



**भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली**  
शिक्षा मंत्रालय, भारत सरकार द्वारा स्थापित  
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**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI**  
(Estd. By Ministry of Education, Govt of India)  
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*CPPP/Institute Website*

IISERM (1448)20/21-Pur

Dated: 08-04-2021

## **CORRIGENDUM -I**

Refer IISER Mohali E-tender Ref. No. IISERM (1448)20/21-Pur for “**Supply & installation of Lab Furniture**” Knowledge City, PO. S.A.S. Nagar, Mohali, Punjab. Due date for the on-line submission is extended due to addition of following condition in tender, is incorporated as **per below schedule**:

BOQ no.	Details of Specifications of the Stores	Qty. (in units)
--	<b>In the specifications, amendment/modification as below:</b>  1) Modification in Item No. 13) <b>FRP ducting may be read as 200 mm dia</b> instead of 20 mm. 2) <b>Revised specifications for Fume hood &amp; Scrubber - As per REVISED Annexure-II</b> (as given below).  Bidders are requested to kindly quote in BOQ, incorporating the above amendment/modifications.	<b>As per BOQ</b>

### Revised date and Time:-

Sr. No.	Description	Extended Due date/Time
01	Closing Date & Time (Online)	21 <sup>st</sup> April 2021 up to 11:00 AM
02	Opening Date & Time of Technical Bid	22 <sup>nd</sup> April 2021 up to 11:30 AM

For any information, other modifications and/or corrigendum may kindly visit IISER Mohali websites <http://www.iisermohali.ac.in/> & <https://eprocure.gov.in/eprocure/app>

Sd/-  
Assistant Registrar (P&S)

FUME HOODS SPECIFICATIONS

**2.0 Standard Fume Hood Performance Requirements**

- a) Fume hoods shall be of complete KD (Knock down) construction with airfoil design to insure maximum operating efficiency. Foil sections at the front facials of the hood shall minimize eddying of air currents at the hood face and the rear baffle system shall minimize turbulence in the upper portion of the hood interior.
- b) Test Method – The hood shall be tested by a third party as per the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 110-1995 and EN-14175.

**2.1 Quality Assurance**

- a) The laboratory fume hood manufacturer shall provide fume hood work tops and casework all **manufactured & shipped with** proper packing & should take the full responsibility of the entire scope of works as specified in the tender.
- b) **Each fume hood should come Pre Wired along with PDI (Pre Dispatch Inspection Report)**

**2.2 Specifications**

- a) **Superstructure Frame** – A free-standing rigid panel structure of steel (G.I.)
- b) **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. Cutouts to be provided inside the fume hood for service line accessibility. The same to have a cover with a fastener free design. The vertical facias shall contain the required service controls, electrical switches and receptacles.
- c) **Airfoil** – A streamlined airfoil shall be integral at the bottom of the hood opening on bench and distillation 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 to be provided with a separate handle which also provides for air flow when in completely closed position. The foil shall be 1.2mm steel to resist denting and flexing.
- d) **Baffle**- 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.
- e) **Duct Collar**- A 8"-10" diameter polyethylene funnel shaped rectangular duct collar shall be located in the top of the hood plenum chamber.
- f) **Lighting**- Two fluorescent light fixture (inclusive of CFL tubes) of 20 volts each to be provided in the fume hood. The lighting fixture to be completely outside the fume hood area.
- g) **Sash**- A sash provided should be move in a vertical rising steel frame without any noise. 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 an leveled channel with roller for smooth operation.
- h) **Plumbing Services** – Utility services like Nitrogen, Vacuum, Compressed Air & Potable water shall consist of remote control valves as selected located within the end panels, controlled by in and out facility with flexible hose passing through the side panels of the hood, with color coded plastic handles. Interior fitting for water shall be with powder

coated brass. All gas valves for regular lab gases to have standard needle valve and push and turn type arrangement for all burning gases to be supplied. All supplied valves to clear the following pressures test conditions: Gas Fittings- 7 bar, Water fittings-10 bar.

- i) **Electrical Services** – The hood superstructure shall be fully wired and should have a control box with MCB blower starter all safety devices like trip etc. Inlet to be of 3 phase power supply and the whole electrical to be of plug and play type. It also has 4 nos. electrical sockets and switches of Northwest make (230 V, 5/16 A, 50 Hz). Connection has to be made from fume hood to the scrubber blower with atleast 3 phase 4 sq mm cable (Approximate length 40 mtr per fume hood all in the scope of contractor/agency).
- j) **Liner-** Interior liner panels shall be 6 mm thick Phenol resin base industrial laminate.
- k) **Digital Panel-** 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 sash position. The system has 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.
- l) **Lattice Rod Assembles** – 12mm diameter solid SS rods shall be completed with the PP clamps to form a lattice arrangement to hold the test samples and rotors within the fume hood.
- m) **Centrifugal Blower-** Silent high efficiency remote blower consisting of continuous rating motor and chemical resistant impellar. The blower is designed to give a face velocity at safe working height as per the international safe velocity norms. (ANSI/AIHA Z9.5). The blower body is polypropylene UV treated, high density and chemical (corrosion) resistant and is mounted on a metallic stand
- n) **Ducting – 200 mm** Rigid Ducting of PP ( Polypropylene ) + FRP ( Fibre Reinforced Polyester ) and flexible ducting with flanges, bends, damper transitions, clamps etc all complete. Flexible joint is provided in the ducting in order to avoid transmitting the blower vibrations to the hood. A weather proof rain cowl has to be provided at the outlet of blower.

#### **SCRUBBER SPECIFICATIONS:**

<b>Sr. No.</b>	<b>General Details</b>	
a.	<b>Scrubber</b>	Separate 1 no. for each LCV fume hoods of 6 feet width
b.	<b>Capacity</b>	1000 CFM for One 6 feet width LCV fume hoods
c.	<b>Working temp.</b>	Ambient
d.	<b>Design temp.</b>	60 degree Celsius
e.	<b>Type</b>	Vertical Packed Bed scrubber with circulation tank and recirculation pipes and fittings.
f.	<b>Motor MAKE-KIRLOSKAR/Siemens</b>	3.0 HP, 1450 RPM, CI Body, Impeller PP Coated
g.	<b>Pump MAKE-KIRLOSKAR/</b>	0.5 HP, 2900 RPM, Capacity 50 ltr/min, Head 5 mtrs

	<b>AMBICA/ KRANTI</b>	
h.	<b>Bottom/ room/ shell</b>	PP + FRP
i.	<b>Manway necks/ Reinf. Pads</b>	PP + FRP
j.	<b>Manway flanges</b>	PP + FRP
k.	<b>Nozzle necks</b>	PP + FRP
l.	<b>Nozzle flanges</b>	PP + FRP
m.	<b>Gasket</b>	Natural resin – 3mm
n.	<b>Bolts and nuts</b>	GI
o.	<b>Tank</b>	3 mm PP + 5 mm FRP
p.	<b>Scrubber</b>	3 mm PP + 3 mm FRP
q.	<b>Outside of tank</b>	Smoke grey
r.	<b>Inside of tank</b>	NIL

**Others:**

- a) Accessories like overflow provision and water level indicator.
- b) Less space occupation, maximum efficiency and maximum recollection. All nozzles shall be provided with FRP gussets.
- c) Water fill shall be done to take care of leakage. Floor space requirement of 2 m X 2m.
- d) Water fill test shall be done to take care of leakage
- e) **Base Cabinets** – Fume hoods are designed to rest on a bench (high base stand, pedestal or a cabinet) which is a complete rigid steel structure. Gauge of steel used in its construction shall be 0.8 mm GI.
- f) **Transition-** Used to connect fume hood with ducting should be designed to reduce the static pressure and is made up of PP-FRP.
- g) **Work Surface** – Hood work surface shall be 20mm thick jet black granite made in the form of a watertight pan, not less than 7 mm deep to contain spillage. Worktop will have oval 100mm x 200mm 'PP' Cup-Sink for drainage. The work surface and cup drain shall be available in black colour.

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