

Under Certificate of Posting

Department of Physics, Indian Institute of Technology  
IIT.P.O. Madras-600 036

PHY	2013	030	STORES
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Date. 06.01.2014

Dear Sir,

DUE DATE: 16.01.2014

1. Quotation are invited in duplicate for the various items shown below/overleaf/ enclosed list.
2. The quotations duly sealed and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
3. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
4. If the item is under DGS &D RATE CONTRACT, RC No.and the price must be mentioned. It may be also please be indicated whether the supply can be made direct to us at the Rate Contract price. If so, please send copy of the RC ( Please note that we are not Direct Demanding Officers)
5. Relevant literature pertaining to the items quoted with full specifications ( and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for, should be submitted free of charges, and collected back at the supplier's expenses.
6. **Local Firms** : Quotations should be for free delivery to this Institute. If Quotations are for Ex-godown . delivery charges should be indicated separately.
7. **Firms outside Chennai:** Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train/lorry transport must be indicated. If Ex-godown, packing, forwarding and freight charges must be indicated.
8. The rate of Sales/General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim, for Sales/General taxes will be admitted at any stage and on any ground whatsoever . **The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non-Government Educational Institutions run with no profit motive for which a concession. Sales tax Certificate will be issued at the time of final settlement of the bill.**
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill/acceptance of goods, whichever is later.

Specification enclosed

Yours Sincerely



6/1/2014

**HEAD/CO-ORDINATOR**

Dr. M.S. Ramachandra Rao  
Project Co-ordinator  
Department of Physics &  
Materials Science Research Centre - NFMTC  
Indian Institute of Technology Madras  
Chennai - 600 036.



## Pulsed laser deposition system specifications:

### System :1

#### RHEED compatible PLD chamber and accessories .

- a) 12" diameter SS chamber with required ports, view ports, minimum 2 gas inlets and a vent valves (a special ports for glow discharge tube and two ports for RHEED).
- b) Chamber configuration: bottom -target and top -substrate.
- c) Target carousel with 6 target capability and the target holders must have an adjustable size with screw tightening mechanism with a PC based automated controller with provision of both translation and rotation of the target.
- d) 2" substrate heater with uniform heating with an automated substrate holder rotation with a temperature up to 850 °C (in O<sub>2</sub> gas).
- e) A shutter to cover the substrates during pre-ablation.
  1. A crossed substrate holder caps which can hold a maximum of four substrates with the following sizes 12mm x 12 mm, 10 mm x 10mm, 6mm x 6mm and 8mmx 8mm. (each substrate holder cap should hold **four** substrates which can deposit separately without breaking the vacuum).
- f) Substrate holding clips which can with stand up to 900 °C
- g) A flange for IR laser heating.
- h) A glow discharge arrangement (to ionize N<sub>2</sub> gas) which can be placed near the substrate and which can allow the passage of gas through it.
- i) Gas manifold with a digital mass flow controller and a three way valve with necessary fittings.
- j) A gate valve for throttling the pressure (6" OD DN CFF (100)).
- k) Lens holder with a 2" dia fused silica lens with a manual X,Y, Z. movements of the lens. Mirror also to me mounted on the lens holder for steering the laser beam on to the target.
- l) A suitable frame to mount the chamber.
- m) A water flow switch.



## **System: 2**

### **Large area PLD chamber and accessories.**

- 1 14" diameter SS chamber with required ports, view ports, minimum 2 gas inlets and a vent valves (a special port for glow discharge tube).
- 2 Chamber configuration: bottom -target and top – substrate.
- 3 Target carousel with 6 target capability (for 1" dia targets) or 3 target capability for 2" dia targets –and the target holders to have adjustable size with screw tightening mechanism with a PC based automated controller with provision of both translation and rotation of the target.
- 4 A galvanometric mirrors arrangement for raster scanning of the laser beam on the target.
- 5 3" substrate heater with uniform heating (for 2" dia substrates) with a automated substrate holder rotation with a temperature up to 850 °C (in O<sub>2</sub> gas).
- 6 Shutter to cover the pre ablation.
- 7 A crossed substrate holder caps which can hold a substrates with a following sizes 2" x 2", 1" x 1". Substrate holding clips which can with stand up to 900 °C. Substrate holder caps for 2" dia, 1" dia , 2" x2" , 1" x 1" 12mm x 12mm, 10mm x 10 mm, 8mm x 8mm, 6mm x 6mm
- 8 Gas manifold with a digital mass flow controller and a three way valve with necessary fittings.
- 9 A gate valve for throttling the pressure (6" OD DN CFF (100)).
- 10 Lens holder with a 2" dia fused silica lens with a manual X, Y, Z movements of the lens.  
Mirror mounted on the lens holder.
- 11 A suitable frame to mount the chamber.
- 12 A water flow switch.



Installation and training: Free installation and training for both chambers

Warranty: Minimum warranty of one year with service.

Installations in India: The Company must mention the number of PLD chamber installations with references they have made in India in the last five years. Preferred number of PLD chamber installation in India should be 50 or more.