

NOTICE INVITING QUOTATION
October 24th, 2011

NIQ Ref. No.: IITD/CHEMICAL-B/2011_12/SPUTTER

Quotations are invited for

Two-target RF magnetron sputtering system including optional items and spare parts

with the following specifications

S.N.	Item description	Quantity
1.	<p style="text-align: center;"><u>Two-target RF Magnetron Sputtering System</u></p> <p>A two target RF magnetron sputtering system for multilayer deposition at high substrate temperatures with manual operation with following specifications is required: <u>Specifications:</u></p> <p>a) RF Magnetron sputtering module with SS chamber RF Magnetron sputtering module with two 2" diameter magnetron target holder assemblies. The assembly will be mounted on a SS structure to be fixed to the SS chamber with hinges and SS handle. The targets should be mountable on the target holders with clamp on arrangement. Substrate holder should have rotational and positioning facility.</p> <p>The SS chamber will be of size close to 300 mm diameter and 200 mm height fixed to a base plate with a flange to adopt 6" conflate or equivalent double cross. The chamber will have one viewing ports of 3" fixed at 150 mm height with the glass window.</p> <p>The base plate will have following ports. Blanks should be provided for each port</p> <ol style="list-style-type: none"> i. One KF 25 port for combination cold cathode/pirani gauge ii. One KF 16 port for venting iii. One KF 16 port for gas valve iv. Two KF 25 ports for electrical feed throughs v. One extra KF 25 port with blanks fitted vi. One KF 16 port with blank fitted <p>(All SS304 L construction and completely manual operation)</p> <p><u>b) Vacuum pumping system:</u></p> <p>Diffusion Pump and Rotary Pump based vacuum pumping system:</p> <ul style="list-style-type: none"> ➤ Diffusion pump: OD-150 mm, 1000 ltrs/sec and Direct Drive rotary pump-Pumping speed ~500 ltrs/minute. Complete with connecting flexible SS tubings end fitted with KF couplings. <p>(Make of pumps: Leybold OR Pfeiffer OR Edwards OR Alcatel)</p> <p>ii) Gauges</p> <p>Combination cold cathode/pirani gauge along with controller, gauge/controller cable and power cable</p> <p>(Make of gauges: Leybold OR Pfeiffer OR Edwards OR Alcatel)</p>	One

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	<p><u>c) Mass flow controllers</u></p> <p>Mass flow meters (0 to 100 sccm) along with control unit with digital display to be provided (i) one for O₂ and (ii) one for Ar</p> <p>(Make of MFC: Bronkhorst OR Alicat Scientific OR MKS Instruments)</p> <p><u>d) Vacuum Valves</u></p> <p>i) Roughing/Backing valve</p> <p>Right angled bellow sealed. ISO KF 25 compatible.</p> <p>ii) Gas valve</p> <p>One gas valve to be provided. SS tubing will be also be provided from MFC to gas valve</p> <p>iii) Vent valve</p> <p>One manually operated straight through bellow sealed vent valve to be provided. CF16 compatible</p> <p>iv) Variable conductance valve (throttle valve)</p> <p>Butterfly type construction. DN 100 K compatible</p> <p><u>e) Heating assembly</u></p> <p>The substrate holder will be made of copper plate backed by SS plate to achieve a temperature of upto 800 °C. A heating assembly to be provided to heat the substrate. It will consist of a PID temperature controller, a thyristor, a transformer and a thermocouple</p> <p><u>f) Sputtering power supplies</u></p> <p>(i) RF Generator (Make: CESAR OR COMDEL OR RFVII OR HiLight OR Integro OR MKS Instruments) Frequency: 13.56 MHz, Power output: 600 W 190-250 VAC, 50/60 Hz, 1 phase, Input impedance: 50 ohms</p> <p>Impedance matching network (Make: CESAR OR COMDEL OR RFVII OR HiLight OR Integro OR MKS Instruments) Manual, 600 W, 13.56 MHz</p> <p>g) Safety devices like water flow switch, vacuum switch, RP/DP interlock and magnetic valves.</p>	
2.	<p style="text-align: center;"><u>Optional items</u></p> <p><u>i) Pulsed DC power supply (as a replacement of rf power supply)</u> Power 2 kW, DC or pulsed mode of operation, Voltage 800 V max, Current 3 A (max), Frequency 0-30 kHz (Make CESAR OR COMDEL OR RFVII OR MKS Instruments)</p> <p><u>ii) Turbo molecular pump (as a replacement of diffusion pump)</u> Pumping speed [N₂] 350 litres/s, Inlet flange DN100 instead of Diffusion pump (Make Pfeiffer OR Edwards OR Leybold OR Alcatel)</p>	One each

S. No	Item description	Quantity
3.	<u>Spare parts</u>	
	(i) Backing plates for mounting sputtering targets	Two nos.
	(ii) Oil for rotary pump and turbo pump	One charge
	(iii) All O' rings/gaskets and seals	One set
	(iv) Fuses and switches	One set
	(v) Combination cold cathode/pirani gauge along with controller, gauge/controller cable and power cable (Make of gauges: Pfeiffer OR Edwards OR Leybold OR Alcatel))	One
	(vi) Quartz crystal thickness monitor with indicator	Two
	(vii) Multi Mass Flow Controller (including H ₂). Flow rate: 0-1000 sccm	One
	(viii) Mass Flow Controller (including CH ₄). Flow rate: 0-50 sccm (Make of MFC: Bronkhorst OR Alicat Scientific OR MKS Instruments)	One

Due Date: 30/11/2011

TERMS and CONDITIONS:

1. The quotation, in sealed envelope marked as "Ref: *IITD/CHEMICAL-B/2011_12/SPUTTER*" should reach Prof. B. R. Mehta on or before 30/11/2011. **Separate quotations should be submitted for technical bid and commercial bid in two separate and clearly marked envelopes. Please provide agency certificate and proprietary certificate wherever applicable.** The prices quoted must include **FOB price, New Delhi.**
2. Institute reserves the right to accept/ reject all/ any quotation without assigning any reason thereof.
3. The delivery period should be clearly indicated in the quotation.
4. Submitted quotations should clearly mention the validity period, preferably for a minimum of **3 months.**
5. Incomplete and conditional submitted tenders would be summarily rejected.
6. The mode of payment should be clearly indicated.
7. Necessary certificate should be enclosed by the vendor in case of proprietary nature of the quoted items.
8. In case the quotation is being submitted by authorized agent of the principal manufacturing company, the **AUTHORISED SALES AGENCYSHIP** certificate from the **PRINCIPALS** should be furnished along with the quotation. Quotations without this authorization certificate will be rejected.
9. The quotation should include comprehensive **warranty for preferably 3 years.**
10. The name of the institutes where the above systems have been supplied recently should be provided.

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