

**Government of India
Bhabha Atomic Research Centre
Radiation Medicine Center
Tata Memorial Centre Annexe Building
Parel, Mumbai-400012.**

Ref: RMC/17(1)D/79/9 dated 18/10/2021

Date: 03/11/2021

Sub: Quotation invitation for Dismantling, Installation and Fabrication of new Fume Hood (Size: 1500 mm W X 900 mm D X 2400 mm H)

1. For and behalf of President Of India, sealed quotations are invited by **Head, Radiation Medicine Center, BARC** for Dismantling, Installation and Fabrication of new Fume Hood (Size: 1500 mm W X 900 mm D X 2400 mm H). **Detailed Specifications as given in Annexure**
2. The purchaser reserves the right to place an order for a quantity more or less than that indicated in the enclosed specification list.
3. The taxes, excise duty and transportation charges shall be quoted separately. From-H, Octroi Exemption and Excise Duty Exemption Certificates will be provided, if necessary.
4. Sealed quotations must reach **Head, Radiation Medicine Center, BARC, Tata Memorial Hospital Annexe Building, Parel, Mumbai-400012 by 20.12.2021. Quotations will be opened on 21.12.2021 at 15:30 Hours.**
5. The above-mentioned Reference No., Date and Time of opening of bids must be clearly written on the sealed envelope containing the quotation.
6. The bidder shall finish the job in accordance with our specifications within 90 days from the date of issue of the work order.
7. Payment will be made as per rules after completion of the job satisfactorily. Part payments and advance payments are not possible. The offer shall be kept for acceptance for a maximum period of 30 days from the date of opening the quotation
8. The undersigned reserves the right to accept / reject any or all the quotation received, without assigning any reason whatsoever.
9. A brief list of similar job executed (if any), and name of the organization for which such job was carried out should be furnished along with the quotation.

10. The bidder shall furnish the information regarding whether an ex-employee of BARC is working in his organization or whether any of his relatives are working in DAE/BARC or he is an ex-employee of DAE/BARC. In case of absence of such information or wrong information, the quotation or contract is likely to be rejected or cancelled.
11. The bidder is requested to acknowledge in writing the terms and conditions mentioned in the contract.
- 12. The bidder has to give PAN No/GST No while submitting the sealed quotation. Xerox of the PAN Card/GST Registration Slip are required to be attached.**
13. The Free Lease Material {Lead sheet- 2 Nos, will be provided by RMC, BARC. The transportation cost from RMC, BARC to the workshop of the concerned party will not bear by the department.
14. Pre-dispatch inspection is required, the party should keep an option to make alternation in fabrication, if required after the inspection.

**To:
AAO
Works, BARC**

ANNEXURE

Date:03/11/2021

Detailed Specifications of Fume hood: 1500 mm W X 900 mm D X 2400 mm H)

Sr. No	Specification	Description
1	Model & Usage	Regular use, For Handling Radio-isotope in liquid form (Injectable Radiopharmaceuticals)
2	Overall Dimensions with cabinet Fume Hood dimensions Base Cabinet dimensions Inside Working Space Bed size Quantity:	1500 mm W X 900 mm D X 2400 mm H 1500 mm W X 900 mm D X 1555 mm H 710 mm W X 600 mm D X 655 mm H with Castors – 2nos 1220 mm W X 650 mm D X 1180 mm H 1220 mm W X 650 mm D 01 no.
3	Design Basis	American Design Standard: ASHRAE110- 1995 European Design Standard: EN-14175- 2003 'Inner Plane Containment test' passed.
4	Design Structure	Aerodynamic, Floor mounted
5	Color Combination and Airflow Type	Grey & White, Low Constant Volume (for A.C. environment)
6	Powder coating	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.
7	Material of Construction of superstructure	Galvanized Iron (GI) as per IS 277: 2003 standard of <ul style="list-style-type: none"> • 1.0 mm thickness for all sheet metal paneling • 1.2 mm for back pillars • 1.2 mm for front corner post
8	Front Top Panel	Easily openable hinged Top Panel for easy access to Flow Control Valve and Electrical Lighting fixtures for maintenance.
9	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 fixtures.
10	Construction (Interior) (Inside liner)	Chemical & Heat Resistant, Smooth Finish, Easily Cleanable Panels Made out of SS 304 lining integral work walls (1.2 mm thick), Chemical & heat resistant, fire retardant, smooth finish, easily cleanable panels made out of durable PRL integral

		work walls (6 mm thick). ASTM flame spread index < 25.
11	Active Kinetics exhaust system	<u>Interstitial</u> 7-point active kinetics exhaust system (for light, normal & heavy fumes) with baffle to ensure rapid exhaust of fumes.
12	Airfoil	Aerodynamic Design, Horizontal fixed airfoil mounted on the worktop made of SS 304 (1.2mm), preferred material is Teflon Coated.
13	Worktop Material and Weight to be hold	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.
14	Sash (Shutter)	Vertical rising sash counter-balanced with pulley and counter-weight system. Toughened Float Glass sash (6 mm thick). Smooth and light sash operation. Clear openable height = 750 mm. Impact Breaking Stress value of the toughened glass should be (Tempered Glass) = 24,000 psi.
15	Maintenance ports	Open-able top panel for easy maintenance of tube light and flow control valve rectangular service panel for maintenance of utility valves and tubing.
16	Lighting	Fluorescent light (60 watt, 2 Nos.) with vapour-proof fitting for proper illumination. Intensity approx 400 lux at worktop level.
17	Electrical Utilities	3 nos. electrical sockets 'North-West' make (230 V, 6/16 A, 50 Hz), 3 nos. 'North-West' make MCBs with blower NO/NC switch with Built-in starter & light switch on front fascia. Cables & wires 'Fire Retardant Low Smoke' grade. (All on RHS)
18	Cable entering port	For easy access of cables from fume hood to electrical sockets.
19	Chemical Storage Base Cabinet (Ventilated & on castors)	Base cabinet will have following features: 1)Internal special chemical resistant material lining to the cabinet walls 2)Two exhaust ports connected to the fume hood exhaust system Internally. 3)Complete chemical resistant, fire proof pre-lam/chipboard cabinet construction. 4)One removable horizontal partition to store chemicals. 5)PP Trays for chemical storage. 6)Cabinets on castors. 7)Locking System for the Base Cabinet doors are "HAFELE"-Germany" Make. Overall dimensions of cabinet: 850 mm L X 540 mm D X 700 mm H Another 850mm (Length wise) open tray on castors to be provided.
22	Level adjusting screws	Made of SS Bolts to adjust the fume hood level by \pm 10 mm.

23	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.
24	Flow control valve	To be provided for regulating airflow.
25	Noise Level	< 70db at 1 meter from fume hood.
26	Wet & Dry Service valves	Remotely operated Colour 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 5kgf pressure (All on LHS) <ul style="list-style-type: none"> • 1 for Raw water (PU) • 1 for Nitrogen (PU) • 1 for Vacuum (PU) • 1 for Compressed Air (PU)
27	Air Flow Monitor	Red & green LEDs correspond to low & normal flow rates. When flow decreases from Normal to Low, an audible alarm will also actuate requiring manual acknowledgement for silence. Digital display of face velocity in m/sec or fpm On screen display for Safe and Alarm conditions with Audible alarm and LED indication. Push button calibration and configuration Plug-in connections for power supply and airflow sensor 3 programmable output relays 3 configurable inputs Com port for local or PC network connection
28	Dismantling of old fume hood	Dismantling of old fume hood at our site

Other terms and conditions

1. **Lead Shielding work:** Two Nos Lead sheets {920 mm(L) x 860 mm(D) x 10 mm(T)}, this lead sheets are required to be fixed inside the right and left side of SS panel during construction. Lead sheets will be provided by us.
2. **Air Flow Monitor:** Model No: AFA 1000 to be provided.
3. **Dismantling:** Dismantling of old fume hood at our site to be done by the party.
4. **Ducting:** Chemical resistant PP + FRP (3mm + 2mm) rigid & flexible ductwork from Fume hood to exhaust stack point with weatherproof canopy. Total ducting with horizontal, vertical members, flanges, bends, bracketed supports and gooseneck exhaust stack.
5. **Installation:** To be carried out by the company- Ducting work, fitting, fixing of blower, commissioning & testing of the fume hood at a no extra cost. Air changes provided by the fume hood should be demonstrate by the party.
6. **IQ/OQ/PQ:** Entire IQ/OQ/PQ protocols to be after completion of the installation at no extra cost.
7. **Testing: ASHRAE110:1995** face velocity norms certificate to be provided. Also, "Onsite Validation" to be carried out to ensure working of fume hood as per international norms/AERB norms
8. **Warranty:** 12months warranty against all manufacturing defects from the date of installation.

9. Unloading of material nearby the lab site to be done by company at no extra cost.
10. Provision for Blower foundation (R.C.C.) or Platform (M.S. structure) and scaffoldings/Holes for ducting are to be done by the company at no extra cost.
11. Provision for three phase supplies to fume hood & return cable from fume hood to blower as per specification will be provided by RMC, BARC.
12. Provision for Single phase supply for installation work will be provided by RMC, BARC
13. Manufacture and supplier should be same to take Annual Maintenance Contract of the same unit for at least 5 years (AMC will be renewed every year for the 5-year tenure) after expiry of warranty.
14. Fume hood will be used for radioactivity work, hence all required safety aspect, certifications should be provided at the time of demonstration and testing
15. Kindly provide the work experience and list of byers where same instrument is supplied and used for radioactive work.

Dr.Y. P. Pawar (SO/E)
Officer In-Charge
Animal House Facility, RMC

Through: Dr. A. A. Damle(SO/G)
Head, Cancer Biology and Radiopharmaceuticals Evaluation Section,

Through: Head, RMC, BARC

To:
AAO
Works, BARC