

**Indian Institute of Technology Kanpur  
Department of Mechanical Engineering**

Enquiry No: Enq/IITK/ME/JB/10 (Revised)

Enquiry Date: 23/03/2018

Closing Date: 30/04/2018 (Extended)

Formal quotations are invited for **Temperature-controlled chamber for battery testing with explosion vent**. Sealed quotations have to reach in the following address by the last date & time as mentioned above.

Mr. Manoj Sharma  
Department of Mechanical Engineering  
Indian Institute of Technology Kanpur  
Kanpur, 208016, India

**Technical Specifications:**

1. Temperature range: Ambient + 20°C to 180/200°C
2. Temperature fluctuations:  $\pm 0.4^\circ\text{C}$  for 180/200°C, and  $\pm 0.2^\circ\text{C}$  for 100°C
3. Temperature uniformity:  $\pm 1^\circ\text{C}$  at 100 °C, and  $\pm 2^\circ\text{C}$  at 180/200 °C
4. Type of battery to be tested: Li-ion cylindrical 18650 cells
5. Testing standards: Mainly UL standards, and preferably IEC standards for Li-ion battery testing
6. Gas monitoring system; type of gases to be monitored while operation: CO, CO<sub>2</sub>, H<sub>2</sub> and O<sub>2</sub>.
7. Pressure limit for pressure release valve to open  $\geq 9$  kPa (The chamber must be unaffected till this point)
8. Pressure level indicator is preferable
9. Heat-up time: Not more than 45 minutes
10. Chamber capacity: 75-125 Liters
11. Power supply: 230 V AC and 50 Hz
12. Interior material must be rust-proof
13. Power consumption: Least possible w.r.t. heat-up time

14. Insulation material: Styrofoam / Glass wool / polystyrene / polyurethane foam
15. Fan and aluminium duct for explosion-proof vents are preferable
16. Automatic cut-off at set temperature
17. Overheat protection
18. Window to put the test setup inside
19. Holes to put the wires inside the chamber
20. Fire Indicator

### **Other Requirements:**

1. Quotation must be valid for 60 days.
2. There must be at least 5 installations of temperature-controlled chambers made by the firm at government institutions in India within past 3 years from the closing date of this tender.
3. List of customers of the temperature-controlled chambers supplied by the firm should be enclosed along with the quotations.
4. All parts corresponding to the quotation should be from a single manufacturer for compatibility and maintenance.
5. Vendor should clearly mention type of services i.e. preventive/breakdown.
6. Any compliance claimed should be supported with the necessary data sheet.
7. Warranty period should extend for at least 3 years from the time of installation.
8. The Unit Prices should be quoted for every component and the prices can be in INR or in valid foreign currencies (e.g. US Dollar). For INR quotations, delivery should preferably be up to IIT K. For foreign currency quotations rates must be for CIF New Delhi. Sales Tax, VAT and any other applicable charges should be mentioned.
9. Installation and maintenance charges should be mentioned. This should not be bundled in product pricing.
10. Delivery period should not be more than 4 weeks and it should be at IIT Kanpur.
11. IIT Kanpur is exempted from excise duty.
12. IIT Kanpur is exempted for partial custom duty (CD applicable to IIT Kanpur is 5.15%).

The prospective suppliers are required to send quotations in two parts in sealed envelopes, as "Technical Bid" and "Financial Bid". The Technical Bid should contain detailed technical specification of the product being offered and should not mention any prices. The Financial Bid should include the detailed price quotation clearly including the cost of the equipment, taxes, service charges if any, shipping and handling charges. The two separate and sealed envelopes should be clearly marked appropriately as "Technical Bid" and "Financial Bid". Kindly write the inquiry no. on the top of envelop.

Kindly send the quotations to the mentioned address on or before 30-04-2018 up to 5 PM. Enquiry reference number and closing date should be mentioned on the envelope.

Dr. Jishnu Bhattacharya  
Indenter