

**Centre for Applied Research in Electronics
Indian Institute of Technology Delhi**

16th March, 2012

Revised Specification Emerged after Pre-bid Conference with the vendors

A pre-bid meeting was held on 16th March 2012 in the committee room of Centre for Applied Research in Electronics. The revised specifications which were acceptable to all the five vendors representing their OEMs are listed below.

Complete requirements for a suitable **Single Sided Mask Aligner/Photolithography System** are listed below:

ESSENTIAL SPECIFICATIONS:

1. **Substrate size:** 2inch, 3inch and 100 mm
2. **Exposure modes with the following minimum feature size specs:**
 - a. Vacuum contact: 1 μm or better
 - b. Soft contact: 2.0 μm or better
 - c. Proximity: 5.0 μm or better
 - d. Hard Contact: less than 1 μm
3. **Alignment gap:** 10 to 50 μm in steps of 1 μm or better
4. **Mask plate thickness:** As per standard plates
5. **Alignment accuracy:** 1 μm or better
6. **Software** for operation, recipes
7. **Video split field microscope system** with CCD camera of resolution 500×480 pixels or better, for alignment.
8. **High resolution flat panel monitor** (min. 17 inch monitor with electronic brightness, contrast and magnification, brightness ratio adjustment).
9. **Exposure unit** (Universal Lamp housing upto 500 W lamps):
 - a. Exposure lamp: Hg 350 W (2 nos.) Optional: Hg 500 W lamps with connection etc.
 - b. Sockets, cables and connectors, optics housing, mirrors, lenses and filters for 350 nm to 450 nm wavelength range.
 - c. Operation in constant light Intensity/Power mode with display of intensity and power.
 - d. UV sensors for at least two wavelengths of 365 nm and 405 nm. UV power/light intensity meter, one for 365 nm and the other for 405 nm.
 - e. Parallel light: $\pm 5\%$ uniformity or better for a 100 mm wafer.
10. **Alignment Stage:** X, Y and Theta with micrometer spindles, motorized Z-axis thickness variation
 - a. X and Y directions: ± 5 mm
 - b. Theta: $\pm 4^\circ$ or better.
 - c. Mechanical accuracy: 0.1 μm
11. **Wedge compensation system**
12. **Top side alignment microscopes:**
 - a. Travel range: X = ± 35 mm; Y = ± 35 mm
 - b. Objective separation: 42 to 150 mm
 - c. magnification range from 50 to 200 or better

13. Light Source for Top Side Microscopes (yellow light source).
14. Mask holders for holding Masks 2.5 inch x 2.5 inch, 3 inch X 3 inch, 4inch x 4 inch, and 5 inch x 5inch
15. Wafer chucks for 2, 3 and 4 inch diameter wafer loading for vacuum, hard-soft contact exposure and proximity contacts.
16. Double membrane oil-free vacuum pump with connectors (220 V/50 Hz)
17. Separate intensity power meter and sensor for calibration.
20. Vibration Isolation table matching the Mask Aligner must be included.
21. All the spares required during installation should be provided by the supplier.
22. Installation and demonstration specification on site (in CARE , IIT Delhi)

ADDITIONAL OPTIONS:

These may be quoted separately as optional capabilities of the equipment. All options must be fully compatible with the above specified configuration.

1. **Spares** not included in the above system and needed for normal or additional operation for one year should be mentioned separately.
2. **Warranty:** for two years excluding consumable parts like lamps etc for Mask Aligner.
3. **AMC:** For next three years without spares.
4. Viewing through eye piece is optional

Interested suppliers/manufacturers are kindly requested to submit/send technical and financial bids (*FOB New Delhi, financial and technical bids in separate sealed covers*) for the above mentioned equipment by **5:00 PM, 23rd March 2012.**

I. ALL BIDS MUST HAVE THE FOLLOWING INFORMATION.

1. *Supplier must mention the following details about the warranty:* Number of years, starting date (from the date of installation or date supply). Additional charges in case extended warranty is required. Also mention if different components have different periods of warranty.
2. Please indicate the warranty is at customer site or not.
3. Please indicate the critical spares and their expected life time.
4. Quote the prices of listed accessories separately.
5. Delivery period must be clearly mentioned.
6. Validity of the quotations should be at least for 90 days.
7. All quotations must be Freight Cost at Shipping Port (FCA)
8. Please provide user list of similar systems installed within India and abroad.
9. Specification compliance certificate
10. Bank details on which the letter of credit is to be issued.
- 11 The letter of credit will be opened for 100% of the cost of the system. 90% of the amount will be released after the receipt of shipping documents. The balance 10% will be released within one month of successful demonstration of specification at the site of installation
12. Information for wire transfer details should also be provided
14. The information on utility facilities, foot print of the machine, and the weight of the system must be provided in the technical bid.

II. PLEASE NOTE THE FOLLOWING POINTS

1. Mode of payment will be through letter of credit in case of imported items. Any advance payments shall be approved only as per IIT Delhi norms.
2. The Institute has the right to accept or reject any or all quotations without assigning any reasons.
3. The bidder must submit quotation for at least for one full equipment. Quotations for individual parts will be rejected.

4. Since, the equipment is meant for teaching purpose in a reputed educational institute in India, a special price discount may be offered.

The sealed quotations must be submitted to:

Prof. B.S. Panwar
Block III, Room 213/ 212
Centre for Applied Research in Electronics
Indian Institute of Technology Delhi
Hauz Khas, New Delhi – 110016 (India)

OR

Office of Head Centre for Applied Research in Electronics
Room No. 215/218
Centre for Applied Research in Electronics
Indian Institute of Technology Delhi
Hauz Khas, New Delhi – 110016 (India)

**Pre-bid Meeting with the vendors: 11:00 A.M, 16th March 2012.
The meeting with the vendors was held as scheduled .The revised specifications are the outcome of the pre-bid meeting held with the representatives of 5 suppliers representing their OEM**

DEADLINE for submitting the quotations: 5:00 PM, 23rd March 2012

Note: There will be presentation by all vendors on 24th March 2012 on the technical specification and compliance of the specification in the CARE Committee Room starting at 10.00 A.M. The quotation of the vendor not present will be rejected.

For any clarification please send E-mail to: hspanwar@care.iitd.ernet.in and schandra@care.iitd.ernet.in

(Prof. B. Bhaumik)
Prof. & Head Elect. Engg. Dept.
Chairman Purchase Committee