EN

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Department of Electrical Engineering
Indian Institute of Technology, Madras
I.I.T.P.O., MADRAS – 600 036.

Ref. No.	ELE	AMIT	2020	SPIN COATER SYSTEM

Date: 11.03.2021
Due Date: 01.04.2021
Under Certificate of posting

To:

Dear Sirs,

1. Quotations 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 period of delivery required should also be clearly indicated.
4. If the item is under DGS & D Rate contract, Rate Contract Number and the price must be mentioned. It may 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 R.C. (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.
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 F.O.R Chennai. If F.O.R consignor station, freight charge 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, 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 commission Sales Tax certificates 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.

Specifications enclosed and quotation to be sent to the below address:

Dr. Amitava DasGupta
Professor,
Microelectronics and MEMS Laboratory
Department of Electrical Engineering,
Indian Institute of Technology, Madras,
Chennai – 600 036.

Yours faithfully,

HEAD / Project Co-Ordinator

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TECHNICAL SPECIFICATIONS FOR

SPIN COATER SYSTEM

The spin coater system is to be used for coating silicon wafers, glass slide, and samples of irregular shapes/sizes. It should consist of vacuum chuck(s) capable of holding samples of different dimensions and should be made of an inert, non-interacting material, capable of withstanding various organic/inorganic solvents. The detailed technical specifications are given below

Sl. No	Items	Specifications
1	**Sample dimensions**	• Should be capable of coating wafers up to 6" (150 mm) diameter • For square samples, maximum dimensions should be 4" x 4" (100 mm) • Should be capable of handling samples smaller than the maximum dimensions and of irregular sizes and shapes. The chucks required for the different sized samples should be clearly specified. • The minimum samples size (for square and circular samples) that can be handled should be specified clearly.
2	**Operating parameters**	• Maximum RPM capable should be at least 12000. This needs to be specified clearly. The step size for setting rotation should be incrementable by 1 rpm. • The system should have high acceleration and accuracy and should have a maximum acceleration of 30000 rpm/s. Acceleration/deceleration should be programmable at each step. • Both clockwise and counterclockwise rotation should be possible. • Minimum and maximum programmable time should be mentioned. • The minimum and maximum number of steps in a single recipe should be mentioned. • The number of recipes that can be stored in the coater should be specified.
3	**Spin coater materials**	• The materials used in the inner wall of the process chamber and housing should be specified. It should

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		preferably be high quality chemically resistant materials such as polypropylene or polytetrafluoroethylene or equivalent. The material should be capable of chemical stability in the presence of a variety of organic/inorganic solvents and chemicals. • The material used for the lid should also be specified. Preferably it should be transparent so that the process can be observed.
4	**Spin coater dimensions**	• Overall dimensions and weight of the spin coater should be specified.
5	**Vacuum pump**	• The specifications for the vacuum pump to be used with the spin coater should be given. • Preferably a locally made generic vacuum pump should be compatible with the spin coater.
6	**Power**	• All voltages should be compatible with Indian conditions (220-240 V AC with 50 Hz) single-phase supply.
7	**Warranty**	• At least 12 months warranty, including parts and labour should be included.
8	**Existing spin coaters**	• A list of spin coaters, installed in India in the last two years, should be included. Contact information for the last five most recent installations of the model quoted should be provided as reference.
9	**Accessories**	• Include a list of optional accessories compatible with the spin coater and their costs.
10	**Manuals and user training**	• Operation manuals should be provided, and support should be provided for both installation and user training. Address of local (Chennai or nearby) support office should be included.

Suggested specification:

Sl no.	Specification	Description
1.	**Available number of programs**	**Unlimited**
2.	Steps per program	Unlimited
3.	**Spin speed***	**1 - 12,000 rpm ± 1rpm steps**
4.	**Spin speed accuracy**	**± 0.1 rpm**
5.	Spin rotational direction	Clockwise, Counter clockwise, Puddle
6.	**Max. acceleration**	**30,000 rpm/sec**
7.	Spin time	**Unlimited*, ± 0.1 seconds steps**
8.	Housing material	Natural Polypropylene (NPP)

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	Process chamber material	**Natural Polypropylene (NPP)**
10.	**Interface**	**Detachable, full-size touchscreen, glove-friendly,IP52, chemical resistant**
11.	External connection	1 USB Port in the controller
12.	**Max. substrate diameter**	**160mm round or 4" x 4" square**
13.	Max. process chamber diameter	202 mm
14.	Dimension (desktop version)	274 (w) x 250 (h) x 451 (d) mm
15.	Weight	14 kgs
16.	Voltage	100 - 120 VAC / 200 - 240 VAC 50/60 Hz **(auto select)**
17.	Power consumption	Max. 500 W
18.	Max. current	5A / 2.5A
19.	Vacuum	- 65 kPa (-19 inchHg), ≥ 80 lpm Tube OD Ø8mm
20.	Motor purge gas	20 - 50 kPa, 2-5 l/min, Tube OD Ø 6mm
21.	Drain connection	1" M-NPT

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