



## भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति

### INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

Transit campus: C/o Sree Rama Engineering College Campus, Rami Reddy Nagar,  
Karakambadi Road, Mangalam (B.O), Tirupati - 517 507

Website: [www.iisertirupati.ac.in](http://www.iisertirupati.ac.in)

**Limited Tender No: IISERT/PUR/0627/19**

**Date: 16/01/2020**

Indian Institute of Science Education and Research, Tirupati invites online bid (e-tender) in **single bid** (Technical + Financial) system for the following.

**Item Description:** Design, Supply & installation of two 1800 L x 1050 B x 1550 D mm benchtop low constant volume fumehood with 3 nos of underbench storage cabinets.

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal <https://eprocure.gov.in/eprocure/app> and bid is to be submitted **online only** through the E-procurement portal up to the last date and time of submission of tender.

#### Critical Dates of Tender

Sr.No	Particulars	Date	Time
1	Date of Online Publication/Download of Tender	16/01/2020	17:00 Hrs.
2	Bid Submission Start Date	16/01/2020	18:30 Hrs.
3	Bid Submission Close Date	29/01/2020	15:00 Hrs.
4	Opening of Bids	31/01/2020	15:30 Hrs.

**No manual bids will be accepted. All quotation should be submitted in the E-procurement portal only**

**Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462, 0120-4001002, +91-8826246593.**

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**PRE-QUALIFICATION CRITERIA:**

1. The bidder should be a manufacturer registered in India or their authorized dealer or should be 100% subsidiary in India of parent company, if any
2. If an authorized dealer is bidding for the parent company then the authorized representative should be having an office for the last 5 years  
“Similar work” shall mean fume hoods, exhaust system, etc.  
**Required:** Documentary Evidence
3. Should not have incurred any loss in the last five years ending 31st March 2019.  
**Required:** Documentary Evidence
4. The bidder should have in house ASHRAE 110: 2016 and EN 14175:2003 fume hood test facility. Photographs of this test facility must be attached to the technical bid
5. Work completion certificate stating the quality of work and overall feedback of Project Value of at least Rs. 20 Lacs. **Required:** Documentary Evidence
6. SEFA Membership Certificates for Last five years on a continuous basis
7. **Test Report:** Fume Hood should be type-tested as per EN 14175 (all the tests) by a third-party
8. **Test Report:** Fume Hood should be type-tested as per ASHRAE 110, 2016 by a third-party
9. **Membership Certificate:** The bidder/parent company should possess the key professional staff, at least one, in his organization with good knowledge of codes and standards like ASHRAE 110. Such professionals should have a valid membership of ASHRAE.
10. ISO 9001-2008, ISO 14001-2004, BS OSHAS 18001-2007 (For Design, Development, Manufacturing, Supply and servicing)
11. Laboratory furniture & Fume hood quoted against this tender shall qualify all the necessary tests as specified in this tender document in Annexure – A

## **CAPTER-1. INVITATION FOR BIDS**

1. Indian Institute of Science Education and Research, Tirupati invites online bids (e-tender) in single bids systems for Design, Supply & installation of two 1800 L x 1050 B x 1550 D mm benchtop low constant volume fumehood with 3 nos of underbench storage cabinets. The Technical specifications are given in **Chapter 4: Schedule of Specifications**.
2. **Contact for information:**  
Technical & Commercial contact:  
Assistant Registrar (Admin & Purchase)  
Indian Institute of Science Education and Research (IISER), Tirupati  
Transit campus: C/o Sree Rama Engineering College Campus, Rami Reddy Nagar,  
Karakambadi Road, Mangalam (B.O), Tirupati - 517 507  
Email: [purchase@iisertirupati.ac.in](mailto:purchase@iisertirupati.ac.in) Ph.: 0877 2500208  
Website: [www.iiserTirupati.ac.in](http://www.iiserTirupati.ac.in)
3. Supply means: "Supply, Installation & Commissioning".
4. **Submission of Bid:**  
  
Bid Submission Start Date: 16/01/2020 from 18:30Hrs.  
Bid Submission Close Date: 29/01/2020 up to 15:00Hrs.  
Opening of Bids: 31/01/2020 at 15:30 pm
5. No manual bids will be accepted. All quotation should be submitted in the E-procurement portal only
6. The Offer should comprise of the following:
  - (i) The offer should be complete to indicate that all products and services asked for are quoted.
  - (ii) The purpose of certain specific conditions is to get or procure best Equipment/service etc. for IISER, Tirupati. The decision of Purchase Committee shall be the guiding factor for selection of the responsive firms.
  - (iii) Duly filled in Bid with proper seal and signature on each page of the bid should be submitted online and the same should accompany with complete specifications, Manufacturer's name, address and relevant Technical Literature / Brochures with warranty Terms.
  - (iv) Agreements / Purchase Orders / Completion certificates if any, for similar works in other Institutes, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.
  - (v) Copy of GST No. and PAN No. allotted by the concerned authorities. If registered with the National Small Industries Corporation, the registration



number, purpose of registration and the validity period of registration and a copy of DGS&D registration wherever it is applicable should also be provided in bid.

- (vi) The prices should be shown against each item for the purpose of Insurance claims / replacements if any.
- (vii) Compliance sheet with any deviation with reference to the terms and specifications.
- (viii) The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate without any problem.
- (ix) Duly filled in checklist as per Chapter 6 should be submitted along with tender.
- (x) The Bidders are requested to quote for Educational Institutional Price for Equipment's, since we are eligible for the same

**Note : IISER , Tirupati is requesting only Single Bid (Technical Specification and Price together) the Bidders must be extremely careful about the requirement mentioned in the tender and submit their quotes accordingly. Any shortfalls found during the tender evaluation such bids will be rejected without seeking any further clarifications from the bidders. Since it is a single bid any further clarification will cause/draw objections from other bidders.**

**All the bidders should quote their offer as per "Chapter - 5 Price Schedule" for uniformity.**

#### **7. Purchase Committee**

The Purchase Committee will evaluate the tenders and may also nominate some external/expert members, in the interest of IISER, Tirupati.

#### **8. Terms of the Purchase Committee**

- (i) A committee duly constituted by the Director, IISER, Tirupati will go through the bids and recommend firms that are meeting all the specifications of the Tender. The recommendation/decision of the purchase committee is the final and binding on all the parties.
- (ii) Purchase Committee will proceed through Bids as defined in **Chapter IV (Schedule of requirements, specifications and allied technical details)**, in order to determine whether they are substantially responsive to the requirements set forth in the tender. In order to reach such a determination, IISER, Tirupati will examine the information supplied by the Bidders, and shall evaluate the same as per the specifications mentioned in this tender.

- (ii) The purchase committee may formulate evaluation criteria in addition to the specifications and requirements indicated in the tender, in the interest of IISER, Tirupati.

**9. Comparison of Responsive bids:**

- (i) After opening the bids, the responsive offers will be tabulated with reference to the specification.
  - (ii) After arriving at final pricing of individual offers of all the short listed firms, the lowest firm will be awarded with Contract/Purchase Order subject to availability of funds.
10. No request for extension of due date will be considered under any circumstances.
11. No sub-contracting is allowed with regard to installation, warranty maintenance and after sales service.
12. The Director, IISER, TIRUPATI reserves the right to accept the offer in full or in parts or reject summarily or partly.
13. The relatives / near relatives of employees of the client are prohibited from participation in this bid.

The near relatives for this purpose are defined as:

- (a) Members of a Hindu Undivided Family.
- (b) Their husband or wife.
- (c) The one is related to the other in the manner as father, mother, son(s), son's wife (daughter-in-law), daughter(s) & daughter's husband (son-in-law), brother(s) & brother's wife, sister(s) and sister's husband (brother-in-law).

## **CHAPTER-2 : INSTRUCTIONS TO BIDDERS**

### **Delivery Period / Timeliness**

The deliveries & installation must be completed **within 30 days**, after placement of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet these expectations, as are tightly linked to IISER, TIRUPATI's plans of completing the project within the time frame.

### **Locations for the Supply / Services:**

Design, Supply & installation of two 1800 L x 1050 B x 1550 D mm benchtop low constant volume fumehood with 3 nos of underbench storage cabinets covered by this document is required to be done at IISER, Tirupati.

#### **1. Eligible Bidders:**

- 1.1 IISER, TIRUPATI reserves the right to award / reject the order to any particular bidder without assigning any reason thereof.
- 1.2 Bidders should not be under a declaration of ineligibility for corrupt and fraudulent practices.
- 1.3 Bidders should QUOTE strictly in accordance with the requirements.
- 1.4 Bidders shall adhere to the procedure and processes laid down in this document and shall follow fair and ethical practices of trade.
- 1.5 Based on the list of installations provided by the bidder, IISER, TIRUPATI will have its option to obtain details of the installations, their performance, after sales services etc. for evaluation of the tender, directly from the concerned organizations
- 1.6 Firms which have already supplied to IISER, TIRUPATI and have not completed required installation/after sales service/warranty replacements etc. such firms offers will not be considered for further evaluation and no enquiries thereafter will be entertained.
- 1.7 Conditional Offers will not be considered.
- 1.8 IISER, TIRUPATI will not provide any accommodation/transportation for the engineers/ representatives for attending installation. It is the absolute responsibility of the supplier to make their own arrangements.
- 1.9 The authorized person who signs the tender is required to indicate his e-mail ID, mobile No. and also general e-mail ID for easy and faster communication.



## 2. **Amendment of Bidding Documents**

At any time prior to the deadline for submission of bids, IISER, TIRUPATI may, for any reason, whether on its own initiative or in response to the clarification request by a prospective bidder may modify the bid document.

### **PREPARATION OF BIDS**

#### 3. **Period of validity of bids**

- 3.1. Bids shall be valid for a period of **90 days** from the date of opening the bid.
- 3.2. IISER, TIRUPATI may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. A bidder agreeing to the request for extension will not be permitted to modify his bid.

### **AWARD OF CONTRACT**

#### 4. **Award Criteria**

- 4.1 IISER, TIRUPATI shall award the contract to the technically eligible lowest bidder.
- 4.2 If more than one bidder happens to quote the same lowest price, IISER, TIRUPATI reserves the right to award the contract to more than one bidder or any bidder.

#### 5. **Purchaser's Right to vary Quantities at the time of Award**

IISER, TIRUPATI reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

#### 6. **Corrupt or Fraudulent Practices**

IISER, TIRUPATI requires that the bidders who wish to bid for this project have highest standards of ethics.

- 6.1. IISER, TIRUPATI will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract.
- 6.2. IISER, TIRUPATI may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract





**7. Interpretation of the clauses in the Tender Document / Contract Document**

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, **Director, IISER, TIRUPATI's interpretation of the clauses shall be final and binding on all parties**

## CHAPTER - 3 : CONDITIONS OF CONTRACT

### 1. **Price**

- 1.1. The price quoted shall be considered firm and no price escalation will be permitted.
- 1.2. The price criteria should be on F.O.R., IISER TIRUPATI. Govt. Levies like GST. If any, shall be paid at actual rates applicable on the date of delivery. Rates should be quoted accordingly giving the basic price, GST, if any.
- 1.3. The rate of GST applicable to IISER Tirupati is 5% for the items procured for Research purpose as per Notification No. 45/2017-Central Tax (Rate) New Delhi, 14th November, 2017 and Notification No. 47/2017-Integrated Tax (Rate) New Delhi, 14th November, 2017

### 2. **Services**

- 2.1. Details of services rendered as well as after-sales services offered by you are to be made clear in the tender.

### 3. **Delivery Schedule**

- 3.1. The bidders may please note that the delivery of the system should be strictly within 30 days from the date of placement of firm order.
- 3.2. Goods should not be dispatched until the Vendor receives a firm order.

### 4. **Warranty / Support**

- 4.1. The items covered by the schedule of requirement shall carry Minimum Three years of comprehensive warranty from the date of acceptance of the equipment by IISER, TIRUPATI. Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 7 working days. The comprehensive warranty includes onsite warranty with parts.
- 4.2. The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, octroi, local taxes if any should be borne by the beneficiary. A clear confirmation should be given for this item.
- 4.3. The warranty on the associated software should cover providing of upgraded version/s, if any, released during the warranty period free of cost.



4.4. The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.

5. **Indemnity**

The vendor shall indemnify, protect and save IISER, TIRUPATI against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment supplied by him.

6. **Freight & Insurance**

The equipment's to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IISER, TIRUPATI site.

7. **Payment**

7.1. No advance payments are allowed under any circumstances.

7.2. Payment will be made directly to the suppliers by wire transfer for 100% of the Invoice value after receipt of the goods in our Stores, tested /inspected and found satisfactory with regard to quality, quantity, and specifications ordered for and after satisfying that the terms and conditions of supply have been fulfilled.

7.3. By Irrevocable Letter of Credit for 100% of the Invoice value. However, 90% of the Invoice value will be paid on presentation of original shipping documents to our bankers and balance 10% will be paid after receipt of material and acceptance of the goods at IISER Tirupati.

8. **Penalty for delayed Services / LD**

8.1. As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise the IISER will forfeit EMD/SD and also LD clause will be applicable /enforced.

8.2. If the supplier fails to Supply, Install as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of 1% of order value per every week of delay subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.

8.3. IISER, TIRUPATI reserves the right to cancel the order in case the delay is more than 10 weeks. Penalties, if any, will be deducted from the Security Deposit.



9. **Jurisdiction**

The disputes, legal matters, court matters, if any, shall be subject to Tirupati Jurisdiction only.

10. **Force Majeure**

IISER, TIRUPATI may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the Contract, is the result of a Force Majeure.

Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.) acts of states, the direct and indirect consequences of wars (declared or undeclared) hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises.

11. **Arbitration**

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc. shall be referred by either party (IISER, TIRUPATI or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The venue for arbitration shall be IISER, TIRUPATI India. The jurisdiction of the courts shall be Tirupati, Andhra Pradesh, India.

**Assistant Registrar (Admin & Purchase)**

**CHAPTER 4**  
**SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED**  
**TECHNICAL DETAILS**

Sr.No.	Description of item	Unit	Qty	Rate	Amount
1	<p>Design, Supply &amp; installation of two 1800 L x 1050 B x 1550 D mm benchtop low constant volume fumehood with 3 nos of underbench storage cabinets of 600mm in height connected to a single centrifugal blower, scrubber with suitable ducting and other accessories/appliances/units detailed below and as per detailed specification annexed to this BOQ.</p> <p><b>a)</b> The C-frame shall be not less than 60mm x 30mm and should be not less than 2mm thick.</p> <p><b>b)</b> The cover panels shall be of GI epoxy powder coated(minimum 60 micron) not less than 1.2mm thick.</p> <p><b>c)</b> The work top shall be of 18mm thick jet black granite with PP sink of size oval shaped 102mm x 175mm 'PP' Cup-sink for drainage.</p> <p><b>d)</b> Lattice rod assemblies 12mm dia solid epoxy coated rods shall be clamped with the PP clamps to form a lattice arrangement should be minimum 200mm horizontally and vertically.</p> <p><b>e)</b> The fumehood consist of air flow monitor, distribution board with rocker switch, LED light (set of two), 3 module plate with socket and tiny trip</p>	Nos	1		

	<p>(set of two), raw water, compressed air, nitrogen flexible tubing service valves</p> <p><b>f)</b> There shall be 3 underbench storage cabinet for flammable solvent, for storing apparatus and the last one to store acids. The storage cabinets shall have double leaf shutters.</p> <p><b>g)</b> Centrifugal (PP + FRP) lined blower designed such that the fume hood works as per SEFA and ASHRAE standards. The blower shall include all accessories such as starters, etc.</p> <p><b>h)</b> Dry scrubber system.</p> <p><b>i)</b> PP-FRP ducting of wall thickness 3mm PPGL + 3mm FRP for sizes up to 500mm Dia, including PP Damper, FRP lining shall be of fire resistant isothelic resin fume hood underbench connections and necessary MS supports (Enamel paint with primer applied) for ducts.</p>				
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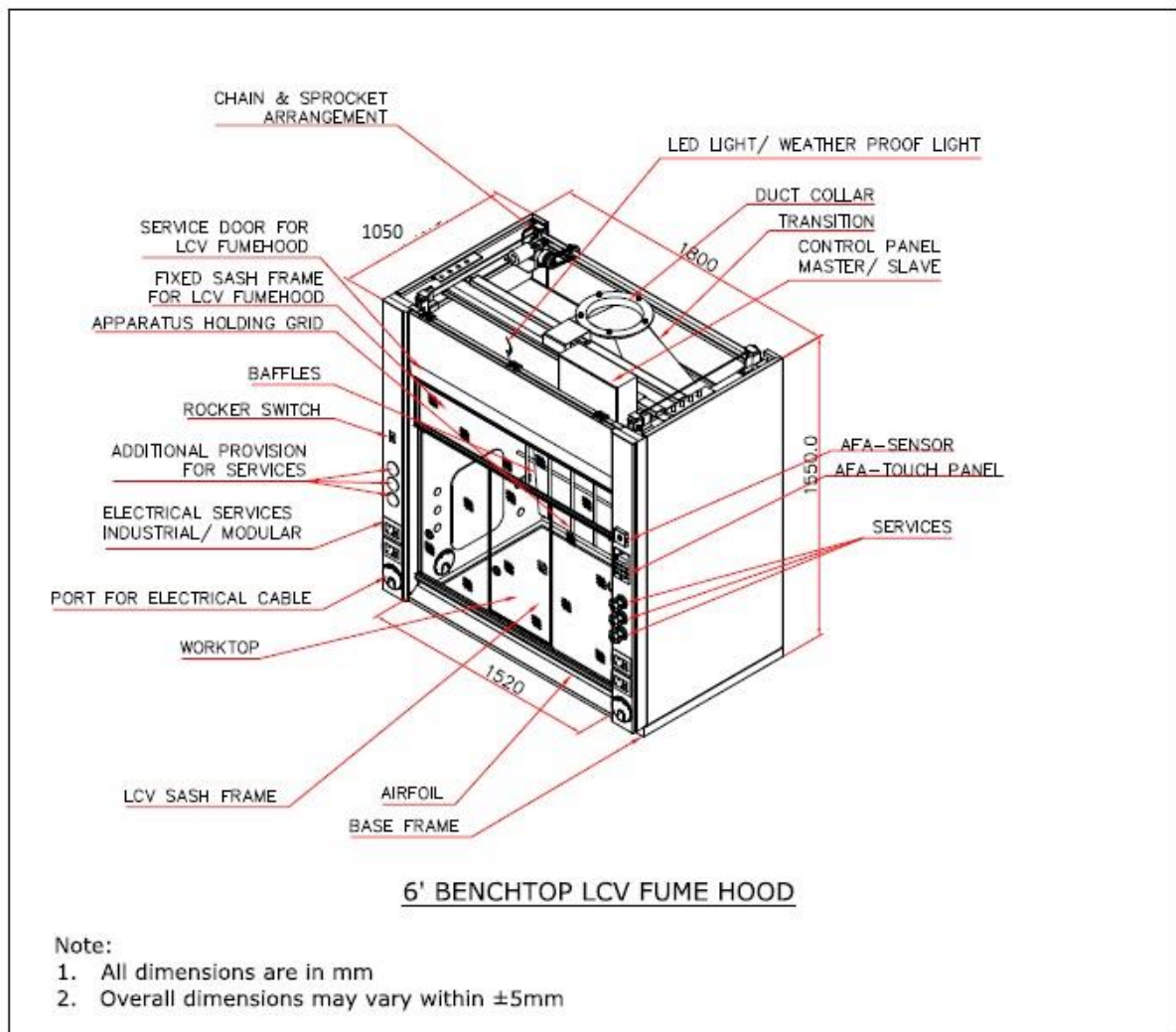
**Notes**

- 1 All civil including demolition, rectification work, hole packing (to ensure no water leakage), masonry work, MS supporting installation, scaffolding, hydra arrangement, etc. for installation will be under the vendor scope. Nothing extra is payable.
- 2 Both the fumehoods will be placed together and connected to a common duct and operated by a single blower and scrubber.
- 3 The Price shall be inclusive of the fumehood, storage cabinets, ducts, centrifugal Blower and scrubber.
- 4 Design has to be vetted from the institute before execution.
- 5 Government taxes and duties will be extra as applicable

**TECHNICAL SPECIFICATIONS - FUME HOODS**

**Size :** 1800mm (W) x 1050mm (D) x 2400mm (H)

**Type :** Low constant volume (LCV)



**Superstructure Frame:** It shall be a free-standing rigid panel structure of steel (G.I.)

**Interior Walls:** Double wall ends, not more than 6" wide, shall be provided to maximize interior working area. The area between the double wall ends shall be closed to house the remote control valves. Cut-outs shall be provided inside the fume hood for service line



accessibility. The same to have a cover with a fastener free design. The vertical fascias shall contain the required service controls, electrical switches and receptacles.

**Airfoil:** A streamlined air-foil shall be integral at the bottom of the hood opening on bench top hoods. This foil shall provide a nominal 20mm open space between the foil and the top front edge of the work surface to direct an air stream across the work surface to prevent back flow of air. The sash shall be provided with a separate handle which also provides for air flow when in completely closed position. The foil shall be of 1.2mm AL powder coated to resist denting and flexing.

**Baffles:** A stable, non-adjustable baffle with a single slot on the back baffle to aid in distributing the flow of air into and through the hood. The baffle shall be spaced out from the back liner and shall be removable for cleaning. It shall have 3 point suction for low, medium and high density fume suction

**Duct Collar:** A 8"-10" diameter polyethylene funnel shaped rectangular duct collar shall be located in the top of the hood plenum chamber.

**AFM:** Fume hoods shall be provided with an alarm system to detect low and high hood face velocities. The alarm system shall indicate the actual face velocity of the hood regardless of sash position. The system shall have an air velocity sensor mounted on the interior side liner of the hood where it is easily accessible for cleaning. The velocity monitor shall have a digital display of the air velocity through the hood face in feet per minute. The alarm signals shall activate any time the face velocity falls below the low velocity alarm set point or rises above the high velocity alarm set point. There shall be both visual and audible alarm signals. The audible alarm shall have a mute. Low and high alarm contacts shall be provided for remote monitoring.

#### **Lighting:**

- **LED LIGHT:** Two LED Lights of Philips or equivalent make shall be provided in the fume hood. The lighting fixture shall be completely outside the fume hood area. The luminosity on the work surface shall be average 600 Lux.

#### **Sash:**

- **Combination Sash:** A combination sash shall be provided. The sash shall have horizontal sliding glass panels in a vertical rising steel frame. The bottom of the sash frame shall have a full length metal handle. The sash track has minimum protrusion to avoid any kind of turbulence. The sash shall be counterbalanced with a weights to prevent tilting and binding during operation. The glass panels shall be 5mm toughened glass mounted in a levelled channel with roller for smooth operation.

#### **Plumbing Services:**

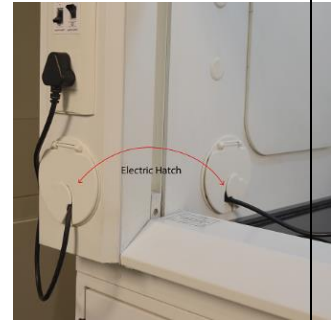
- **Flexible Tubing:** Utility services like Nitrogen, Compressed Air & Raw water shall consist of remote control valves as selected located within the end panels, and controlled by in and out facility with flexible hose passing through the side panels of the hood, with colour coded plastic handles. Interior fitting for gases and water shall be with powder coated brass. All gas valves for regular lab gases to have standard needle valve shall be supplied. All supplied valves to clear the following pressure test



conditions: Gas Fittings – 7 bar, Water fittings – 10 bar.

**Electrical Services:** The hood superstructure shall be fully wired and shall have a control box with MCB blower starter all safety devices like trip etc. Inlet shall be of 3 phase power supply and the whole electrical shall be of plug and play type. It should have 4 nos. electrical sockets and switches of Northwest make (230V, 5/16 A, 50 Hz).

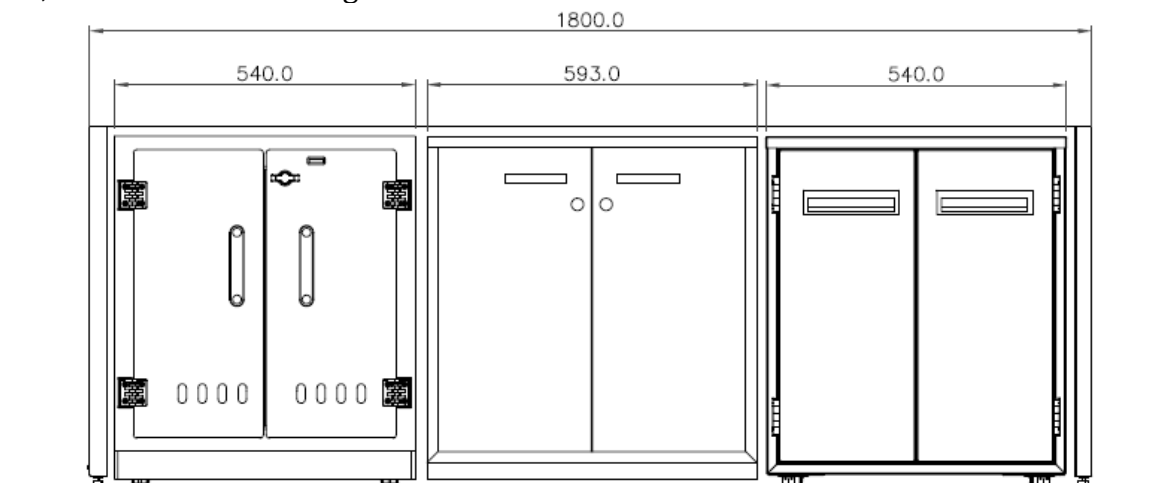
**Electric Hatch:** There shall be two hatches, one in each vertical front side of the fume hood near worktop level which will allow passage of the electric wires of the equipment being used in the chamber to be guided through and connected to the electric power points  
Liner – Interior liner panels shall be 6 mm thick Phenol resin based industrial laminate.



**Lattice Rod Assemblies:** 12mm dia solid epoxy rods shall be clamped with the PP clamps to form a lattice arrangement to hold the test samples and rotors within the fume hood. Pitch for each grid structure should be 200mm horizontally and 200mm vertically.

**Base Cabinets:** Fume hoods are designed to rest on a bench (high base stand, pedestal) which is a complete rigid steel structure.

- ❖ **Frame based:** Fume hoods are designed to rest on a bench which is a complete rigid steel structure. C-frame should be constructed from a rectangular pipe with a cross section of 60mm x 30mm and should be 2 mm thick and should be without a vertical front leg to give a clean look. All frame-work is should be pre-treated with superior pure epoxy powder coated finish.
- ❖ **Under Bench Cabinets :** Fumehood underbench cabinets are to be a combination of Acid, Solvent & Metal storage cabinets.



- **Acid Storage Cabinet :** Storage cabinet has to be designed to safely store highly corrosive acids with a full PP construction. All safety claims of this product are to be backed by third party certification for Chemical Spot Test for 49 chemicals listed in SEFA standards and used across various industries. The cabinet has to be designed to be fully ventilated ensuring air circulation and preventing a build-up of dangerous fumes within the cabinet. The shelves comprise of removable height adjustable collection trays that are leak-proof, enhancing the

safety factor of the storage units. There should be an air-duct at the back, inside the cabinet that effectively extracts fumes when connected to exhaust. Louvers are provided on the front doors to allow inward flow of fresh air. Cabinet size will be : 540mm (W) x 530mm (D) x 630mm (H) as per schedule of Qty.

- **Flammable Solvent Cabinet :** Safety storage under bench cabinet for flammables should be 90 minutes fire-resistant, Single door (left-hand), Body and door grey coloured. Size should be W x D x H (mm): 593 x 574 x 600. Cabinet should be provided with Bottom collecting sump and perforated insert & cylinder lock. Cabinet should be compliant to EN 14470-1, EN 14727, CE, GS-Mark, UL 1275, ULC/ORD-C1275-84. Cabinet should be provided with two shut-off devices for fresh and exhaust air. Shut-off devices should be self-closing in the event of fire (tested and approved system EN 14470-1). Should be provided with Connecting piece ( $\varnothing$  50 mm) and ready for connection to a technical ventilation. The door should remain open in any position, self-closing in the event of fire and lockable with cylinder locking with locking state indicator [E]. Cabinet should be provided with castors with plinth (H=30 mm) so that the same can be easily slid in under-bench fumehood superstructure. As per schedule of Qty.
- **Metal Powder Coated Cabinet:** Welded cabinet should be constructed in MS duly powder coated with pure epoxy powder coating with 50-60 micron dry film thickness. Gauge of steel used in its construction shall be 0.8 mm MS for apparatus storages. Cabinet size will be: 540mm (W) x 530mm (D) x 630mm (H) as per schedule of Qty.

**Ceiling Enclosures:** To be provided to enclose space between front top and ceiling of Concept fume hood superstructure also provides enclosure for raised sash.

**Transition:** Used to connect fume hood with ducting. They are designed to reduce the static pressure and are made up of Poly-propylene of 6 mm thickness.

**Work Surface:**

- **Granite:** Standard hood work surface shall be 18mm thick jet black granite in the form of a watertight pan, not less than 7 mm deep to contain spillage. Worktop will have oval shaped 102 mm X 175 mm 'PP' Cup-Sink for drainage. Top shall be manufactured at the same manufacturing location as the fume hood to assure proper cut-out alignment and coordinated shipping. The work surface and cup drain shall be available in black.

**Centrifugal Blower:** Silent high efficiency remote blower consisting of continuous rating motor and chemical resistant impeller. The blower shall be designed to give a face velocity at safe working height as per the international safe velocity norms. (ANSI/AIHA Z9.5). The blower body shall be PP + FRP and chemical (corrosion) resistant and mounted on a metallic stand. Capacity and Qty will be as per schedule of Qty.

**Ducting:** Rigid Ducting of PP (Polypropylene) + FRP (Fibre Reinforced Polyester) and flexible ducting with flanges, bends, damper transitions, clamps etc. Flexible joint shall be provided in the ducting in order to avoid transmitting the blower vibrations to the hood. A rain cowl is provided at the outlet of blower.

## SCRUBBER SPECIFICATION

### Dry Fume Scrubbers

Dry scrubber should be providing with EU-4 grade pre -filter for dust particles, 24 activated bonded and impregnated carbon plates for fumes absorption. This should be suitable for Acids & solvents. The outer body should be of Chemical & UV resistant PVC body for outdoor applications. It should have Access port & Sampling port, with round end connection, Filter saturation indicator and filter stand.

- Size:1950mm L X 1020mm H X 580mm W
- Weight: 72kg
- Inlet & Outlet dia:355mm
- Pressure drop:1.6 inch WG

## LIST OF APPROVED MAKES

Steel	TATA Steel, JINDAL Steel
Powder Coating	Kansai Nerolac, Berger Paints, Asian Paints/Equivalent
Fume Hood Utility Fittings	Watersaver, Broen/ Equivalent
Airflow Monitor (AFA)	TEL (UK)/ Equivalent
Switches and Sockets, Data and LAN points	Northwest, Norisys/ Equivalent
Sink (Cup Sink)	KL Labs, Alloyplass, Premier Polymers/ Equivalent
Worktop	Jet Black Granite
Storages for corrosive chemicals	Godrej Resilience cabinets or Equivalent
Storages for Flammable Solvents	Justrite, Asecos or Equivalent
Blowers	Almonard, Konark, UNC Plast
Dry Scrubber	Instalab, UNC Plast, Konark/ Equivalent
DOL Starter	L&T, Seimens, Havells/ Equivalent
Electrical Wiring	Polycab, Finolex, Havells/ Equivalent

**MANDATORY TESTS REQUIRED**  
**Fume Hood**

**Teststo be Done** : 1) Flow visualization  
: 2) Face velocity measurements  
: 3)Tracer gas containment

**Standard Applicable** :ASHRAE-110 2016

**AND**

**Tests to be Done**

- : 1) FACE VELOCITY TEST
- : 2) CONTAINMENT TEST
- : 3) INNER MEASUREMENT PLANE TEST
- : 4) OUTER MEASUREMENT PLANE TEST
- : 5) ROBUSTNESS OF CONTAINMENT TEST
- : 6) AIR EXCHANGE EFFICIENCY TEST
- : 7) SASH SUSPENSION TEST
- : 8) PROTECTION AGAINST SPLASHES TEST
- : 9) SASH STOP ND ALARM TEST
- : 10) ILLUMINANCE TEST

**Standard Applicable** :EN 14175

**Proof of Test Passed** : Type test reports as per ASHRAE-110, 2016 for above 3 tests and EN-14175 for above 10 tests to be submitted along with the technical bid



**CHAPTER-5 PRICE SCHEDULE**

**ALL THE BIDDERS SHOULD QUOTE THEIR OFFER IN FOLLOWING FORMAT FOR UNIFORMITY**  
**PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA**

Name of the Bidder \_\_\_\_\_

Tender No. \_\_\_\_\_

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No	Item Description	Country of Origin	Qty	Unit	Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of tax already paid)	Total price Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of tax already paid) 4x6	GST payable, if contract is awarded	Packing & forwarding up to station of dispatch, if any	Charges of inland transportation, insurance up to Institute	Installation, Commissioning & training charges, If any.	Gross Total (FOR)
1	Design, Supply & installation of two 1800 L x 1050 B x 1550 D mm benchtop low constant volume fumehood with 3 nos of underbench storage cabinets		01	No							

Total Bid Price \_\_\_\_\_ in words.

**Signature of Bidder:**

**Name Note:** The cost of optional items shall be indicated separately.



The bidder may add rows to include the prices of all components & warranties, installation etc. whichever applicable.

(a) Cost of spares \_\_\_\_\_ (b) Warranty if being charged include in BoQ



## **CHAPTER - 6 : Checklist: Eligibility Criteria for Bidders**

Bidders to indicate whether the following are enclosed by striking out the non-relevant option.

(a)	Self-Attested copy of GST number as applicable	( Yes / No )
(b)	Agreements / Purchase orders / Completion certificates, if any, from the clients for whom similar supply has been made by the bidder in last three years	( Yes / No )
(c)	Compliance sheet with any deviation w.r.t. the terms	( Yes / No )
(d)	LD clause agreeable.	( Yes / No )
(e)	Acceptance of warranty period and Free replacements during warranty period	( Yes / No )
(f)	Deviation Sheet to be Attached	( Yes / No )



### **IMPORTANT NOTICE**

TENDERERS RESPONDING TO THIS ENQUIRY SHALL BE DEEMED TO BE AGREEABLE TO THE TERMS AND CONDITIONS HEREIN CONTAINED. THESE TERMS AND CONDITIONS SHALL BE BINDING ON THE SUCCESSFUL TENDERER. CONDITIONAL TENDERS ARE LIABLE TO BE REJECTED. IISER TIRUPATI WILL PROCESS THE TENDER AS PER IISER TIRUPATI STANDARD PROCEDURES. THE DIRECTOR OF THE INSTITUTE RESERVES THE RIGHT TO REJECT ANY OR ALL OR PART OF TENDER WITHOUT ASSIGNING ANY REASON AND SHALL ALSO NOT BE BOUND TO ACCEPT THE LOWEST TENDER. IISER TIRUPATI WOULD NOT BE UNDER ANY OBLIGATION TO GIVE ANY CLARIFICATIONS TO THE AGENCIES WHOSE BIDS ARE REJECTED.

I agree to all terms and conditions mentioned in the tender document of the Institute

Signature of the Tenderer



