

Dear Sir/madam,

Kindly send your best quotation for the following item on CIP Bangalore basis. Your quotation should clearly indicate the terms of delivery, delivery schedule, E.D., payment terms etc. The tender should be submitted in two separate sealed envelopes - one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 1700 hours, 15 December, 2016.

Please enclose a compliance certificate along with the technical bid.

Yours Sincerely,

Chairman
Department of Physics

Specifications of the product:

Glove Box Work Station system with the following components:

A. Inner Box with the following minimum specifications:

1. Dimensions of the box 900 mm by 1200 mm by 750 mm
2. Front panel made of Polycarbonate material with additional coating for chemical and scratch resistance.
3. Side panels made of polished stainless steel of minimum thickness 2.5 mm.
4. Two Polymer 'O' ring sealed glove ports, 220mm diameter.
 - a. One pair of Butyl Gloves.
 - b. Dust filter for 0.3 micron (class H13).
5. Three height adjustable, stainless steel shelves.
6. Automatic control of box pressure over the range -15mbar to +15mbar.
7. Equipped with non-oil based pressure relief valve.
8. Provision for generation and control of positive pressure without vacuum pump.
9. Two DN 40 feed throughs, one of them for electrical cables, the other blanked off for user purpose.
10. Front mounted fluorescent lamp with provision for auto switch-off.
11. Appropriate stand with castor wheels and feet.
12. Glove Box should be integrated with heat exchanger.

B. Cylindrical Antechamber with the following minimum specifications:

1. Chamber dimensions: 390mm diameter and 600mm length.
2. Made of polished stainless steel of minimum thickness 2.5mm.
3. Anodized aluminium door, 10 mm thick with appropriate spindle lock.
4. Sliding stainless steel tray.

C. Mini Anti-chamber with the following minimum specifications:

1. Chamber dimensions: 150 mm diameter and 400 mm length.
2. Made of polished stainless steel of minimum thickness 2.5mm.
3. Manual valve for venting/evacuation of anti-chamber.
4. Sliding stainless steel tray.

D. Filtration system

1. Closed loop gas re-circulation system with integrated heater.
2. Minimum purity level less than 0.1 ppm for both H₂O and oxygen over the entire pressure range – the purity level should be displayed and demonstrated.
3. Capacity for removal of oxygen minimum 35L and moisture minimum 1200 g.
4. Integrated blower with circulation rate more than 80 m³/h or better, automatic control of blower speed depending on oxygen and moisture level.
5. Rotary pump with minimum speed of 12 m³/h for nitrogen, equipped with oil mist filter and automatic gas ballast control.
6. Solid state oxygen sensor with minimum operation range 0- 500 ppm, along with appropriate electrical cabling.

7. Solid state moisture sensor with minimum operation range 0- 500 ppm, along with appropriate electrical cabling.
8. Solvent adsorption unit with minimum 5 kg activated carbon with both inline & bypass modes.
9. System for the automatic regeneration of chamber.

E. Automatic control and remote monitoring system:

1. Touch panel PLC for control of glove box functions.
2. Integrated graphical display of chamber pressure, oxygen and moisture levels.
3. Provision for remote monitoring of glove parameters.
4. Provision for transmitting alerts and notifications regarding system maintenance.
5. Automatic control of glove box parameters depending on chamber pressure, oxygen and moisture levels.

F. Spin coater integrated with the glove box (NOT as a separate unit):

1. Suitable for substrate sizes up to 8 " wafer.
2. Solvent resistant process bowl with transparent lid.
3. Spinning speed controllable from 0 up to 10,000 rpm with +/- 1rpm accuracy.
4. Minimum spinning acceleration of 0 to 10,000 rpm in 1 seconds.
5. Minimum spinning deceleration 10,000 rpm to 0 in 3 seconds.
6. Parameters like speed, acceleration and process time should be programmable.
7. Provision for storing process recipes.
8. Two vacuum chuck for substrates.
9. Appropriate pumping system for holding substrates during spinning.
10. Integration of spin coater on box bottom with appropriate connections for electrical power and pumping system.
11. Control panel of the spin coater should be outside the glove box.

G. Adapter for attaching a stereo microscope (Leica DM2700 M or equivalent) to front panel of the glove box.

Optional items:

1. Dry scroll pump in place of oil pump.

Terms and conditions:

1. The vendor should have a track record of having previously supplied at least five similar equipment in India (please furnish the details).
2. The vendor should have qualified technical service personnel for the equipment based in Bangalore.
3. The payment will be through confirmed irrevocable Letter of Credit.
4. The lead time for the delivery of the equipment should not be more than four months from the date of receipt of our purchase order.
5. The instrument must carry a comprehensive warranty of 3 years from the date of installation.

Yours Sincerely

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