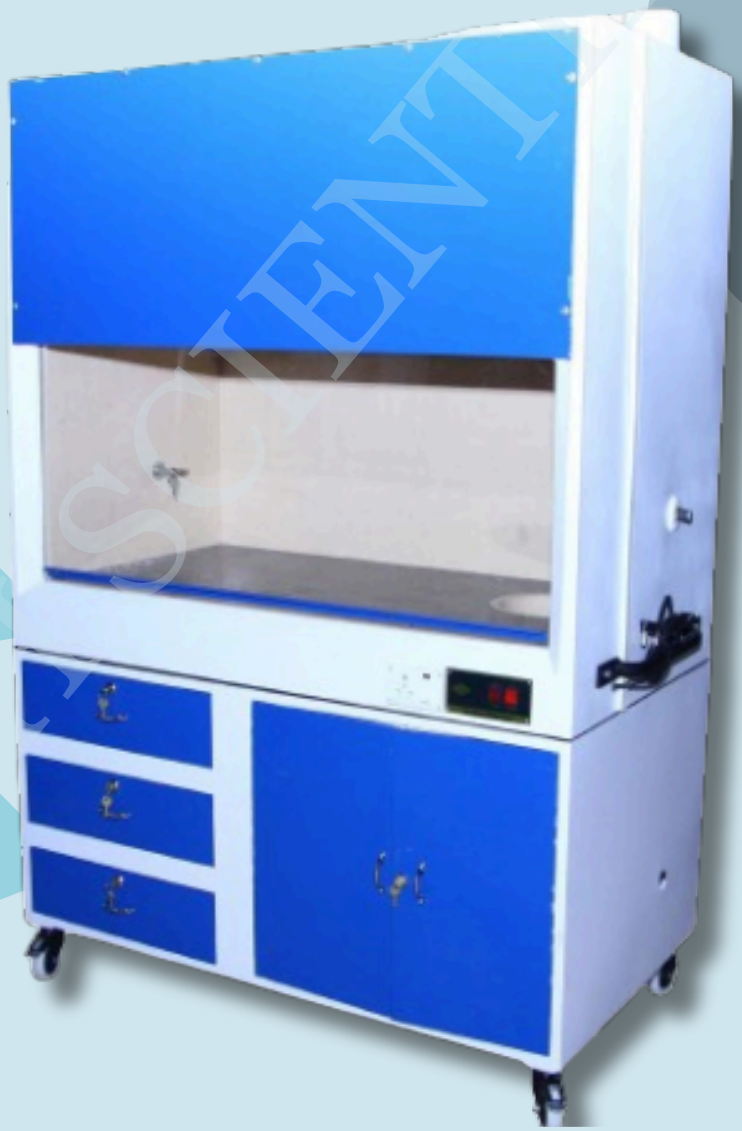
Qtech Scientific®

Quality With Technology

QTECHSCIENTIFIC FUME HOOD



For more details:

QSI

SCAN ME

QTECH SCIENTIFIC INDIA PRIVATE LIMITED

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1. COMPANY INFORMATION AND ASSISTANCE

With this purchase, we would like to welcome you to the QTECH SCIENTIFIC family!

We have undergone transformations to expand our vision and offer you a broader range of solutions for your research and testing requirements.

Our utmost priority is to ensure that the design and quality of your FUME HOOD meet and exceed your expectations. Each material is carefully selected to meet stringent industry standards, enabling our products to withstand demanding conditions and deliver precise results.

Should you seek information about our latest products, services, installation, or any related offers, please do not hesitate to reach out to us using the contact details provided below:

QTECH SCIENTIFIC INDIA PRIVATE LIMITED

Address: 15B, HSIIDC Ind. Area, Sector 31, Faridabad-121003, INDIA
GST NO.: 06AAACQ5835E1ZL
CIN NO.: U74999HR2019PTC0777596
Call us: 9999007025 / 0129-4030125
Email ID: info@qtechscientific.com

Important Note: Your QTECH LABORATORY Fume Hood* has been designed and manufactured to provide years of reliable service. Please contact us for component replacement or repair.

**Please mention the Model and Serial Numbers of your unit while communicating with us.*

QTECHSCIENTIFIC FUME HOOD

2. SAFETY INSTRUCTIONS

2.1. Read the instructions carefully to avoid damage to equipment, personal injury, and fatal accidents:

DO's

1. Place the equipment on the leveled surface.
2. Place the equipment on a well-ventilated and dry surface.
3. In the event of component damage, it is recommended that only OEM-approved parts be used as replacements.
4. Any service-related procedure should be performed by an expert personnel or person appointed by the manufacturer.
5. Control panels, gauge boxes, etc., may contain exposed electrical connections. Keep panels in place duly when the unit is in operation.
6. Disconnect the electrical supply from the unit before servicing or cleaning.
7. Before making the power force connection to your outfit, you must follow the specific directions stated under the "Electric Supply" sign in the Installation Instructions section.

DON'Ts

1. Ensure that the equipment is not placed in a way that hinders the operation of your primary power disconnect switch.
2. Do not place it near high-temperature heat sources
3. Do not keep the equipment on a wet surface.
4. Please don't handle it with wet hands.
5. Refrain from making alterations to any component of this unit.
6. Avoid installing test articles that could emit explosive or flammable vapors inside the chamber.
7. Do not position the unit close to materials that are susceptible to combustion or in an area with potentially dangerous fumes or vapors.
8. Avoid installing the unit in an environment prone to corrosion, as this can result in reduced performance and deterioration of the equipment.
9. Avoid placing parts from other equipment in case of replacement or repair.

3. ESSENTIAL STEPS UPON RECEIPT OF EQUIPMENT

While the equipment is meticulously packed to withstand shocks, there is always a possibility of damage during transportation and unpacking. Therefore, it is essential to detect any damage during the initial inspection to prevent complications later. Below listed are the steps that will help to ensure a smooth process when receiving equipment and addressing any issues promptly.

3.1. Initial Inspection:

As soon as the equipment and the shipping crate arrive, perform an initial inspection. Check for any visible damage to the equipment or the shipping crate.

3.2. Communication:

If you notice any damage, immediately discuss it with the delivery person from the trucking company. Contact the transportation company without delay to report the damage. If they do not cooperate, address the issue to the manufacturer.

3.3. Documentation:

Make detailed notes of any damage on the Bill/ invoice/ delivery challan (whichever is produced at the time of delivery), ensuring that it Is accurately recorded. Keep all the shipping materials, including pictures of physical damage or other means for potential inspection.

3.4. Damage Claims:

Remember that any claims related to damage must be initiated at the receiving point. No claim will be entertained if proper documents or supporting proof are not provided.

3.5. Packing Slip Verification:

Carefully review the packing slip to confirm that you've received all the materials indicated on the packing ticket. Unless there are specific notes indicating otherwise, it would be assumed that your order has been shipped completely.

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4. INSTALLATION INSTRUCTION

Unpack the equipment and inspect for any visible damage that may have occurred during shipping. Proceed to install once no potential physical damage is detected. Read this section carefully before installing or operating the equipment.

Ensure that the installation site is clean, level, and free from obstructions. Verify that the area has adequate ventilation and proper electrical connections. Read section 2.1 before attempting to install or operate.

4.2. Assembly and Setup:

Connect any required components and accessories as per the manufacturer's instructions.

4.3. Electrical Connections:

If the equipment requires electrical connections, make sure it is properly grounded and connected to a suitable power source. Adhere to local electrical codes and safety standards.

4.3.1. Power Connection:

The power connection is made via a cord and plug for standard units. Connect the plug to a receptacle that has the appropriate power supply on a branch circuit of its own.

Caution! Before connecting the power supply to your unit, please complete the following procedure:

- Confirm the power supply voltage rating specified for your chamber 220/230V AC, with a 50Hz frequency.
- Measure and document the voltage of the intended power source.
- Ensure that the power supply voltage you measured and recorded falls within the acceptable operating voltage range for your chamber's rating. If it falls outside this range, refrain from making the power connection. Operating the equipment under such conditions can result in erratic performance and potential damage, which could void your warranty. If you have any questions, do not hesitate to contact us.

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5. PRODUCT DESCRIPTION

Fume Hood Design. A chemical fume hood is a ventilated enclosure used to trap and exhaust vapors, gases, and nanoparticles. The exhaust fan is typically stationed at the top of the building and pulls air through the ductwork connected to the hood and exhausts it into the atmosphere.

Application

- General Chemical Fume Section Hood

Design Basis

- Comply with ASHRAE-110 Standards for face velocity

Certifications

- CE, ISO 13485:2016, ISO 9001:2015, ISO 45001:2018, ISO 17025:2017, & WHO-GMP CERTIFIED

Fume Hood Structure

- Aerodynamic Floor Mounted.

Air Flow Type

- Low Constant Volume Exhaust Type

Noise Level (At Main Body)

- <60db sound levels (Blower to be mounted on a remote mounting kit)

Structure Outer Skin (MOC)

- CRC Sheet Duly Powder Coated (PCCRC). Outer Panel sheet 18 SWG and structure frame 18 SWG & 20 SWG sheet.

Construction

- Double Skinned

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Work Top

- Traditionally our worktops are made of thick DISHED CORED from various options of MOC to choose from, and are even thicker at MARINE EDGES, thus preventing spillages and accidental damages. Chemical resistance splash & spillage proof Granite/SS-304 (as per customer requirement) worktop having to skirt from all the sides, to prevent chemical spillage.

Cup Sink

- Made of PP/Porcelain Sink, to collect chemical waste on the Work top.

Inner Chamber Vertical Liner

- Chemical & Heat Resistance, Fire retardant, smooth finish, easily cleanable, panel made out of PRL integral work (6mm thick).

Epoxy Powder Coating

- Powder coated with highly chemical-resistant epoxy colors.

Baffle

- Unique designed removeable back baffle captures and removes or slides fumes instantly at much faster speed.

Utility Valves

- Our Valves have fine control over utilities as per international standards and withstand 200 PSI pressure & brass fitting for gas connections. 1 No. for Water, 1 No. for Compressed Air, 1 No. for Nitrogen, 1 No. for Vacuum.

Suction

- CRC Sheet Duly Powder Coated (PCCRC). Outer Panel sheet 18 SWG and structure frame 18 SWG & 20 SWG sheet.

Airfoil

- Aerodynamic Design, Horizontal fixed airfoil mounted on worktop, made up of SS 304, provides spill retention and safe ventilation of fumes generated with ergonomic design

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Lighting

- Fluorescent light (40 watts x 2 Nos.) with vapor-proof for proper illumination. Intensity approx 400lux on the worktop.

Electric Utility

- 2 Nos. 15 Amp. Sockets & Switches. 1 No. MCB Switch for the Blower.

Exhaust Port

- A Unique design pattern of the Exhaust Port ensures that the fumes will get exhausted smoothly w/o any turbulence at the exhaust port, even if it takes care of low noise as well.

Exhaust Collar

- Crafty tapered and flanged exhaust collar reduces airflow turbulence induces high static pressures reduces noise levels to a minimum and also increases face velocity exhaust.

Centrifugal Blower

- SISW type, Chemical & heat resistance heavy-duty epoxy coated blower with aerodynamically balanced Impeller, with the Drain plug. Consisting of continuous rating motor and chemical resistance. The blower will give a face velocity of 80 to 100 Feet/minute (FPM) and high static pressure at a defined sash position. It satisfies all national and international safety velocity norms.

Maximum Air Exhaust Air Volume

- Minimum face velocity of 0.5m/s or 100 fpm at defined sash position.

Motor

- 2.00 H.P., 3 Phase TEFC, IP55, class F continuous rated.

Front Top Panel

- Easily openable panel, to access Damper & light fixture, for maintenance purposes.

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Sash (Shutter)

- Vertical rising sash counter-balanced with pulley & counterweight system. Toughened float glass (4mm thick). Clear openable height of 700mm.

Service Panels

- All the front and side service panels are pre-fabricated and demountable for on-site erections and commissioning, providing easy access to service lines, utility, and electrical utilities for maintenance and user conversance.

Levelling Feet

- Specially designed leveling feet for balancing cabinets and work tables as well as for height corrections and alignment vis-a-vis any floor abnormalities.

Base Cabinet

- The base cabinet is capable of receiving a load of Fume Hood on its top with the following features: Complete rigid steel structure to support Fume Hood. The attractive Color combination on Epoxy powder coated Structure Double skin shutters / Doors. One removable horizontal partition to store the chemicals with one shelf Locking system with a self-closing hinge. Shutters mounted to the modules are detachable concealed hinges self-closing on return. Self-Closing Hinges Three-dimensionally adjustable and chrome-plated self-closing hinges have a 900 opening. All the shutters are detachable and easy to mount. Adjustable Shelves Modular and adjustable shelf height for flexibility to store chemicals, glassware, accessories, etc. Double-Skin Construction All shutters and drawer fronts are double-skinned and are sandwiched and stuffed for extra rigidity and strength.

LATTICE/SCAFFOLDING

- Scaffold/Grid, to hold the apparatus. It covers the entire length of Fume Hood installed at a distance of approx. 150mm from the from backside of Fume Hood.

Ducting (OPTION)

- Rigid ducting of PVC with bends, dampers, transitions, and clamps up to blower. All joints are curved to avoid any backtracking of fumes and a smooth flow to exhaust fumes.

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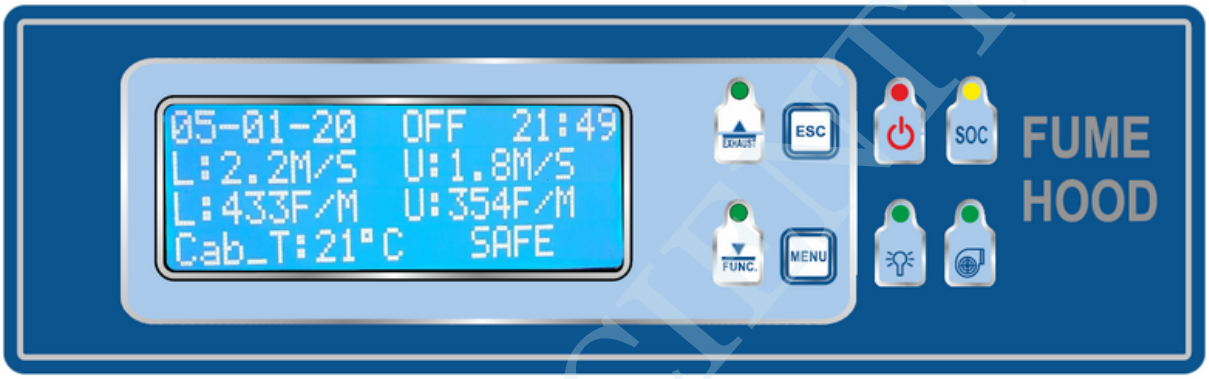
NOTE:

All types of Civil work, Plumbing, Block Foundation, Lab painting, Utility Connection & Electric Connection for & up to the Fume Hood and mounting of the remote kit will be in the Customer's scope. Clear False Ceiling Height for Fume Hood and Exhaust Ducting, should be provided. Provision for Blower Foundation or Platform will be under your scope.

5.1. Controller Features:



Microprocessor based Fume Hood Controller based with LCD Display, Menu Control, automatic filter alarm system, have the following Menu Controlled Features:

- Password (Programmable) for Authorized Operation.
- Air Flow display in m/s a and f/m measurement.
- Cabinet Temperature/Differential Pressure display.
- Initial Self Cleaning Cycle.
- Audio Visual Door Unsafe Alarm, if door is at incorrect operating height.
- System Process Time.
- Total System Time
- Real Time Clock.
- Socket Timer.
- Total Socket used Time.
- Control for Light, Blower and Socket of operation.

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- Display in flow velocity (Sensor Model-Uni).
- Display in Down flow velocity (Sensor Model-Duo).
- Door Safe Position Alarm sounds if door is raised above correct operating height (Sensor Model).
- Cabinet Temperature display (Sensor Model-Uni and Duo)
- Inflow : 0.1 – 4.0 m/s (20 to 800 fpm).
- Down flow: 0.1 – 4.0 m/s (20 to 800 fpm).

5.2. Key Operation of Controller:

Key / Function	Description
MENU	Opens the Menu and allows editing of settings
SET	Exits the Menu or confirms selections
UP	Increases values across all adjustable settings
DOWN	Decreases values across all adjustable settings
System ON/OFF Key	Turns the entire Fume Hood system ON/OFF
Light ON/OFF Key	Switches Fluorescent / LED Light ON or OFF
Power Socket ON/OFF Key	Controls Power Socket output
Fan ON/OFF Key	Turns the Blower/Fan ON or OFF
On-board SSR Outputs	4 Nos. × 4A SSR for Fan, Light, Power Socket, Virus Burn Heater
Exhaust Key	Activates

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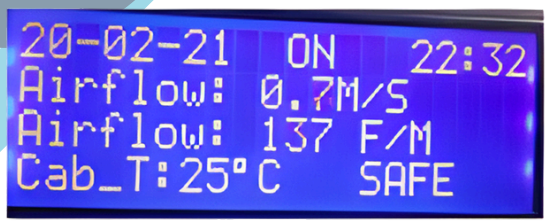
5.3. Display Screen – Screen 1 (Main Display)



L: 0.0 M/S: Air velocity measured in the lower airflow (meter/second). Both high and low alarms are linked to the blower air velocity.

L: 0.0 F/M: Air velocity measured in the lower airflow (feet/minute). High and low alarms are linked to blower velocity.

U: 0.0 M/S: Air velocity measured in the upper airflow (meter/second). High and low alarms are linked to the blower air velocity.

U: 0.0 F/M: Air velocity measured in the upper airflow (feet/minute). High and low alarms are linked to the blower air velocity.

Ab_Tp: Displays the room/ambient temperature.

[ON] Indicator: Shows the System ON status.

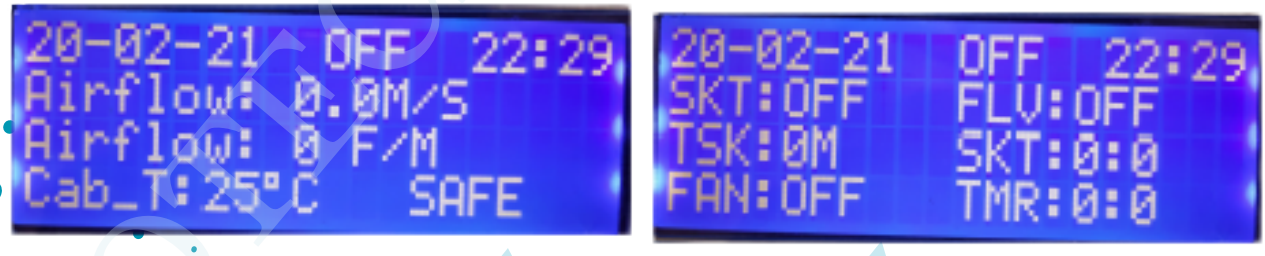
Date & Time: Displayed at the top of the screen.

SAFE / UNSAFE: Indicates airflow safety status based on Front door position, Internal airflow velocity and Pressure conditions.

5.4. Screen 2 (Press DOWN to Enter)

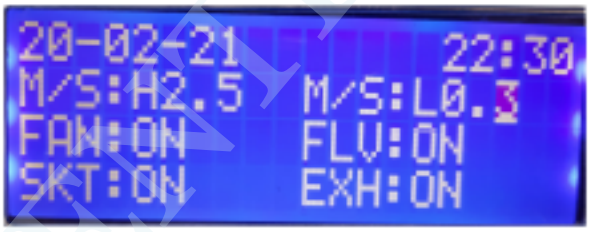
SKT: Power Socket Light ON/OFF status display.
FLV: Fluorescent Tube Light / LED Batten Light ON/OFF status display.
SKT (Socket Timer): Power Socket sterilization timer. Normally glows for the first 15 minutes (default), adjustable.
TSK (Total Power Socket Time): Total and gross operating hours of the Power Socket. After 40 hours of operation, a message appears prompting replacement of the Power Socket light. After replacing, reset the timer by pressing the Power Socket Light Key.
FAN ON/OFF: Displays the blower/fan ON/OFF status.
TMR (System Timer): Max. setting: 99 Hours : 59 Minutes.
FAN: Indicates blower running for airflow generation.
FLV (Light ON/OFF): Shows the fluorescent/LED tube light ON/OFF status.
TMR Countdown: System countdown timer. Once the timer reaches zero, the system will automatically turn OFF.
SKT Timer: Power Socket timer, adjustable from 0 to 99 minutes.

5.5. Screen 3 – Press [DOWN] Twice to Enter



1. SOCKET Time: SOCKET Tube / LED Tube timer for sterilization purpose. Settable from 1 to 99 minutes.
2. TIMER: System timer, settable up to 99 Hours : 59 Minutes for system ON time. After the completion of this timer, the system will automatically turn OFF.
3. VAS_TMR: 0 to 99 minutes settable timer for Virus Burn.
4. TUT (Total Using Time): Represents the total operating hours of the cabinet. It will continue counting until 9999 hours : 59 minutes, exceeding the life of the machine.

5.6. Screen 4



SET PASSWORD

Press the [ESC] key to open the system configuration and the password screen will appear. For correct password entry, press the buttons in the following sequence:

- ESC button
- Down button
- Up button
- Menu button

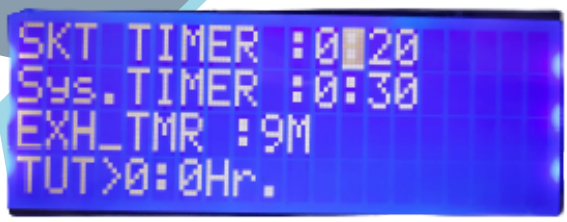
SET DATE and TIME

Move the cursor using the MENU key and use the UP and DOWN keys to change the desired date and time.

Once the time is set, it will be retained in memory permanently and used as the real-time clock.

M/S: H1.0: This sets the higher range of air velocity. If the airflow exceeds this range, the buzzer will sound to indicate a system error.
M/S: L0.1: This sets the lower range of air velocity. If the airflow drops below this range, the buzzer will sound to indicate a system error.
FAN: Blower/Fan ON/OFF setting.
FLC: Light status ON/OFF setting.
UVT: UV Light status ON/OFF setting.
EXH: Virus Burn Heater / Exhaust Fan ON/OFF setting.

5.7. Screen 5 – Sytstem Configuration



SKT Timer: SOCKET Tube / LED Tube timer for sterilization purpose. Settable from 1 to 99 minutes.
TIMER: System timer, settable up to 99 Hours : 59 Minutes for system ON time. After the completion of this timer, the system automatically turns OFF.

EXH_TMR: 0 to 99 minutes settable Virus Burn timer.
TSK (Total Using Time): Represents the total operating hours of the cabinet. It will continue counting until 9999 hours : 59 minutes, and cannot be reset.

6. MAINTENANCE

- Only experienced service persons should be permitted to perform any service-related procedure in this chamber.
- Disconnect and Lock-Out / tag out all electrical power from the facility at its source before servicing or cleaning.

The frequency of preventive maintenance procedures depends upon how the facility is used and on other circumstances. Because of this, a hard and fast schedule of maintenance operations is difficult to present. Indeed, an inflexible schedule might be suitable for one user, but completely inadequate for another. Therefore, we have provided periodic figures on when to perform maintenance procedures, based on the average chamber use.

We suggest that you maintain a preventive conservative log. Record dated operating notes, pressures, temperatures, and electric readings in this log. It will be a great help to service personnel during maintenance or service. Such records are helpful in establishing long-term trends and diagnosing the potential cause of error and the parameters that are needed to be taken into consideration for the proper functioning of the instrument.