



Guardware
cleanroom hardware

ISOFLOW

Laminar Flow Unit Data Sheets



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ISOflow Max is Guardware's elite laminar flow unit. While others rely on traditional PSC motors, the ISOflow Max Vertical Laminar Flow Cabinet is the only vertical-type clean bench in the market that uses Direct Current Electronically Commutated Motor (DC ECM) technology. Reducing energy costs by up to 70%, these clean benches are the greenest ones yet.

The secret to achieving energy savings through ECM technology lies in its high electrical efficiency and ability to run precisely on programmed speeds. Enjoy low heat and noise emission from a laminar air flow cabinet that is a product of robust engineering combined with strategic ergonomic design.

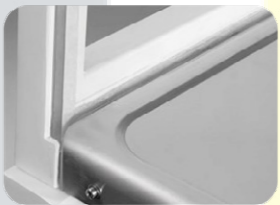
It provides long-term reliability and ultimate user comfort, making it ideal for non-hazardous applications that need a sterile environment.



- ULPA filtration
- DC ECM blower
- Low noise levels
- Stainless steel worktop
- Antimicrobial unit coating
- Ergonomic design



TECHNICAL FEATURES



High-Quality Construction

- Stainless steel worktop
- Spill-retaining design will ensure containment of accidental liquid spills



Quiet Operation

- Comfortable low noise at 52 dBA
- Reduce fatigue and improve work concentration



Dimmable LED

- 10x Filtration efficiency of HEPA filter Creates ISO Class 3 work zone instead of industry-standard ISO Class 5



Isocide Antimicrobial Powder Coating

- Eliminates 99.9% of surface bacteria within 24 hours of exposure



Energy-efficient

- Powered by latest generation DC ECM blower, that is more efficient than legacy ECM and VFD motors
- 70% Energy savings compared to AC motor
- Stable airflow, despite building voltage fluctuations & filter loading

ISOflow Max Sentinel Gold interface



Standard Product Options

Fixed or manual sliding sash window	Support stand with castor wheels
Glass side walls	Support stand with levelling feet
UV lamp	Pre-filter
Polycarbonate front cover	Stainless steel side walls
Telescoping stand with castor wheels	Telescoping stand with levelling feet



ISOFLOW MAX FEATURES

- ULPA filtration: Provides ISO Class 3 clean air for a sterile environment
- Low noise operation: Runs quietly at 52.4 dBA for a comfortable workspace
- Glass side walls: Enhance visibility while maintaining a sterile environment
- Sliding sash design: Easy access and ergonomic comfort for users
- Energy-efficient: Low heat emission and precise speed control for optimal performance
- Applications: Ideal for microbiology, forensics, and sterile product compounding
- Internal height: 2ft
- Available sizes: 3ft, 4ft, 5ft and 6ft to suit your space needs

Need something more bespoke? Tell us your requirements and we'll work together to find a solution!

Precision airflow. Ultimate product protection. The ISOflow Pro vertical laminar flow cabinet is expertly engineered to provide a clean, particle-free working environment for sensitive processes and materials. With a sleek, compact design and top-tier filtration performance, ISOflow Pro delivers dependable protection for non-hazardous operations – ideal for laboratories, pharmaceutical compounding, electronics assembly and more.

ISOflow Pro units direct ULPA-filtered air downward in a uniform, vertical flow, creating an ISO Class 3 workspace that protects your work from airborne contamination.

The user-friendly operation features a simple control interface with clear visual indicators and easy-to-maintain components for hassle-free use.

- ULPA-filtered ISO Class 3 air quality

- Robust unit construction

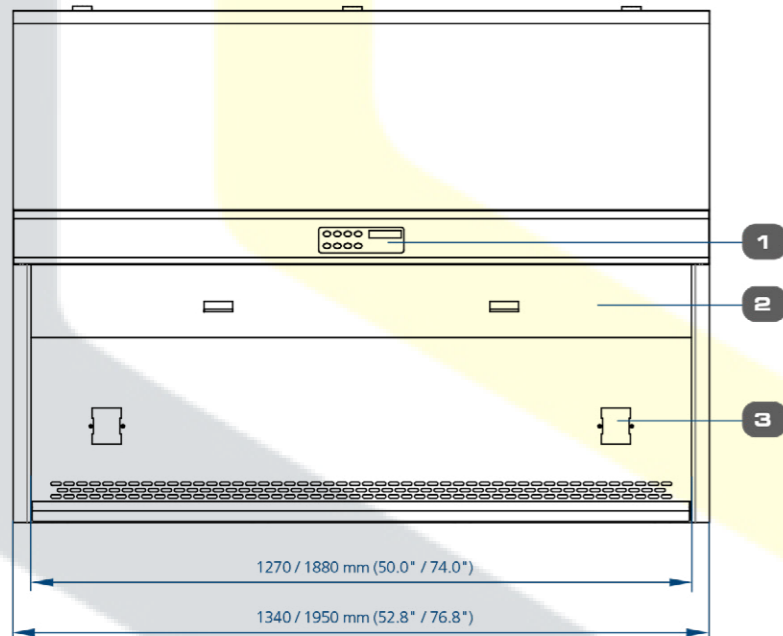
- Quiet, vibration free operation

- Self-compensating, stable airflow

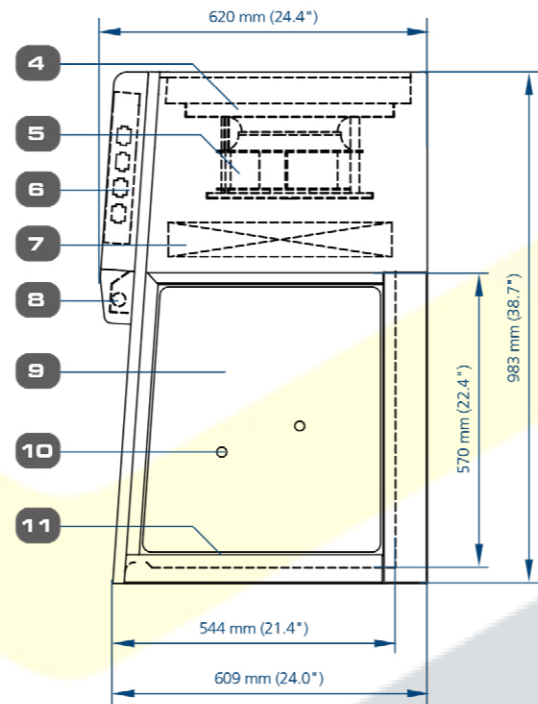


TECHNICAL DRAWING

Need something more bespoke? Tell us your requirements and we'll work together to find a solution!



- 1. Sentinel™ Silver Microprocessor Controller
- 2. Tempered Glass Sliding Sash Window
- 3. Electrical Outlet
- 4. Pre-filter
- 5. Motor Fan
- 6. Electrical Panel



- 7. ULPA Filter
- 8. LED Lamp
- 9. Tempered Glass Side Wall
- 10. Service Fixture Retrofit Kit Provision
- 11. Stainless Steel Work Tray



Standard Product Options

Copper piping for service fixture
UV lamp
Support stand with castor wheels
Support stand with levelling feet

ISOFLOW PRO FEATURES

- Sliding Sash with Ergonomic Handle
- ULPA Filter (ISO Class 3 Work zone)
- Sentinel Silver Microprocessor Control System
- German-made ebm-paps Centrifugal Motor
- Isocide Antimicrobial Powder Coating
- Stable and Self-compensating Airflow
- Additional disposable pre-filter
- Available sizes: 4ft and 6ft
- One-piece stainless steel work surface



ISOflow Plus vertical laminar flow cabinets are designed according to the most stringent quality standards to provide unrivalled protection to your products and reduce release of allergens and irritant substances into the environment. ISOflow Plus is a cost-effective yet high performance vertical laminar flow unit.

The internal design, the air flow aerodynamics and monitoring, the built-in safety devices and the very accurate manufacturing, guarantees the highest performances at the most stringent safety levels.

High level intrinsic biological cleanliness, combined with impressively competitive prices, gives the end user a state-of-the-art cabinet accessible to every budget, that only experienced European design and accurate quality manufacturing, can provide.



- Electrically operated front glass
- Tight seal closure system
- Robust construction
- Operational comfort assured



TECHNICAL FEATURES

- ISO 3 (ISO14644-1) internal cleanliness level
- Both exhaust and Main Filters are equipped with a micromesh membrane located downstream which acts as airspeed equalizer expansion plenum, as well as a clear indicator of filter damages.
- Filter change and maintenance from the front of the cabinet.
- Exhaust transitions easily installable
- Self-calibration cycle performed when cabinet is switched on.
- Key operated. The key can be removed when the unit is in SAFE mode, in order to avoid unwanted operation. In case of power failure, the cabinet is re-set to original working conditions.



ISO FLOW PLUS

- Visual display of SAFE conditions. Pre-warning before actual alarm conditions are reached (visual and acoustic alarms)
- Soft touch control with keys for standard service utilities. Interconnected UV and LED lights.
- Exhaust and recirculating flow rates ensure 25 air changes/min in the working area (30%/70% split)
- Aperture protection Factor (Apf) $\geq 1.5 \times 10^4$
- Microprocessor equipped with analogical watchdog.
- Work surface displacement (vibration) $< 0.005\text{mm RMS}$ between 20Hz and 20,000Hz

Standard Product Options

UV Lamps
Adjustable Stand
DOP Sampling Port
Combustible gas tap with solenoid valve or inert gas tap
Additional sockets
Passive transition adapter for external ducting
Active extraction kit for ducting with remote motorblower

ISOFLOW PLUS FEATURES

- State of the art microprocessor control system
- Large LCD Graphical display
- Sliding front sash, electrically operated by finger touch
- Alarms for low air flow and wrong front window position
- Sloped front and back wall for the most comfortable access
- Front access for filter maintenance and service
- C-shaped support stand for the easiest one-man installation procedure
- Easy retrofit option kits
- Available sizes: 4ft
- Automatic reset of initial conditions in case of power failure
- Continuous monitoring of front barrier airflow

Need something more bespoke? Tell us your requirements and we'll work together to find a solution!



- Convenient compact size
- Cost-effective
- ISO3 Cleanliness
- 5mm thick glass front & side panels

When space matters, this compact benchtop laminar flow cabinets provide all you need to keep your products clean and protected without taking away your lab space.

The ISOflow Lite is Guardware's most cost-effective laminar flow solution, offering maximum protection for the product and comfort for the operator.

Featuring H14 HEPA filters with diffusing membrane to ensure maximum flow uniformity, ISOflow Lite offers extreme cleanliness (ISO Class 3), with a robust stainless steel worktop and optional UV lamp to decontaminate the work surface, ensuring your process remains clean and compliant.

For a top-quality, size-conscious and cost-effective solution, choose ISOflow Lite.

TECHNICAL FEATURES

- Compact, vertical laminar air flow cabinet.
- **Reduced size for the easiest installation in small or crowded labs.**
- Easily convertible inward or outward barrier operating modes.
- **Hinged front panel and side panels in tempered glass**
- H14 downflow filter
- **Filtrete exhaust filter (or pre-filters depending on configurations)**
- Active PCR version
- **Silent and quite operation <65dB(A)**



OUTWARD AIR BARRIER

Air is sucked through the Filtrete pre-filter, mixed with the incoming recirculating air and then filtered through the main HEPA filter into the work area: here 30% of the

ISOFLOW LITE

INWARD AIR BARRIER

In this configuration an air barrier flows through the front opening and is recirculated with the downflow air by a motor blower.

70% of the air is returned to the work area through the main HEPA filter and 30% is exhausted into the environment through a Filtrete exhaust filter with gravimetric efficiency of 99% on 3µm particles. In this configuration an excellent product protection is ensured, as well as an outstanding containment.

air is exhausted through the front opening and 70% is recirculated. This configuration ensures the highest product protection. In the OUTWARD configuration this unit can easily be used as an "active PCR" cabinet for DNA carry over blocking.

Standard Product Options

- Service Socket
- Cover with UV lamp

ISOFLOW LITE FEATURES

- Centrifugal Motorblower with digital inverter for optimal performance
- Elapsed time-meter
- Exhaust filter
- Removable perforated work surface and back wall of the work chamber made of AISI 304 stainless steel
- Cabinet outer surfaces made of cold rolled steel with paint finish
- Front and side panels in 5mm thick tempered glass
- H14 class HEPA (EN1822-1)
- Exhaust filter (or pre-filter) type Filtrete with a gravimetric efficiency higher than 99% on 3 µm particles
- Optional cover with UV light (includes safety switch to turn off UV if cover is removed from the cabinet)
- Lighting > 800 lux
- Silent and quite operation <65dB(A) due to the highly vibration-free suspensions of fan
- Available width: 2.4ft

Need something more bespoke? Tell us your requirements and we'll work together to find a solution!

THE GUARDWARE customer journey is all about consultation and collaboration. We're here to support and empower you – to help you tailor your order so that it meets all the requirements necessary to elevate your operations.

This philosophy applies to each and every product in the entire range – which is why each and every customer has the option to open up a supportive dialogue with a member of the Guardware team.

We've curated standard product ranges for each item in the ISO family in order to help streamline your customer experience.

But we're also ready to help deliver solutions that are 'outside the box' – just tell us what your bespoke requirements are, and we'll work with you to develop a product that ticks all the right boxes.

To get you started, here's a simple Ordering Guide to help you tailor your perfect ISOflow laminar flow unit.



STEP ONE

Tell us what you'll be using the ISOflow laminar flow unit for?

- Sterile drug prep?
- Tissue culture work?
- Aseptic compounding?
- Bacterial cultures?
- Precision optics?
- Semiconductor assembly?

STEP TWO

How wide would you like your ideal biological safety cabinet to be?



STEP THREE

Time for the specifics – give us the finer details on your LAF!

- Do you require horizontal or vertical flow?**
- What sort of airflow velocity and uniformity is required?**
- What internal work surface size do you need to accommodate your equipment and procedures?**
- Is there enough space for installation – including ceiling clearance?**



STEP FOUR

Choose your ISOflow laminar flow bench product options

- UV lamps
- Adjustable stands
- DOP sampling port
- Combustible gas tap with solenoid valve or inert gas taps
- Passive transition adapter for external ducting
- Castors
- Active extraction kit for ducting



STEP FIVE

Place your order!

-  Head over to www.guard-ware.co.uk and submit your Basket enquiry for a specially tailored quote!
-  Email sales@guardtech.com to begin your journey with a Guardware rep
-  Call the team directly on **0330 113 0303**

// I want a 3ft wide laminar flow unit for optical lens production. It needs to have castors and a foot rest //



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