markets. This freedom allows us to move fast, experiment often, and bring breakthrough technologies to market faster than ever before.

We don't just talk about innovation. We live it. When we have an idea, we build it. We test it. If it fails, we fix it quickly and try again. Every failure is viewed as a First Attempt In Learning, not a setback. This relentless cycle of trial, improvement, and refinement drives **continuous innovation** and ensures that by the time our products reach the market, they've been proven to perform under real-world conditions.

This approach has allowed us to develop some of the most advanced fume hood systems on the market today. Take ***The Ultimate***, for example. It's a revolutionary product that takes our development philosophy to a whole new level. Unlike conventional fume hoods that require hardware upgrades to improve performance, The Ultimate is powered by software. That means we can refine and upgrade features in real-time, based on user feedback, without waiting for the next generation of hardware.

At Sunway, we're not just building fume hoods. We're solving problems. We work closely with our customers, taking their feedback seriously and integrating it rapidly into our development process. This customer-first, action-oriented approach keeps us agile, responsive, and ahead of the curve.

Innovation doesn't have to take years. With Sunway, it happens now.

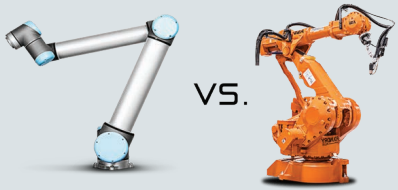
Engineering Platform vs. Product: What's the Difference?

When investing in lab infrastructure, it's important to understand the distinction between an engineering platform and a product. A product is a fixed solution—designed, manufactured, and delivered as-is. It's ideal when needs are consistent and well-defined. Products are standardized, making them easy to specify, install, and maintain. They serve a purpose, but often require adaptation to fit unique applications.

An engineering platform, on the other hand, is a flexible foundation designed for customization. It integrates core engineering principles, proven technologies, and modular components to create tailored solutions. Platforms are built to scale, adapt, and evolve alongside your lab's requirements. Instead of forcing your team to work within the limits of a fixed product, an engineering platform adapts to your workflow, safety protocols, and performance goals.

Choosing an engineering platform means investing in long-term value. It offers greater integration with building systems, smarter control options, and the flexibility to future-proof your lab. While a product delivers function, a platform delivers possibility.

Whether you're designing a new lab or upgrading an existing one, understanding this difference is key. With the right platform, you're not just buying equipment. You're building an adaptable, high-performance environment.



Robot to Cobot

A robot is an autonomous or pre-programmed machine designed to perform tasks without human intervention, often used in industrial settings for repetitive, high-precision work. Traditional robots are typically caged off for safety, operating independently of people due to the speed, strength, or risk involved in their movements.

A cobot, short for collaborative robot, is specifically designed to work safely alongside humans. Unlike traditional robots, cobots are equipped with sensors, force limitations, and advanced software that allow them to respond to human presence and input. They are often smaller, more flexible, and easier to program, making them ideal for tasks that require human oversight, adaptability, or shared workspace.

In short, the main difference lies in how they interact with people: robots work independently, often separated from humans, while cobots are designed for safe, direct collaboration, blending the efficiency of automation with the flexibility of human intelligence. To achieve this, they have to become self-aware. They have to understand the environment they are operating in.

Self -Awareness

What make a smart hood is its self-awareness. It goes from a dumb box that sucks, to an intelligent device that attempts to manage containment.

Innovation: Driving Products to the Next Level

Innovation isn't just about new ideas. It's about turning bold thinking into better solutions. It's the spark that transforms good products into great ones, pushing performance, safety, and user experience beyond expectations. At every stage of development, innovation fuels smarter design, advanced functionality, and sustainable practices that meet today's demands and anticipate tomorrow's needs.

By reimagining what's possible, we challenge the status quo and deliver results that truly stand out. Whether it's through cutting-edge materials, intuitive technology, or streamlined processes, innovation is the engine that drives growth and lasting value.

Taking a product to the next level requires more than incremental change. It demands a forward-thinking mindset and a commitment to continuous improvement. That's how we stay ahead. That's how we lead. And most importantly, that's how we deliver solutions that make a real difference.

Innovation isn't optional. It's essential.

The Sunway Family

In Chinese culture, food is so much more than fuel. It's family, tradition, and love served up on a plate. Around a Chinese table, meals become a language of connection. It's how generations bond, how love is shown, and how respect is passed down.

At Sunway, when you sit at our table, you're more than a customer—you're family.

In every Chinese home, the family meal is a daily ritual that reinforces togetherness. The round table symbolizes unity and equality and brings everyone face to face, with shared dishes placed in the center to encourage communal dining, cooperation, and conversation.

Respect is woven into every bite. Elders are served first. Younger family members learn early on to offer food as a sign of gratitude and care. The simple act of making someone's favorite dish or saying "吃了吗?" ("Have you eaten?") becomes a heartfelt gesture of love—one that doesn't require many words.

Food also plays a starring role in Chinese festivals and celebrations. Every dish carries meaning: dumplings for prosperity, noodles for long life, fish for abundance, and mooncakes for reunion. These meals do more than fill plates. They fill hearts, deepen cultural roots, and pass on traditions from one generation to the next.

The kitchen itself becomes a place of storytelling. Grandparents teach grandkids not just how to cook, but why it matters—the stories behind each ingredient, each recipe, each holiday. Cooking becomes a family effort, a way to laugh, learn, and build memories together.

At Sunway, we believe in these values. We believe in trust, respect, and the kind of hospitality that comes from generations of sharing meals and memories.

When you dine with us, you're not just enjoying a meal. You're being welcomed into something deeper. A culture, a family, and a legacy of love served daily, from our kitchen to your table.

Pull up a chair. You're family now.

The Ultimate – 2700H Bench Mounted
Smart Chemical Containment Device

THE WORLD'S FIRST TRULY INTELLIGENT FUME HOOD

A fully integrated system combining predictive containment, self-validation, fire protection, and smart controls–redefining what laboratory safety technology can be.

PREDICTIVE CONTAINMENT INTELLIGENCE

Advanced algorithms anticipate changing conditions and proactively adjust airflow to maintain containment before performance is compromised.

SELF-VALIDATING PERFORMANCE ASSURANCE

Continuous monitoring and automated verification confirm containment performance, providing confidence without relying solely on periodic manual testing.

INTEGRATED FIRE SUPPRESSION PROTECTION

Built-in fire suppression detects and responds rapidly to fire events, helping protect users, equipment, and facilities from escalation.

7-INCH TOUCHSCREEN CONTROL INTERFACE

A full-color, intuitive touchscreen provides real-time status, alarms, and control, making advanced hood intelligence accessible at a glance.

SAFE, COMPLIANT ELECTRICAL DESIGN AND SERVICE UTILITIES

Electrical systems are designed to meet applicable codes, protect users, and support reliable operation in demanding laboratory environments. UL Listed components with 20A integral breaker and 4 - 20A outlets. The modular design allows for customization of utility services such as air, water, vacuum, and specialty gases .

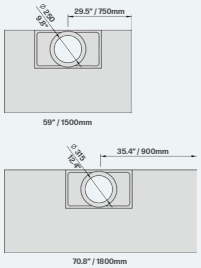
SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs. Vertical rising sash is standard but combination sashes are available. Sash Management System standard.

TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open 800mm (0.5 m/s)	Vert. Sash Open 500mm (0.3 m/s)	Vert. Sash Open 500mm (0.5 m/s)	Horizontal Opening (per window)
OR-25FGHH-150	59"/ 1500 mm	φ 9.8"/ φ 250 mm	2350 m³/h (1382.3 CFM)	900 m³/h (529.4 CFM)	1450 m³/h (852.9 CFM)	440 m³/h (285.8 CFM)
OR-25FGHH-180	70.8" / 1800 mm	φ12.4" / φ 315 mm	2840 m³/h (1670.5 CFM)	1100 m³/h (647 CFM)	1750 m³/h (1029.4 CFM)	340 m³/h (200 CFM)

STANDARD DUCT POSITION:



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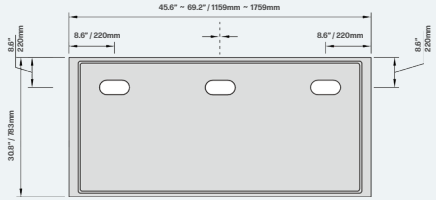

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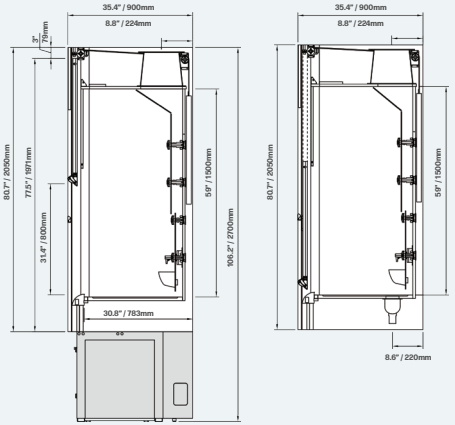

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OR-25FGHFH-180	70.8" / 1800 mm	φ12.4" / φ 315 mm	2374 m³/h (1396.4 CFM)	1040 m³/h (611.7 CFM)	1733 m³/h (1019.4 CFM)	382 m³/h (224.7 CFM)

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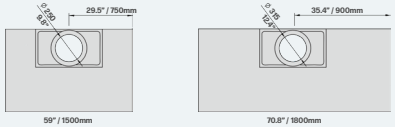

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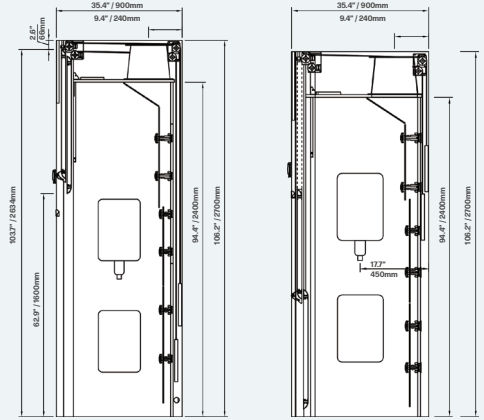

The Ultimate – 2400H Bench Mounted
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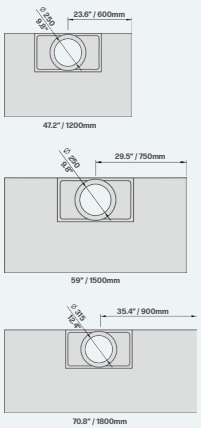
SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs. Vertical rising sash is standard but combination sashes are available. Sash Management System standard.

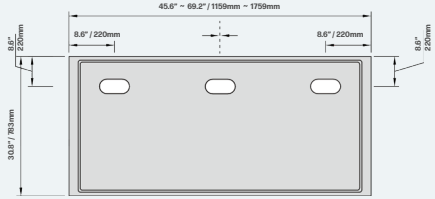
TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open 720 mm (0.5 m/s)	Vert. Sash Open 500 mm (0.3 m/s)	Vert. Sash Open 500 mm (0.5 m/s)	Horiz. Opening (per window)
OR-25FGH-120	47.2" / 1200 mm	φ 9.8" / φ 250 mm	1685 m³/h 991.1 CFM	680 m³/h (400 CFM)	1150 m³/h (676.4 CFM)	320m³/h (188.2 CFM)
OR-25FGH-150	59" / 1500 mm	φ 9.8" / φ 250 mm	2125 m³/h 1250 CFM /	900 m³/h (529.4 CFM)	1450 m³/h (852.9 CFM)	350 m³/h (205.8 CFM)
OR-25FGH-180	70.8" / 1800 mm	φ 12.4" / φ 315 mm	2565 m³/h 1508.8 CFM	1100m³/h (647 CFM)	1750m³/h (1029.4 CFM)	270m³/h (158.8CFM)

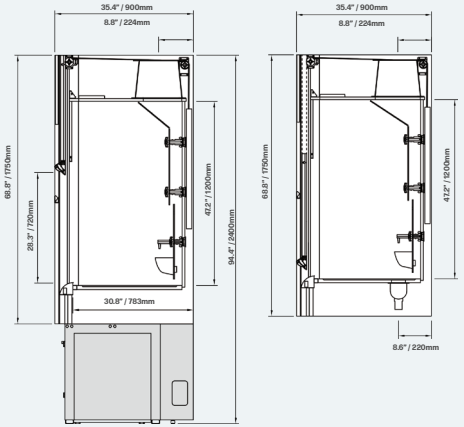
STANDARD DUCT POSITION:



WORK SURFACE DIMENSIONS:



WORK SURFACE SECTION:



The Ultimate – 2400H Floor Mounted
Smart Chemical Containment Device

THE WORLD'S FIRST TRULY INTELLIGENT FUME HOOD

A fully integrated system combining predictive containment, self-validation, fire protection, and smart controls—redefining what laboratory safety technology can be.

PREDICTIVE CONTAINMENT INTELLIGENCE

Advanced algorithms anticipate changing conditions and proactively adjust airflow to maintain containment before performance is compromised.

SELF-VALIDATING PERFORMANCE ASSURANCE

Continuous monitoring and automated verification confirm containment performance, providing confidence without relying solely on periodic manual testing.

INTEGRATED FIRE SUPPRESSION PROTECTION

Built-in fire suppression detects and responds rapidly to fire events, helping protect users, equipment, and facilities from escalation.

7-INCH TOUCHSCREEN CONTROL INTERFACE

A full-color, intuitive touchscreen provides real-time status, alarms, and control, making advanced hood intelligence accessible at a glance.

SAFE, COMPLIANT ELECTRICAL DESIGN AND SERVICE UTILITIES

Electrical systems are designed to meet applicable codes, protect users, and support reliable operation in demanding laboratory environments. UL Listed components with 20A integral breaker and 4 - 20A outlets. The modular design allows for customization of utility services such as air, water, vacuum, and specialty gases .

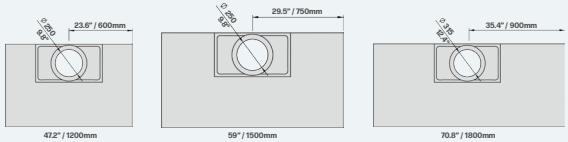
SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs.

TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open maximum (0.5 m/s)	Vert. Sash Open 500 mm (0.3 m/s)	Vert. Sash Open 500 mm (0.5 m/s)	Horiz. Opening (per window)
OR-25FGHF-120	472" / 1200 mm	φ 9.8" / φ 250 mm	1378 m³/h (810.5 CFM)	683 m³/h (401.7 CFM)	1139 m³/h (670 CFM)	294 m³/h (172.9 CFM)
OR-25FGHF-150	59" / 1500 mm	φ 9.8" / φ 250 mm	1737 m³/h (1021.7 CFM)	861 m³/h (506.4 CFM)	1436 m³/h (844.7 CFM)	403m³/h (237 CFM)
OR-25FGHF-180	70.8" / 1800 mm	φ 12.4" / φ 315 mm	2096 m³/h 1232.9 CFM)	1040 m³/h (611.7 CFM)	1737 m³/h (1019.4 CFM)	301 m³/h (177 CFM)

STANDARD DUCT POSITION:



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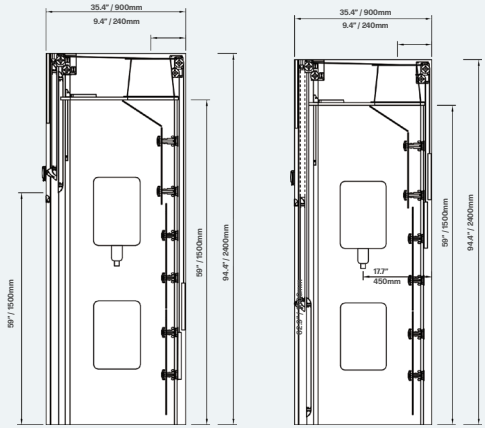


High Performance Fume Hood
Bench Mounted

BENCH MOUNTED AMERICAN-STYLE HIGH-PERFORMANCE FUME HOOD

Optimized for U.S. laboratories, this robust hood delivers consistent containment, durable construction, and compatibility with modern ventilation and control systems.

CONTAINMENT WITHOUT COMPROMISE

Engineered to maximize containment, verify performance, and reduce energy use through intelligent airflow management and proven, field-tested design principles.

SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs. Vertical rising sash is standard but combination sashes are available. Auto sash standard.

SIZES & CONFIGURATIONS

Standard widths are 1200 mm (≈4 ft), 1500 mm (≈5 ft), 1800 mm (≈6 ft) with multiple depth and height options depending on application. Customization is available. Floor Mounted design offers ample room for large equipment.

SAFE, COMPLIANT ELECTRICAL DESIGN AND SERVICE UTILITIES

Electrical systems are designed to meet applicable codes, protect users, and support reliable operation in demanding laboratory environments. UL Listed components with 20A integral breaker and 4 - 20A outlets. The modular design allows for customization of utility services such as air, water, vacuum, and specialty gases.

INTEGRATED CONTROLLER

Advanced controller continuously manages airflow, responds to operating conditions, and supports safe, energy-efficient laboratory operation.

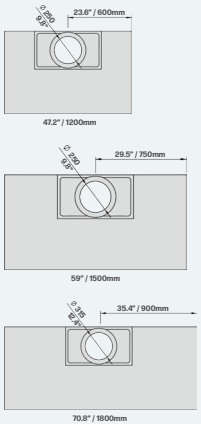
CHEMICAL RESISTANT WORKSURFACE AND LOWER AIRFOIL

Standard marine edged ceramic work surface with Teflon-coated lower airfoil.

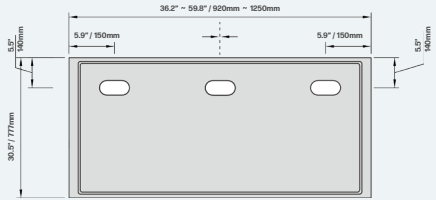
TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open 720mm (0.5 m/s)	Vert. Sash Open 457mm (0.3 m/s)	Vert. Sash Open 457mm (0.5 m/s)
MB-FGH-120	47.2" / 1200 mm	φ 9.8" / φ 250 mm	1312 m³/h (771.7 CFM)	499 m³/h (293.5 CFM)	832 m³/h (489.4 CFM)
MB-FGH-150	59" / 1500 mm	φ 9.8" / φ 250 mm	1739 m³/h (1022.9 CFM)	662 m³/h (365.8 CFM)	1104 m³/h (649.4 CFM)
MB-FGH-180	70.8" / 1800 mm	φ 12.4" / φ 315 mm	2167 m³/h (1274.7 CFM)	825 m³/h (485.2 CFM)	1375 m³/h (808.8 CFM)

STANDARD DUCT POSITION:



WORK SURFACE DIMENSIONS:



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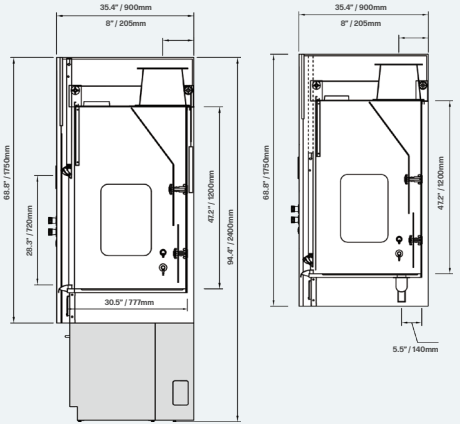


High Performance Fume Hood
Floor Mounted

FLOOR MOUNTED AMERICAN-STYLE HIGH-PERFORMANCE FUME HOOD

Optimized for U.S. laboratories, this robust hood delivers consistent containment, durable construction, and compatibility with modern ventilation and control systems.

CONTAINMENT WITHOUT COMPROMISE

Engineered to maximize containment, verify performance, and reduce energy use through intelligent airflow management and proven, field-tested design principles.

SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs. Vertical rising sash is standard but combination sashes are available. Auto sash standard.

SIZES & CONFIGURATIONS

Standard widths are 1200 mm (≈4 ft), 1500 mm (≈5 ft), 1800 mm (≈6 ft) with multiple depth and height options depending on application. Customization is available. Floor Mounted design offers ample room for large equipment.

SAFE, COMPLIANT ELECTRICAL DESIGN AND SERVICE UTILITIES

Electrical systems are designed to meet applicable codes, protect users, and support reliable operation in demanding laboratory environments. UL Listed components with 20A integral breaker and 4 - 20A outlets. The modular design allows for customization of utility services such as air, water, vacuum, and specialty gases

INTEGRATED CONTROLLER

Advanced controller continuously manages airflow, responds to operating conditions, and supports safe, energy-efficient laboratory operation.

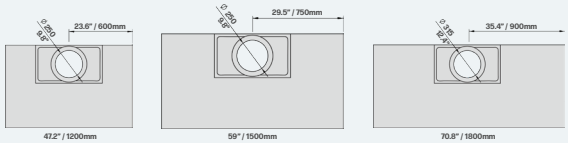
CHEMICAL RESISTANT WORKSURFACE AND LOWER AIRFOIL

Standard marine edged ceramic work surface with Teflon-coated lower airfoil.

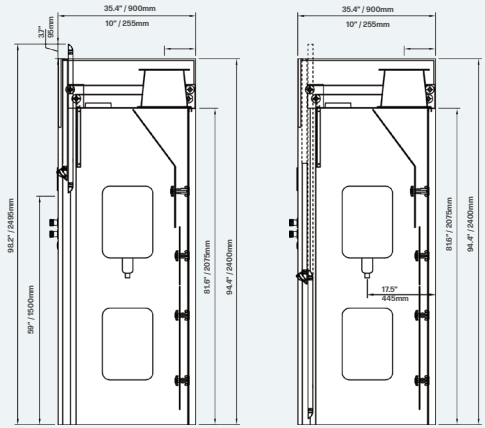
TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open maximum (0.5 m/s)	Vert. Sash Open 457 mm (0.3 m/s)	Vert. Sash Open 457 mm (0.5 m/s)
MB-FGHF-120	47.2" / 1200 mm	φ 9.8" / φ 250 mm	1102 m³/h (648.2 CFM)	499 m³/h (293.5 CFM)	832 m³/h (489.4 CFM)
MB-FGHF-150	59" / 1500 mm	φ 9.8" / φ 250 mm	1461 m³/h (859.4 CFM)	622 m³/h (365.8 CFM)	1104 m³/h (649.4 CFM)
MB-FGHF-180	70.8" / 1800 mm	φ 12.4" / φ 315 mm	1821 m³/h (1071.1 CFM)	825 m³/h (485.2 CFM)	1375 m³/h (808.8 CFM)

STANDARD DUCT POSITION:



WORK SURFACE SECTION:



Acid Digestion Hood

ACID DIGESTION HOOD

Designed for aggressive acid digestion, this hood resists corrosion, protects users, and maintains stable containment under high heat and vapor loading.

CORROSION-RESISTANT CONSTRUCTION

Interior liners, baffles, and duct collars are made from polypro-pylene to resist strong heated acids.

ACID-RESISTANT WORK SURFACE

Work surfaces is ceramic designed to withstand spills, heat, and aggressive acid attack.

HIGH HEAT & VAPOR LOAD MANAGEMENT

Engineered to handle hot plates, digestion blocks, and intense vapor release without compromising containment or airflow stability.

SASH & VISIBILITY PROTECTION

Sash glazing and frames are selected to resist acid etching, fogging, and degradation while maintaining clear visibility. Auto sash standard.

CONTAINMENT-FOCUSED AIRFLOW DESIGN

Airflow patterns are optimized to capture heavy, corrosive vapors and prevent reflux, dead zones, or vapor buildup.

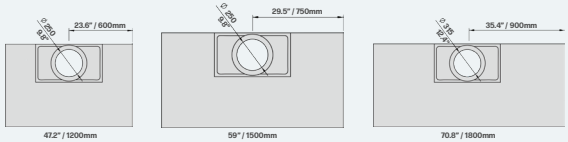
SIZES & CONFIGURATIONS

Standard widths are 1200 mm (≈4 ft), 1500 mm (≈5 ft), 1800 mm (≈6 ft) with multiple depth and height options depending on application. Customization is available.

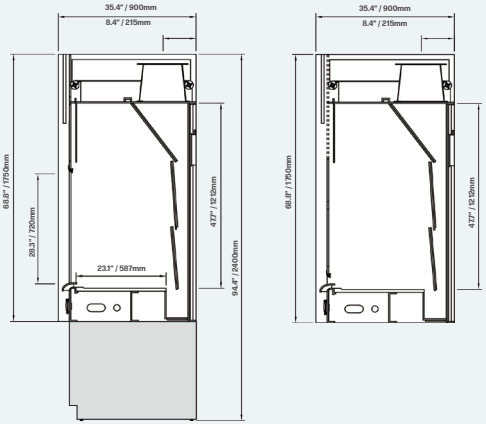
TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open 720mm (0.5 m/s)	Vert. Sash Open 457 mm (0.3 m/s)	Vert. Sash Open 457 mm (0.5 m/s)
MB-FGE-120	47.2" / 1200 mm	φ 9.8" / φ 250 mm	1312 m³/h (771.7 CFM)	499 m³/h (293.5 CFM)	832 m³/h (489.4 CFM)
MB-FGE-150	59" / 1500 mm	φ 9.8" / φ 250 mm	1739 m³/h (1022.9 CFM)	622 m³/h (365.8 CFM)	1104 m³/h (649.4 CFM)
MB-FGE-180	70.8" / 1800 mm	φ 12.4" / φ 315 mm	2167 m³/h (1274.7 CFM)	825 m³/h (485.2 CFM)	1375 m³/h (808.8 CFM)

STANDARD DUCT POSITION:



WORK SURFACE SECTION:



Perchloric Acid Hood

PERCHLORIC ACID HOOD

Designed specifically for working with Perchloric Acid when dried crystals can become explosive.

INTERIOR CONSTRUCTION

316 Stainless Steel welded liner. Coved corners. SS Baffles Designed for easy cleaning with automatic washdown system.

ACID NEUTRALIZATION SYSTEM

Below the hood in the storage cabinets is an acid collection and neutralization system for safe discharge of washdown water.

SIZES & CONFIGURATIONS

Standard widths are 1200 mm (≈4 ft), 1500 mm (≈5 ft), 1800 mm (≈6 ft) with multiple depth and height options depending on application.

SAFE, COMPLIANT ELECTRICAL DESIGN AND SERVICE UTILITIES

Electrical systems are designed to meet applicable codes, protect users, and support reliable operation in demanding laboratory environments. UL Listed components with 20A integral breaker and 4 - 20A outlets. The modular design allows for customization of utility services such as air, water, vacuum, and specialty gases.

SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs. Vertical rising sash is standard but combination sashes are available. Auto sash standard.

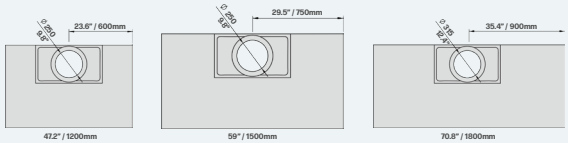
CHEMICAL RESISTANT FINISH

All painted metal components are highly Chemical Resistant per the SEFA 8-M standard.

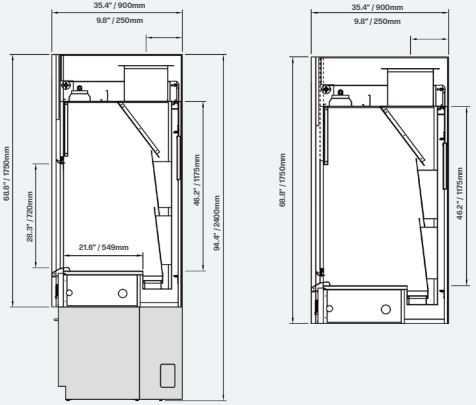
TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Vert. Sash Open 720mm (0.5 m/s)	Vert. Sash Open 457 mm (0.3 m/s)	Vert. Sash Open 457 mm (0.5 m/s)
MB-FGP-120	47.2" / 1200 mm	φ 9.8" / φ 250 mm	1312 m³/h (771.7 CFM)	499 m³/h (293.5 CFM)	832 m³/h (489.4 CFM)
MB-FGP-150	59" / 1500 mm	φ 9.8" / φ 250 mm	1739 m³/h (1022.9 CFM)	662 m³/h (365.8 CFM)	1104 m³/h (649.4 CFM)
MB-FGP-180	70.8" / 1800 mm	φ 12.4" / φ 315 mm	2167 m³/h (1274.7 CFM)	825 m³/h (485.2 CFM)	1375 m³/h (808.8 CFM)

STANDARD DUCT POSITION:



WORK SURFACE SECTION:



Synchronized Supply Fume Hood

SYNCHRONIZED SUPPLY & EXHAUST

An advanced energy-saving concept. Both exhaust and supply are managed directly inside the fume hood chamber and modulated in sync to maintain .containment.

CONTAINMENT WITHOUT COMPROMISE

Engineered to maximize containment, verify performance, and reduce energy use through intelligent airflow management and proven design principles.

SASH SYSTEM & USER SAFETY

Explosion-resistant safety glass sash providing user protection. Fail-safe sash suspension system with steel-core polyurethane synchronous belts that keeps sash in place if belt failure occurs. Vertical rising sash is standard but combination sashes are available. Auto sash is standard.

SIZES & CONFIGURATIONS

Standard widths are 1200 mm (≈4 ft), 1500 mm (≈5 ft), 1800 mm (≈6 ft) with multiple depth and height options depending on application. Customization is available.

SAFE, COMPLIANT ELECTRICAL DESIGN

Electrical systems are designed to meet applicable codes, protect users, and support reliable operation in demanding laboratory environments. UL Listed components with 20A integral breaker and four 20A outlets.

UTILITIES

The modular design allows for customization of utility services such as air, water, vacuum, and specialty gases

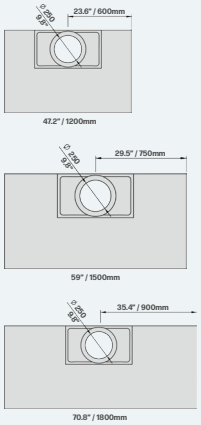
INTEGRATED CONTROLLER

Advanced controller continuously manages airflow, responds to operating conditions, and supports safe, energy-efficient laboratory operation.

TECHNICAL SPECIFICATIONS:

Model	Width (mm)	Exhaust Port	Exhaust Air Volume m^3/h	Supply Air Volume m^3/h
OR-25FGHF-120	47.2" / 1200 mm	φ 9.8" / φ 250 mm	681 m^3/h (400.5 CFM)	409 m^3/h (240.5 CFM)
OR-25FGHF-150	59" / 1500 mm	φ 9.8" / φ 250 mm	859 m^3/h (505 CFM)	515 m^3/h (302.9 CFM)
OR-25FGHF-180	70.8" / 1800 mm	φ 9.8" / φ 250 mm	1036 m^3/h (609.4 CFM)	622 m^3/h (365.8 CFM)

STANDARD DUCT POSITION:



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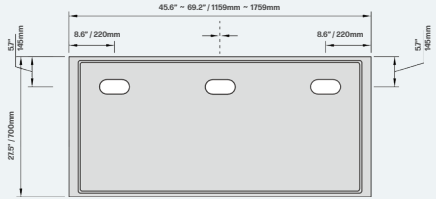

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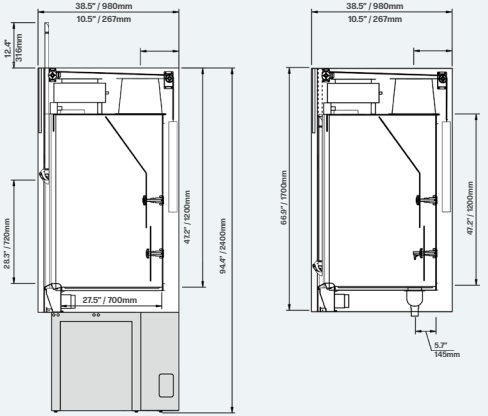














Guard

SUNWAY TECHNOLOGIES

Worldwide Leader In Exposure Control Devices

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We are committed to building worldclass products that support the advancement of Science and protects the health and safety of our scientist and technical workers.