



Environmental Geochemistry Laboratory
Department of Civil Engineering
Indian Institute of Technology Kanpur

Inquiry no.: IITK/CE/AS/01-2016/01
Closing date and time: 25.01.2016 at 3 pm

Date: 12.01.2016

Sub: Call for quotation for supply and installation of a Glove Box and its Accessories

Sealed quotations (**Technical and Financial bids separately**) are invited from **authorized** suppliers along with the Manufacturer and Authorization Certificates **before 3 pm of 25.01.2016** for the specifications below.

The quotation for supply and installation of a **Glove Box** should be sent in two parts in sealed envelopes, clearly marked as "Technical Bid" and "Financial Bid". The Technical Bid should contain detailed technical specifications of the product being offered and should not mention any prices. Clearly highlight the technical parameters of your product when answering to the bid requirements. A mere copy-paste of the technical parameters specified in the quotations or vague responses will be rejected.

The Financial Bid should include the detailed price quotation clearly, including the cost of the equipment, taxes, service charges, shipping and handling charges, if any. Financial bids will be opened only when Technical Bids are found acceptable. Our organization is an educational institute of repute and liable to get maximum educational discount from manufacturer. **Please specify any discounts separately.**

S. No.	Product Name & Specifications	Quantity
1.	<p>Glove Box</p> <p>The glove box should be an energy efficient, microprocessor controlled, freely programmable and user friendly system with ease of operation and should be able to handle routine environmental samples from diverse matrices including samples of corrosive nature.</p> <p>Technical specifications:</p> <ul style="list-style-type: none">• Shell: Stainless steel (US 304 L or better)• Piping: Stainless steel (US 304 L or better)• Tightness: Class 1 to standard ISO 10648-2 (oxygen method), leakage rate $< 5 \times 10^{-4} \text{ h}^{-1}$• Lighting: Fluorescent/LED 220V, with ON/OFF switch• Shelves: Stainless steel, adjustable height, 3 no.• Feedthrough: Electrical single phase 220V 16A, 1 no.• Feedthroughs: Blanked KF 40, at least 2 no.• Front panel: Polycarbonate, easily dismountable; Quote separately additional costs for glass front panel	1



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	<ul style="list-style-type: none"> • Glove rings (2 in no.): Ø 190-220 mm (PP). Quote separately for additional costs for aluminium or SS rings, if any. • Gloves: Butyl-ambidextrous, 0.6 mm thick, size 8.5, length 750 mm, 2 (+2 spare, total 4 gloves) • Shutter: Ø 186 mm, 1 no. • Glove box will be preferably mounted on a table of 80 cm (W)x 210 cm (L) and 89 cm (H). The tabletop is made of granite and can take minimum 250 kg of weight. Clearly state whether it is possible to place it on the benchtop without the frame. If so, quote after removing the cost of Supporting frame • Also quote separately for supporting frame: Stainless steel 304 L, height 950 mm, locking casters and levelling feet. • Purification: Moisture control and Oxygen elimination • Electrical points: 4 power points (2 points for 5Amp & 2 for 15 Amp) • Weight: Less than 400 kg • Internal working dimensions (L * H * P in mm): ~1500 * ~900 * ~750 	
2.	<p>Vacuum Antechamber</p> <ul style="list-style-type: none"> • Material: Stainless steel • Dimension: Ø 400 mm, length 600 mm • External door: Lifting mechanism (vertically)-easy opening through gas cylinder • Internal door: Lifting mechanism (vertically) - Easy opening through gas cylinder, gas cylinder external to the glove box for a maintenance without pollution of the atmosphere • Control: Automatic valves for purging and filling-up vacuum chamber, cycles controlled entirely • Tray: Inner sliding tray in stainless steel • Vacuum control: Vacuum gauge -1/+1.5 bar with analog display • Tightness: Leak rate $<10^{-5}$ mbar L s⁻¹ • Vacuum pump: 21 m³ h⁻¹ two stages with mist eliminator (vacuum at 10⁻² mbar) • Safety feature: Vacuum pump stopping in case of accidental underpressure in the glove box 	1
3.	<p>Mini chamber</p> <ul style="list-style-type: none"> • Material: Stainless steel • Dimension: Ø 150 mm, length 300 mm or better 	
4.	<p>User Interface</p> <ul style="list-style-type: none"> • Interface: Touch panel, English • User help: Integrated to the touch panel • Display: Pressure (Pa, mm CE, or mbar), H₂O (°C PR /ppm), O₂ (ppm) • Control: Vacuum chamber handling - Forced flushing, Regeneration/Purification 	1



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	<ul style="list-style-type: none"> Setting: Vacuum chamber cycle - Flow of the blower - Pressure control, Red warning light according to O₂ and/or H₂O values 	
5.	Pressure Control <ul style="list-style-type: none"> Operation: Automatic Pressure: Overpressure or underpressure depending on user's choice Inlet gas: Electro valve controlled through PLC Outlet gas: System without backscattering through relief bubbler, independent from vacuum pump and electro valve controlled through PLC 	1
6.	Purification: <ul style="list-style-type: none"> Process: Closed loop gas circulation - Regenerable purifying loads Purification unit: Independent module Purification: H₂O and O₂ purification column Performance: H₂O < 1 ppm, O₂ < 1ppm Capacity: O₂ at least 20 L, H₂O at least 950 g; better capacity may be preferred Purification flow: From 0 to 40 m³h⁻¹ (ΔP: 20 mbar), Max. flow 110 m³h⁻¹ (ΔP : 0 mbar) Blower: Centrifugal blower two-stage, in a tight box - Adjustable flow, Brushless motor with electronic commutation Regeneration Process: Fully automatic - Inlet and outlet regeneration gas through electrovalves Heating: Integrated temperature regulation controlled through PLC and temperature cut-out Tightness: Leak rate < 10⁻⁵ mbar L s⁻¹ Regeneration gas: 95% N₂ or Ar + 5% H₂; Specify if purification will depend on the kind of inert gas used Sound level: ~49 dB or better in purification and pressure regulation 	1
7.	Analysers and filtration <ul style="list-style-type: none"> Analysers: O₂ and H₂O Dust filter (0.3 micron): One 'Gas inlet' and One 'Gas outlet' filter; both Class H13 HEPA or better 	1
8.	Compatible vacuum pump	1

Terms and Conditions:

- The vendor should supply list of installation (minimum 5, in last two year) in India of the same model quoted against this enquiry preferably at IITK.



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- Manufacturer should have appropriate ISO certification and a copy of same should be furnished.
- If the Financial Bid is included in the Technical Bid, then the quotation will be rejected.
- **Quotation should have minimum validity of 60 days from the date of opening.**
- Delivery period should be within 60 days from the receipt of the purchase order. Shorter delivery time may be given preference.
- Prices should include installation and training of the equipment.
- Provide contact number/address for complaint, else quotes may be rejected.
- The warranty period should be at least 1 year from the date of installation. A higher warranty may be given preference. **Also, quote must include prices for AMC from the manufacturer.**
- The firms may also quote for optional accessories which will extend the capability or ease of use of the equipment.
- **All quotations should be in the currency of the country of origin of the instrument, on FOB and CIF, Delhi (if imported), and also converted to ₹.**
- The Institute is exempted from excise duty and pays a nominal customs duty of 5.15% under Govt. of India notifications 10/97 and 51/96, respectively. Custom Duty exemption certificate under notification 51/96 and road permit will be provided if applicable.
- Normal payment terms for the Institute will be applicable (90% on delivery of the items and the remaining 10% after satisfactory installation/ inspection).
- The Institute reserves the right for accepting and rejecting any quotations without assigning any reason thereof. **Also, the Institute reserves the right to reject or accept all or any of the offers made above.**

Thanking you,

Sincerely,

Dr. Abhas Singh

Assistant Professor, FB-306, Department of Civil Engineering,
I.I.T. Kanpur, Kanpur- 208016, Uttar Pradesh, India.