



# INDIAN INSTITUTE OF TECHNOLOGY KANPUR

## CENTRAL STORES & PURCHASE SECTION

IIT Post Office Kanpur - 208 016

Under certificate of posting

Phone : 91-512-2597214, 7384

Fax : +91-512-2597659

Email : purchase@iitk.ac.in.

**Enquiry No :** E/2016-2017/42

**Enquiry Date :** 23/01/2017

**Closing Date :** 10/02/2017

**Delivery Date:** 15 Days

Dear Sir ,

Sealed Quotations so as to reach latest by 3:00 PM on dated 10/02/2017 are invited for the supply of following items :

SI No.	Description	Quantity	Unit
1	FUME HOOD  COMPLETE SPECIFICATIONS AS PER ATTACHED ANNEXURE-A	4	NOS

Sd/-

Dy. Registrar (S&P)  
Central Store & Purchase Section

## Annexure - 'A'

### Technical Specifications for 5 Feet Regular Fume Hood -4Nos

Overall Dimensions with base cabinet: 1500 mm W X 900 mm D X 2400 mm H

Fume Hood dimensions: 1500 mm W X 900 mm D X 1600 mm H

Base Cabinet dimensions: 1400 mm W X 540 mm D X 700 mm H

Inside Fume Hood working volume: 1220 mm W X 650 mm D X 1155 mm H

Bed size: 1220 mm W X 650 mm D

Sr. No	Specification	Description
1	Design Basis	<b>American Design Standard: ASHRAE110- 1995</b> All tests including "Tracer gas containment test" passed. <b>European Design Standard: EN-14175- 2003</b> 'Inner Plane Containment test' passed.
2	Design Structure	Aerodynamic, Floor mounted
3	Airflow Type	Low Constant Volume (for A.C. environment)
4	Color Combination	Grey & White
5	Powder coating	Pre-treated with 8 tank chemical processes and powder coated with highly chemical resistant epoxy Colors having dry film thickness of 70 to 80 microns. Passes all conformity performance tests as per IS standards.
6	Material of Construction of superstructure	Galvanized Iron (GI) as per IS 277: 2003 standard of <input type="checkbox"/> 1.0 mm thickness for all sheet metal paneling <input type="checkbox"/> 1.2 mm for back pillars <input type="checkbox"/> 1.2 mm for front corner post
7	Front Top Panel	Easily openable hinged Top Panel for easy access to Flow Control Valve and Electrical Lighting fixtures for maintenance.
8	Corner Post	Triangular profiled Corner Post is placed on Left and Right Hand Side of the Fume hood and it houses the utility line fittings and electrical receptacles.
9	Construction (Interior)	Chemical & Heat Resistant, Fire Retardant, Smooth Finish, Easily Cleanable Panels Made out of durable PRL integral work walls (6 mm thick). ASTM flame

10	Active Kinetics exhaust system	spread index < 25. Interstitial 7-point active kinetics exhaust system (for light, normal & heavy fumes) with baffle to ensure rapid exhaust of fumes.
11	Airfoil	Aerodynamic Design, Horizontal fixed airfoil mounted on the worktop made of SS 304 (1.2mm).
12	Worktop	Chemical resistant splash & spillage proof dished 'Jet Black Granite' worktop (18 +1 mm thick). Skirting of 15 mm from all sides for no chemical spillage.
13	Sink, Water tap with drain arrangement	Worktop will have sink sealed with silicon sealant for drainage with water tap on left back side of worktop. Sink will have a trap for waste collection. <input type="checkbox"/> Oval shaped 100 mm X 200 mm sink
14	Sash (Shutter)	Vertical rising sash counter-balanced with pulley and counter-weight system. Toughened Float Glass sash (4 mm thick). Smooth and light sash operation. Clear openable height = 750 mm. Impact Resistance of the sash (Toughened Glass) is four times higher than other sash materials (like Safety Glass and Polycarbonate). Breaking Stress value for fully toughened glass (Tempered Glass) = 24,000 psi.
15	Wet & Dry Service valves	Remotely operated Color coded Brass Needle Valves for fine control over utilities (as per DIN 12920 norms) total 4 nos. service valves with PU plumbing with 6 mm internal dia, withstands up to 5 kgf pressure ( 2 LHS + 2 RHS) <input type="checkbox"/> 1 for Raw water (PU) <input type="checkbox"/> 1 for Nitrogen(PU) <input type="checkbox"/> 1 for Vacuum(Teflon) <input type="checkbox"/> 1 for Compressed Air (PU)
16	Maintenance ports	<input type="checkbox"/> Open-able top panel for

		easy maintenance of tube light and flow control valve <input type="checkbox"/> Triangular service panel for maintenance of utility valves and tubing.
17	Internal nozzles	Brass powder coated fittings are staggered in the fume hood to avoid the intermingling of the flexible tubes. Also the taps are tapered in shape to use with flexible tubing of sizes from 1/4" to 1/2" in dia, to provide greater flexibility to the user. Note: - Our Scope of supply for utility lines ends at 1/4th BSP male adopter.
18	Lighting	Fluorescent light (40 watt, 2 Nos.) with vapour-proof fitting for proper illumination. Intensity approx 400 lux at worktop level.
19	Electrical Utilities	3 nos. electrical sockets 'NorthWest' make (230 V, 6/16 A, 50 Hz), 3 nos. 'NorthWest' make MCBs with blower NO/NC switch with built -in starter & light switch on front fascia. Cables & wires 'Fire Retardant' grade. (All on RHS)
20	Built-in Starter	The electrical wiring will have built-in starter of "Telemecanique" make; suitable to blower motor capacity.
21	Cable entering port	For easy access of cables from fume hood to electrical sockets.
22	Chemical Storage Base Cabinet (Ventilated on Castors)	Base cabinet will be ready to receive the fume hood at its top. It will have following features: <input type="checkbox"/> Internal special chemical resistant material lining to the cabinet  walls <input type="checkbox"/> Two exhaust ports connected to the fume hood exhaust system  Internally. <input type="checkbox"/> Complete chemical resistant, fire proof pre-

lam/MDF cabinet

Construction.

- One removable horizontal partition to store chemicals.
- PP Trays for chemical storage.
- Cabinets on castors.
- Locking System for the Base Cabinet doors are "HAFELE"-

Germany" Make.


Overall Dimensions: 700mm (W) X 540mm (D) X 700mm (H) – 2nos.

23	Apparatus Holding Grid (Lattice Assembly)	A grid made up of Duralumin Powder coated rod (Dia. 12.7 mm) to hold the apparatus. It will cover the entire length of the fume hood and will be built-in at fume hood backside. Installed at the distance of 150 mm from backside of fume hood.
24	Level adjusting screws	Made of SS Bolts to adjust the fume hood level by + 10 mm.
25	Exhaust Port	Unique exhaust port design ensures that the fumes will be exhausted smoothly without any turbulence at the exhaust port. Also it ensures low noise level. Dia. 250 mm
26	Flow control valve	To regulate airflow.
27	Noise Level	< 70db at 1 meter from fume hood.
28	Auto fire extinguisher	Fire extinguisher to take care of fire erupting within the fume hood. The sensing tube/ sensor will activate immediately after fire breaks out within the hood. Sensor threshold: 68 degree centigrade. Media: ABC Dry Powder

**CENTRIFUGAL BLOWER: (For air suction in cluster of 2nos. Fume Hood) - 2Nos.**

Silent PP + FRP high efficiency remote blower, consisting of continuous rating motor and chemical resistant impeller. It satisfies international safe velocity norms.

<b>Sr. No</b>	<b>Specification</b>	<b>Description</b>
1	Construction	SISW type, chemical & heat resistant PP + FRP blower with aerodynamically balanced PP impeller, with drain plug.
2	Air Suction Capacity	480 CFM confirming to international face velocity norms and as per safe fume hood airflow pattern.
3	Motor	'Crompton / LHP/Other Reputed' make, 1 HP Motor 3 Phase TEFC, IP 55, Class F, continuous rating. As per IS 325.
4	Drive	Direct Drive





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### Terms & conditions for supply of above mentioned articles

1. Enquiry will be sent by courier / registered post / speed post and IIT Kanpur will not be liable for any kind of irregularity/delay.
2. The quotation in duplicate should be enclosed in a properly sealed envelop addressed to the Dy. Registrar(S&P) invariably giving on the envelope reference of enquiry and due date of opening.
3. The quantity mentioned in enquiry is and shall be deemed to be only approximate and will not in any manner be binding on the Institute.
4. Firms will quote separately for each article.
5. The Rate offered should be free delivery to IIT Kanpur or Ex-godown in case of firms situated outside Kanpur.If items is imported then the firms should quote the price on F.O.B. basis.
6. In case of Ex-godown terms the amount of packaging, forwarding freight etc. should clearly be mentioned by percentage or lump sum amount. Current rate of tax as and other statutory levies must be mentioned.
7. The rates offered should be exclusive or inclusive taxes. The rates applicable should clearly be specified .
8. The delivery period should be specifically stated. Ex-stock and earlier delivery may be preferred.
9. The firms are requested to give detailed description and specification together with detailed drawings and printed leaflets and literature of the articles quoted. The name of manufacturers and country of manufacture should also be invariably be stated. In the absence of these particulars the quotation is liable for rejection.
10. Samples wherever asked for will not be paid for. These should be delivered in the office of the undersigned securely labeled and packed. In case of firms who submit the sample through railway and road transport the freight should be prepaid and R/R should be in favour of the Dy. Registrar, Stores and Purchase Section. Indian Institute of Technology, Kanpur-208016.
11. Quotation should have validity of at least 90 days from the date of opening.
12. The rates quoted should be in metric units, otherwise your quotation is liable to be ignored.
13. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.
14. All the consignments must be securely packed and booked duly insured addressed to the Dy. Registrar (S&P) IIT Kanpur - 208016
15. Institute is exempted for payment of Excise Duty under notification No. 10/97 & partially @ 5.15% Custom Duty exemption certificate under notification 51/96 and road permit will be provided if applicable.
16. The Penalty @ 1% per week or part thereof subject to a maximum of 10% of the delivery price will be deducted from the balance payment if supply is not completed within stipulated period.
17. The Concessional Form 'C/D' have been abolished w.e.f. 01.04.2007.
18. Our standard payment terms & condition is 90% against delivery and 10% after inspection and approval.
19. Supplier should mention complete contact details such as email etc.

Sd/-

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