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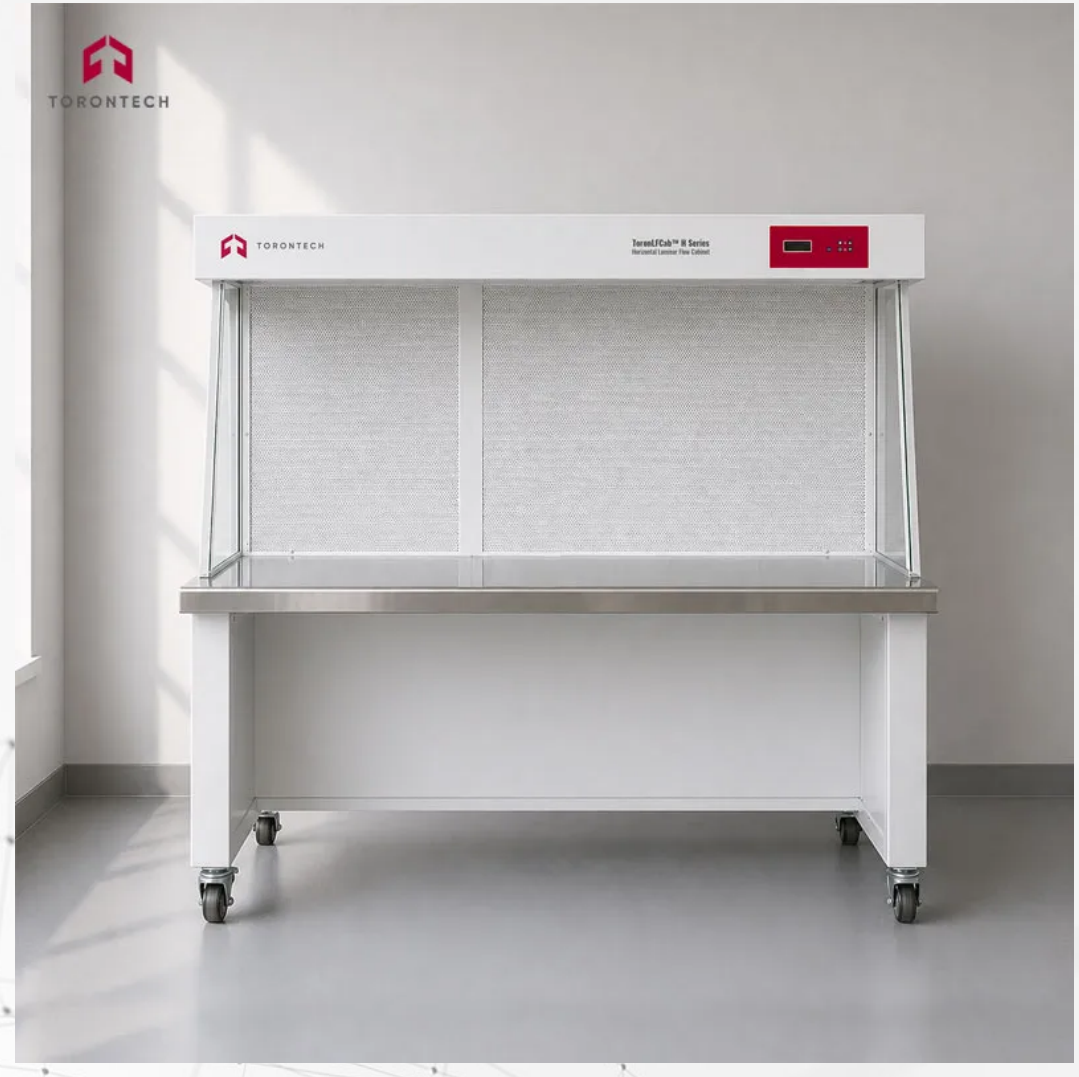


HORIZONTAL LAMINAR FLOW CABINET

Horizontal Laminar Flow Cabinet – ToronLFCab™ H Series

ToronLFCab™ H series is a horizontal laminar air flow cabinet providing ISO Class 5 / Class 100 product protection through rear-to-front HEPA-filtered horizontal airflow. Available in single-width (910 mm interior) and double-width (1,570 mm interior) variants, it delivers a fully open, low-profile work envelope suited to tall samples, optical instruments, and applications where the vertical sash of a traditional clean bench would obstruct access or airflow.

The ToronLFCab™ H series is a horizontal laminar flow cabinet that generates an ISO Class 5 (Class 100) work environment through rear-to-front unidirectional horizontal airflow. Unlike vertical-flow laminar air flow cabinets where filtered air sweeps downward over the sample, the H-Flow directs HEPA-filtered air horizontally from the rear wall of the cabinet toward the open front, creating a clean zone where airborne contaminants are continuously pushed away from the sample and out of the front opening directly toward the operator and into the room.

This horizontal airflow geometry provides a fully open, unobstructed front access with no overhead sash or front panel to reach around, making the ToronLFCab™ H the preferred clean bench configuration for tall samples, microscopes, calibration instruments, and precision assembly tasks where vertical clearance is critical. The SUS304 stainless steel worktable and cold-rolled steel powder-coat housing provide long-term durability and easy decontamination. A centrifugal fan with six-stage speed control (0.3–0.6 m/s), LCD touch-panel controller, and independent UV sterilization timer (0–999 min) round out the feature set, matching the control capabilities of the vertical-flow ToronLFCab models. A two-stage pre-filter and HEPA system protects filter service life across both width variants.

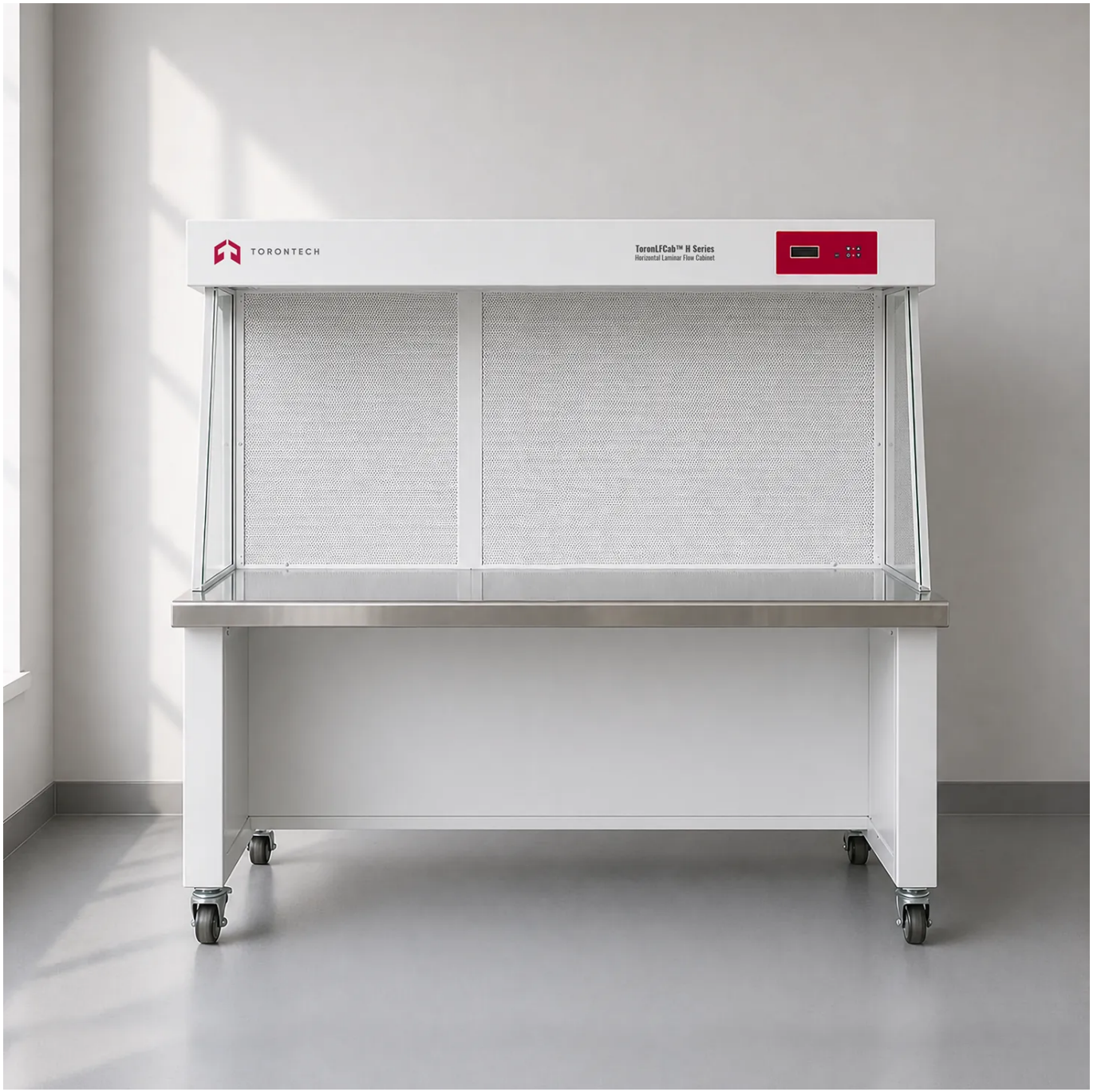
APPLICATIONS

Horizontal Laminar Flow Cabinet – ToronLFCab™ H Series Applications

The ToronLFCab™ H is horizontal laminar flow cabinet and clean bench is particularly suited to applications requiring unobstructed top-open access and horizontal product protection, including:

- Wafer handling & semiconductor processing
- Optical instrument calibration & inspection
- Precision mechanical assembly
- Open-plate microbiological sample plating
- Sterile pharmaceutical product filling & dispensing
- Tall-sample clean bench operations
- Electronics component inspection & handling
- Research requiring unobstructed top-front access

Important: In a horizontal laminar air flow cabinet, filtered air flows toward the operator. This configuration provides product/sample protection but NOT operator protection. Horizontal flow clean benches must never be used with biohazardous, cytotoxic, radioactive, or volatile chemical materials, as contaminated air flows directly toward the user.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ToronLFCab™ H Series
Horizontal Laminar Flow Cabinet

FEATURES

Horizontal Laminar Flow Cabinet – ToronLFCab™ H Series Key Features

- Horizontal laminar airflow from rear HEPA to front opening provides ISO Class 5 product protection with a fully open, unobstructed front access — no overhead sash — making this the preferred laminar air flow cabinet configuration for tall samples, optical instruments, and precision assembly tasks
- Cold-rolled steel housing with electrostatic powder-coat finish; grade SUS304 stainless steel worktable provides corrosion resistance and easy decontamination for clean bench workflows
- Low-noise centrifugal fan with stable rotational speed maintains ≤67 dB noise and ≤5 μm vibration half-peak value in all three axes — suited to vibration-sensitive precision work
- LCD touch-panel controller with six-stage wind speed control (0.3–0.6 m/s) for precise airflow adjustment, with single-interface management of fan speed, work lamp, UV lamp, and sterilization timer
- Independent UV lamp circuit with 0–999 minute sterilization timer enables automated pre- and post-session decontamination of the full interior independently of the work lamp
- Two-stage filtration — medium-efficiency pre-filter upstream of rear-mounted HEPA — captures coarse particles before they load the primary filter, extending HEPA service life and reducing maintenance costs
- Available in single-width (910 mm, 1 person) and double-width (1,570 mm, 2 persons) configurations, both sharing the same 480 mm depth and 570 mm interior height for consistent workspace geometry across sizes

THEORY & METHOD

Theory and Method

The ToronLFCab™ H uses horizontal unidirectional laminar airflow. Room air is drawn in through a medium-efficiency pre-filter at the intake, which removes large particles before the air reaches the HEPA filter mounted at the rear of the cabinet. The HEPA filter removes ≥99.97% of airborne particles ≥0.3 µm, and the cleaned air is then driven horizontally across the work surface — from the rear HEPA face toward the open front of the cabinet — by the centrifugal fan.

This horizontal sweep continuously displaces airborne contaminants off the worktable and out of the open front, ensuring that the sample is always in a zone of freshly filtered air arriving from behind. Because there is no front sash or overhead panel obstructing the opening, operators have full, unobstructed access to the complete work zone — an important advantage for tall assemblies, microscopes, and instruments that would otherwise not fit inside a vertical-flow laminar flow cabinet. Six-stage wind speed control (0.3–0.6 m/s) allows airflow adjustment to match the sensitivity of the application. The UV sterilization circuit with a 0–999 minute timer provides automated interior decontamination before and after each use.

Operator safety note: Because horizontal airflow exits toward the operator, any contamination introduced into the work zone — or any hazardous material placed in the cabinet — will be directed toward the user. The ToronLFCab™ H is a product-protection device only, and must never be used with biological, chemical, or radiological hazards.

TECHNICAL SPECIFICATIONS

Horizontal Laminar Flow Cabinet – ToronLFCab™ H Series Technical Specifications

Parameter	ToronLFCab™ SO-H	ToronLFCab™ DO-H
Airflow Direction	Horizontal	Horizontal
Working Sides	1	1
Persons per Side	1	2

Parameter	ToronLFCab™ SO-H	ToronLFCab™ DO-H
Cleanliness Class	ISO Class 5 (Class 100)	ISO Class 5 (Class 100)
Wind Speed (m/s)	0.3 – 0.6	0.3 – 0.6
Noise (dB)	≤67	≤67
Vibration Half-Peak Value (X, Y, Z) (μm)	≤5	≤5
Illuminance (Lux)	≥300	≥300
Interior Dimensions W×D×H (mm)	910×480×570	1,570×480×570
Exterior Dimensions W×D×H (mm)	910×790×1,380	1,570×790×1,380
HEPA Filter Dimensions (mm)	815(600+815)×575×50	815(600+815)×575×50
Number of HEPA Filters	1	1
Work Lamp (W × pcs)	20 × 1	40 × 1
UV Lamp (W × pcs)	20 × 1	40 × 1
Rated Power (kW)	0.15	3
Voltage (V, Hz)	220 ±10, 50/60 (110V is also available)	
Net Weight / Gross Weight (kg)	90 / 146 | 146 / 198	—
Package Size (mm)	1,030 × 910 × 1,550	—

ISO Class 5 equivalent to Federal Standard 209E Class 100. This is a horizontal laminar air flow cabinet providing product protection only — horizontal airflow exits toward the operator. Never use with biohazardous, cytotoxic, or chemical hazards. Double-width weight and packaging data not provided by manufacturer. All dimensions in mm.

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