

Department of Materials Science & Engineering

Indian Institute of Technology, Kanpur

Call for Quotation: Fumehood & Island Table

IITK/MSE/11-12/06 DATED 17/2/2012

CLOSING DATE : 25/02/2012

We are interested in the purchase of two 5 ft and one 6 ft Fume hoods (overall length given) and two Island Working Table (of 10 ft length and 5ft width) for our research laboratory. We are hereby calling for quotations from the prospective suppliers for the fume hood and Island Table with the following minimum specifications/requirements:

Fume hood

Dimensions

6 ft Dimensions	5 ft Dimensions
Overall Dimensions with base cabinet: 1800 mm W X 1000 mm D X 2400 mm H	Overall Dimensions with base cabinet: 1500 mm W X 1000 mm D X 2400 mm H
Fume Hood dimensions: 1800 mm W X 1000 mm D X 1600 mm H	Fume Hood dimensions: 1500 mm W X 1000 mm D X 1600 mm H
Base Cabinet dimensions: 1800 mm W X 700 mm D X 700 mm H	Base Cabinet dimensions: 1500 mm W X 700 mm D X 800 mm H
Inside Fume Hood working volume: 1520 mm W X 750 mm D X 1155 mm H	Inside Fume Hood working volume: 1220 mm W X 750 mm D X 1155 mm H
Bed size: 1520 mm W X 750 mm D	Bed size: 1220 mm W X 750 mm D
Height of worktop from Ground level: 850 mm	Height of worktop from Ground level: 850 mm

Specifications

S. No.	Specification	Description
1	Design Structure	Aerodynamic, Floor mounted
2	Airflow Type	Auto Bypass Type (for non-AC labs)
3	Construction (Exterior)	Powder coated (70 to 80 microns) durable, attractive Grey 1.2mm heavy duty GI (Galvanized) (as per IS: 513) sheets with rigid structure.
4	Front Top Panel	Easily openable hinged Top Panel for easy access to Flow Control Valve and Electrical Lighting fixtures for maintenance.
5.	Corner Post	Triangular Profiled Corner Post made of Highly chemical resistant Polyurethane Powder coated (70 to 80 microns) durable, Grey color, 1.2 mm thick heavy duty GI (Galvanized) sheet. It should be placed on Left and Right Hand Side of the Fume hood and it should houses the utility line fittings and electrical receptacles.
6	Construction (Interior)	Chemical & Heat Resistant, Fire Retardant, Smooth Finish, Easily Cleanable Panels Made out of durable special material integral work walls. (6 mm thick). ASTM flame spread index < 25
7	Baffle arrangement	Interstitial 3-point suction system (for light, normal & heavy

		fumes) with baffle to ensure smooth and immediate exhaust of fumes.
8	Airfoil	Aerodynamic design , horizontal airfoil mounted on the worktop made of SS 304 (1.2 mm thick)
9	Worktop	Chemical resistant splash & spillage proof dished ' <i>Jet black Granite</i> ' worktop. (18 to 20mm thick)
10	Sink, Water tap with drain arrangement	Worktop will have oval/round shaped 100 mm X 200 mm sink for drainage with water tap on left side of worktop.
11	Sash (Shutter)	Vertical rising counter-balanced sash. Toughened Float Glass sash (6 mm thick). Smooth and light sash operation. Clear openable height of approx.750 mm. Impact Resistance of the sash (Toughened Glass) should be four times higher than other sash materials (like Safety Glass and Polycarbonate). Breaking Stress value for fully toughened glass (Tempered Glass) should be around 24,000 psi.
12	Wet & Dry Service fittings	Remotely operated color coded 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 15 kgf pressure and brass fittings for gas connections. <ul style="list-style-type: none"> • 1L for Water above the sink • 1L for Nitrogen • 1Lfor Vacuum • 1Lfor CA Should be located in the corner post on left hand side of the Fume hood. The utility line taps should be staggered in the fume hood to avoid the intermingling of the flexible tubes. Also the taps should be tapered in shape to use with flexible tubing of sizes from ¼" to ½" in dia, to provide greater flexibility to the user.
13	Lighting	Fluorescent light (40 watt, 2 Nos.) with vapour-proof fitting for proper illumination. Intensity approx 400 <i>lux</i> at worktop level.
14	Electrical Utilities	Three nos (3R). electrical sockets N/W' make (230 V, 6/16 A,50 Hz), Three nos.'NorthWest' make MCBs with blower NO/NC switch (with built in starter) & light switch on front fascia. Cables & wires ' <i>Fire Retardant</i> ' grade.
15	Cable entering port	For easy access of cables from fume hood to electrical sockets.
16	Chemical Storage Base Cabinet	Base cabinet should be ready to receive the fume hood at its top. It should have following features: <ul style="list-style-type: none"> • Internal special chemical resistant material lining to the cabinet • Walls are made up of "Phenolic resin Laminates" (Hylem) (6mm thick)

		<ul style="list-style-type: none"> • Two exhaust ports connected to the fume hood exhaust system internally. • Complete powder coated attractive colour combination rigid structure to support Fume hood. • One removable horizontal partition to store chemicals. • Double skin hinged doors with hinges made of Polyamide for • Chemical resistance and hassle free operations in the corrosive • lab atmosphere. • PP Trays for chemical storage • Fully openable back panels for service line access
17	Level adjusting screws	Should be made of SS Bolts to adjust the fume hood level by + 10 mm.
18	Exhaust Port	Unique exhaust port design ensures that the fumes should be exhausted smoothly without any turbulence at the exhaust port. Also it should ensures low noise level.
19	Flow control valve	To regulate airflow.
20	Noise Level	< 70db at 1 meter from fume hood.
21	Centrifugal Blower	SISW type, chemical & heat resistant PP + FRP blower with aerodynamically balanced impeller, with drain plug. 2000 CFM confirming to international face velocity norms and as per safe fume hood airflow pattern. 'Crompton / LHP' make, 1.0HP Motor 3 Phase TEFC, IP 55, Class F, direct drive, continuous rating. As per IS 325.
22 (Only for the 6 feet Fume hood)	Apparatus Holding Grid	A grid made up of S.S.304 (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.

Island Working Table

Specifications

Should be made of (17 to 19mm) thick Jet Black Granite Top with front side mirror finish edges/chamfer molding at the front & groove at the bottom to avoid chemical spillage.

Material of construction: - Completely made of 1mm Thick G.I.Sheet

Under Bench Module:-Completely made of 1 mm G.I. sheets as per IS 277 standard.

The shutter & drawer front should be of sandwich construction. Foam sheet filled in shutter gaps. The sound deadening plastic bumpers to be used to minimize banging noise while closing the shutter. The entire module is made up of G.I. Sheets and are Welded for high sturdy storage modules. The shutters are mounted to the modules by hinges which are openable to 95 degree & self closing on return. Lockable roller bearing to be use, so that the drawer will not fall. The telescopic drawer slides, which should be very sturdy & able to take load upto 30kg. All modules to have lock and key arrangement.

Length : 3050 mm Width: 1500 mm
Height : 675 mm H + Pedestal Frame

Modules Bottom Frame construction:- Entire structure should be Pedestal frame type. 30 X 30 X 1.6 mm pipe should be used for main frame structure. 25 X 25 X 1.6 mm pipe should be used for bottom support. CO2 welded & finished with highly chemical resistant epoxy powder coating. Knee Space area :- Foot rest with openable back cover panel. It must be adjustable + 100 mm. Instrumentation and Sitting area knee space need to be 600 or 750 mm.

Island Table: Two tier reagent rack will be of 300mm (D) X 730mm (H) with 2 numbers electrical switch socket every 1.5mtr.

Side Table: Two tier reagent rack will be of 150 mm (D) X 730 mm (H) with 2 numbers electrical switch socket every 1.5mtr.

Wall Table: Triangular Electrical Trunking of 70mm (D) x 120 mm (H), completely pre-wired with 2 numbers electrical switch socket every 1.5 m.

Cabling:- Complete electrical cabling with FRLS 2.5 sq mm wires with end connector for termination at one end of the trunking.

Switch & Sockets:- North-West make : Electrical Socket with MCB 5/15amp with wiring
Powder Coating:-Complete module & frame work are processed with 9 tank pre- treatment and finished with highly corrosion resistant epoxy powder coating With 70 - 80 microns thickness and 750 hours salt spray test capability.

Please send all technical specifications of the product being quoted and applications details about the system along with the quotation. You may highlight any special features of your product along with support evidence/data sheets.

Prospective suppliers may submit **Competitive quotation** for the two 5 ft and one 6 ft Fume hoods and two Island Working Table in sealed envelope latest by 25th **February, 2012** to the following address:

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