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Indian Institute of Technology Kanpur

Samtel Centre for Display Technologies

Inquiry number: SCDT/FlexE/2015-16/30 Date: 28/01/2016

Quotations from prospective vendors are invited by Samtel Center for Display Technologies, IIT Kanpur for **Glove Box**

Note: **The technical and financial bid should be submitted together in separately sealed envelopes**.
We are looking for a **Glove Box**. The **Glove Box** must have following minimum technical specifications.

Technical specifications for Glove Box 1 & 2:

Sl. No.	Specifications	Company specifications and model number of system	Complies/Does not comply/Not applicable
1	**GLOVE BOX 1** The Glove box should be made up of with stainless steel (US 304L-1.4306) with 4 ports and 6 shelves, which also have front Panel in Sapphire coated polycarbonate, inclination of 10°		
2	It should have Automatic pressure control, with no manual intervention. Pressure Control: Automatic, independent of vacuum pump. Fitted with pressure safety release valve. Automatic pressure release while insertion of hands in gloves and automatic filling of gloves after removal of hands.		
3	The Glove box should have Air cooled purification unit with no external chiller requirement.		
4	The Purification Capacity must be O2 = 30L; H2O = 1440g with H2O <1 ppm, O2< 1ppm.		
5	The Gloves should be Butyl – Hypalon, ambidextrous, size 8.5, thickness 0.6 mm, and 800 mm length.		
6	The Lightening must be LED.		
7	The Main Vacuum Chamber must have 400m dia./600 mm length. Manual with 3 way valve, stainless steel, Vertical lifting mechanism, Opening through gas springs external to glove box for easy maintenance without pollution. Automatic valves for purging & filling. Manual and programmable system. Fitted with sliding SS tray. Leak rate < $10^{-}5$ mbar.l/s Fitted with analog vacuum gauge.		

8	It should have the main antechamber to be fitted with integrated hot plate. The heating cycle is programmable with vacuum. The program must have option to use the antechamber with heating cycle or without heating cycles.		
9	The Mini Antechamber size must be 150mm dia/400 mm length having Manual with 3 way valve		
10	The Antechamber should be attached with a connection with a vacuum pump of vacuum level up to 0.001 mbar and flow rate at least 18 – 21 m3/hr. Vacuum connection to be made in such a way that the same vacuum pump should to be used for making vacuum in charcoal filter also. Vacuum pump to be supplied with mist eliminator filter		
11	It should have the activated charcoal reactor with by-pass valves for easy replacement of charcoal even when glove box is working under purification. The reactor must be loaded with 6 Kg or above activated charcoal.		
12	It must have USB interface with touch screen to bring the glove box data on PC.		
13	The O2 Analyzer: Ranges in ppm: (0-100/1-1000/0-10000), Ranges in %: (0-1/0-10/0-25). Electronics: Integrated microprocessor control, selection of ranges, calibration. Dual display of values – Touch Screen and inline display on the analyzer to verification of values in the touch screen. Data Readings: 2 wire loop powered connection via a 4-20 mA Analog output. Accuracy: +/- 1 ppm in full range. Repeatability: +/- 1% in full range Resolution: 0.1 ppm in full range		
14	The H2O Analyzer: Measuring Range should be up to 0 – 23000 ppm having Measurement Ranges up to -100/+20 ºC (Dew Point). Equivalence DP – PPM values as below: ºC (Dew Point) -100 - 76 -60 -42 +20 PPM value 0.01 1 10 100 23700 Accuracy: +/- 2 ºC DP. Resolution +/- 0.1 ppm		
15	It must have the Certification of Calibration certificate for analyzers traceable to international standards NPL & NIST.		
16	The temperature inside glove box should not reduce below ambient temperature any time during process. .		
17	System should be available with the required Dimensions (L X H X D mm) 1800 x 900 x 725 mm		
18	It should have the other features like Automatic Stainless Steel vacuum chamber Ø 400,electropolished, length 600 mm, leaklight electrical feedthrough Bi + T 220V and 2 blanket leaklight feedthroughs ISO KF40, Over pressure or		

	under pressure depending on user's choice, Circulator with variable flow, Interface with touch panel, Glove ring: 220 mm diameter, PP, Piping: Stainless Steel X2CrNi 1809 (US 304L), Process: Closed loop inert gas circulation, regenerable purifying loads, Purification Unit: Independent module, space saving, Pipes & Reactors: All in Stainless Steel (US 304 L), Purification: 1 purification column for H2O and/or O2, Measures (O2) & (H2O): Independent analysis circuit for easy maintenance and calibration and without pollution etc.		
19	The System should have Pressure drop minimum < ΔP: 40mbar), including other features like Centrifugal Blower single stage, in a tight box. Recirculation blower mounted inside a stainless steel housing, with adjustable flow (from 0 to 100% of the power). The flow rate of blower variable from 0 – 100 m3/h, Safety: vacuum pump stopping in case of accidental under pressure in the glove box		
20	The system should have 7" colour touch screen with 65K colour screen. Led retro lighting. Resolution 800 x 480 pixels. Windows CE professional interface. Internal memory and SD 4 Go memory card supplied with the screen. USB and Ethernet ports for data saving and transfer to laptop with Continuous control, graphic seeing of data (H2O, O2, Pressure, Temperature) and automatic recording each 2 minutes. Historical period 2 months, Display should be O2, H2O, pressure Control: Purging, Regeneration & Purification, Alarm for O2 & H2O level, Sound Level: below 49 dB. Regeneration Process: Automatic, Inlet and outlet regeneration gas through electro valves, heating of reactor: Integrated temperature regulation controlled through automatic and temperature cut out, Tightness: Leak rate < 10 -5 mbar.L/ sec., regeneration: 95% N2 or Ar + 5% H2. H13, HEPA inlet and outlet Filter, 3 additional Electrical Feed through, 5 blank additional blank feed through for future use.		
21	**<u>Glove box 2 – spin coating box</u>** Dimensions should be (L/H/D) 1200 x 900 x 725 mm		
22	The Glove box have stainless steel (US 304L-1.4306) with 2 ports and Extension box with sliding tray		
23	Systems Front Panel in Glass, inclination of 10°		
24	It must have the Mini vacuum chamber Ø 150,electropolished, length 400 mm		
25	The box have 1 leaklight electrical feed through Bi + T 220V and 2 blanket leaklight feedthroughs ISO KF40, Glove ring: 220 mm diameter, PP		
26	The System should have a Piping connection between Glove box 1 & glove box 2: Stainless Steel X2CrNi 1809 (US 304L)		
27	Both the glove box1 & 2 have Separation wall with lifting door to connect Glove box 1 & glove box 2 and Wall separation with lifting door arrangement between two boxes		

28	The Connection between two glove boxes in such a way that when solvents are used in spin coating glove box, it can be isolated from other glove box, thus restricting the pollution of other glove box.		
29	It must have Mini Antechamber: 150mm dia/400 mm length. Manual with 3 way valve with LED lightening, Vacuum feed through, Gas feed through and Additional 5 blank feed through for future use.		
30	It should have the one extension box of approximately 400X400X400 mm size with sliding tray for placing vacuum hot air oven of temperature up to 200 Deg C. The size of this extension box will be informed as per dimension of the oven. The oven will be ordered separately.		
31	The system have One vacuum and one electrical feedthrough for this extension box. And table top spin coater integration with waste collection.		

Terms and Conditions:

1. **The supplier must provide 3D/CAD drawing for approval before manufacturing.**
2. Supplier/Vendors should submit technical and financial bids together in separately sealed envelopes.
3. Supplier who has supplied at least 5-6 similar **Glove Box** in the national and international institutions in last two years will be preferred.
4. Financial bid will be open only for those, who meet tender technical specification.
5. Please do mention tender number clearly on envelop.
6. Please send the name and contact details of the person to whom company had supplied a similar systems. Committee may ask for the feedback.
7. The supplier must have supplied systems to institutions of national and/or international repute.
8. Quotation must indicate FOB prices.
9. Payment terms & condition is 70% against delivery, 20% after installation and 10% after successful running of equipment for 3 months & approval.
10. Warranty/Guarantee should be clearly mentioned. The Warranty must start from the date of installation at IITK.
11. Installation, demonstration, and training-sessions at IIT Kanpur will have to be provided by the manufacturer or the vendor for the quoted system.
12. Quotation should carry proper certifications like proprietary certificate, authorization certificate from manufacturer, etc.
13. Validity of quotation should be at least for 60 days.
14. Maximum educational discounts should be applied.
15. Institute is exempted for partial custom duty (CD applicable to IIT Kanpur is 5.15%).
16. Institute is exempted from payment of Excise Duty under notification No. 10/97.
17. The delivery period should be specifically stated. Earlier delivery may be preferred.
18. The indenter reserves the right to withhold placement of final order. 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.

Kindly send the quotation in sealed envelopes latest by 3:00 pm on dated 09/02/2016 to the following address:

To,
Dr. Monica Katiyar

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