



**DEPARTMENT OF ELECTRICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
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Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for supply of "Gas cabinet for Cl_2 and BCl_3 cylinders" conforming to the specification given in Annexure.

Instruction to the Bidder

- (i) **Preparation Bids:** The tenders should be submitted under two bid system, i.e. Technical bid and Financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. Compliance information to each of the specifications should be provided in the Technical bid. Financial bid should indicate the price for the items mentioned in the technical bid. The Technical bid and the Financial bid should be put in separate covers and sealed.
- (ii) **Delivery of the tender:-** The tender shall be sent to me either by post or by courier so as to reach our office on or before **4.9.2012, 3.00pm**.
- (iii) **Opening of the tender:-** The offer/Bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be examined by a technical committee which will decide the suitability as per our specification and requirement. The financial offer/bid will be opened only for the offer/bids which technically meets all our requirements as per the specification.

- (iv) **Prices:-** The price should be quoted in nett per unit (after breakup) and must include all packing and delivery charges. The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of taxes & duties shall be clearly indicated. The price should be quoted without custom duty and excise duty, since I.I.T. Madras is exempted from payment of excise duty and the custom duty will be paid at concessional rate against duty exemption certificate i.e. 9.356%. In case of import supply, the price should be quoted on CIF basis indicating the mode of shipment.
- (v) **Agency Commission:-** Agency commission if any will be paid to the Indian agent in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in Tender even in case of Nil commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent.
- (vi) **Terms of Delivery:-** The item should be supplied to our destination in case of local supply. In case of import supply, the item should be shipped only to Chennai Airport. The Installation/Commissioning should be completed as per delivery schedule. In event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from the other source on the total risk of the supplier under risk purchase clause.

Yours sincerely,


(Amitava DasGupta)

Specification of Gas Cabinet

Gas Cabinet shall be designed to suit dual Process cylinders namely BCl_3 & Cl_2 . The Supply Panel within the Gas Cabinet shall be complete with following features:

- Primary Pressure Regulator with inlet and outlet pressure gauges and isolation valves to provide flow rates up to 1 SLPM and pressure of 30 psig
- The panel will have cross purge bleed valves to remove entrapped moisture before charging corrosive gases.
- The panel will have pigtailed DISS/CGA connectors and filter gaskets of 1 μ rating
- The Panel will contain Purge, Vacuum Generator on the high Pressure and Low pressure side to ensure impurity free delivery of High Purity Gas to the process
- The Panel shall have Emergency Shut off Valve at the outlet which will be activated during any life Safety warnings coming from Process and Facility conditions. The Emergency shut off valves shall be pneumatically operated with external solenoid.
- The Panel will come with necessary isolation valves (Diaphragm type) for Pneumatic, Purge and Process.
- Check valves are provided to avoid cross contamination of process gas.
- All the internals of components will be electro polished with surface roughness of 10 μ or better
- The Enclosure will be fitted with Gas Leak detector, Rate Rise Heat Detector & Wax Coated Fire Water
- The Supply panel is monitored for life safety situations through Life Safety Board – Embedded Controller taking actions in event of Gas Leak, ROR Sensor, Exhaust Failure and Fire or accept remote shutdowns during any exigency. The Life Safety Board shall provide alarms for pre-set conditions and provide Modbus compatible communication to integrate with Process Tool / SCADA
- The enclosure shall be made of Cold Rolled Steel (min 12 SWG) and designed for fire resistance
- The enclosure will come with Exhaust Port to meet exhaust flow rate of 250 CFM.
- The enclosure with wire mesh braided view glass is powder coated, corrosion resistant will come with self-closing door closures and Latch with lock
- The panel will come tested for Pressure Decay Test, Helium Leak Test with leak integrity of 1×10^{-9} mbar lit/sec He with third party Certified using Hydrocarbon Oil Free Alcatel Helium Leak Detector
- The enclosure shall have the option for upgrading the cabinet with additional N_2 cylinder along with supply panel to be used as Purge panel. Thus the enclosure size shall be able to accommodate 3 cylinders.

Other requirements

1. Installation and on-site training for running the system must be provided.
2. CIF/CIP price (Chennai) is only acceptable and to be quoted.
3. The warranty should be 12 months. Additional 2 years of service support to be provided
4. Separate quotes for additional accessories (if available), to be provided.
5. The offer must have a list of Customers to whom same or similar items have been supplied along with at least 3 reference list with names, phone number, and address with details of items supplied.