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Nov 14, 2018

Ref. No.: MM/SKK/2018/2116

Tender Starting Date: 14th November, 2018

Tender Submission Due Date: 4th December, 2018

Item: Research grade high intensity, compact Xe arc lamp based illumination source

Bids are invited for the supply of high intensity, compact Xe arc lamp based illumination source with required accessories like filters, sample stage, detector cell confirming to the Specifications in **Annexure-1** overleaf.

1. The bids should be submitted in a single sealed envelope containing the technical specifications as well as the price quotes. The bids should be addressed to the undersigned so as to reach on or before the due date mentioned above.
2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned. The break up also should be mentioned, such as, cost of the components, miscellaneous charges like packing/delivery charges, or customs and clearance duty (if done by the supplier) etc. Installation of the equipment should be done by the service personnel of the supplier at our laboratory, and satisfactory installation report should be provided before payment can be processed.
4. Terms of warranty and guarantee should be explicitly mentioned. A minimum warranty of 1 year is required. Optionally, AMC charges for 2nd and 3rd year may be stated.
5. Goods shall not be supplied without an official supply order.
6. Local firms: Quotations should be for free delivery to this institute. If quotations are ex-godown, delivery charges should be indicated separately.
7. Non-local firms: Quotations should be for C.I.P. Chennai. If quotation is for any other consigner station, forwarding/freight charges by passenger train / lorry transport must be indicated. It is preferred to have service engineer located in Chennai or within 600 km from Chennai.

8. The rate of taxes (GST) legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that IIT Madras is entitled to have Concessional GST @ 5% for research equipments. The GST concession certificate will be issued at the time of final settlement of the bill.

9. Payment: Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.

10. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.

11. IIT Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.

12. A detailed compliance statement should be provided and it should be supported by the manufacturer's product brochure or website. Information provided in the supplier/redistributor/vendor/reseller's brochure or website cannot be considered as supporting document

13. Vendor/Manufacturer should have supplied a similar equipment to IIT-Madras in the last five years. The name of the customer in IIT-Madras should be provided. IIT-Madras reserve right to inquire the bidder's IIT-M customer about the prior experience about their products and service. If the quality of the product and service received by IIT-M customer, found dissatisfactory, the bidder may be disqualified under technical grounds.

Annexure - 1

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1. Research grade high intensity, compact Xe arc lamp light source which can function as an illumination system for studying photochemistry of polymer samples.

2. The equipment should include arc lamp housing, bulb, power supply with igniter, filter holder, manual shutter, support stand, wavelength filters 365 & 450nm, standard reference cell (detector), ND mesh filter, sample stage temperature control. All these components should be integrated, tested and calibrated in the factory for best performance. Calibration certificate should be provided.

3. The illumination set up should be such that the beam is projected vertically downwards.

4. The light source should satisfy the following criteria:

a. Power rating: 300 W or more

b. Xe Arc Lamp based

c. Class: AAA or better

- d.** Target size: 38x38mm (1.5x1.5”) at 1 sun or higher
 - e.** Working distance: 150mm (6”) from exit port or higher
 - f.** Collimation Angle: 12 degrees or less
 - g.** Power Supply: 300W Adjustable Power with Touchscreen Control
 - h.** Spectral Range (nm): 350-2000 with out fillters
 - i.** Output Power (W): 180-300
 - j.** Operating Current (A): 5-20
 - k.** Stability / Ripple / Regulation : 0.05% / < 1% / 0.02% current variation for 5V line charge
- 5.** A neutral density (ND) mesh filter of 75mm (3” dia) capable of being mounted in the filter holder should be provided. The ND filter should be capable of blocking 49% of incident light.
- 6.** A solid state detector type reference cell should be provided and it should satisfy the following criteria:
- a.** Detector Type: Solid State
 - b.** Spectral Region: NIR, UV, Visible
 - c.** Detector Material: Silicon (Si)
 - d.** Noise equivalent power (NEP): < $8.10 \times 10^{-15} \text{W/Hz}^{1/2}$
 - e.** Active Area (diameter or square): 2.5mm
 - f.** Spectral Range (nm): 190-1100nm
 - g.** DC Coupled
 - h.** Responsivity: @200nm 0.12 A/W Typical (0.10 minimum), Peak @960nm 0.5A/W
 I_{sc} @1sun calibration certification is to be provided
- 7.** Wavelength filters with centre wavelengths 450nm and 365nm should be provided. They should satisfy the following criteria:
- a.** Type: band pass
 - b.** Tolerance (nm): ± 2.0
 - c.** Full Width-Half Max FWHM (nm): 10 Tolerance (nm): ± 2.0
 - d.** Optical Density OD: =4.0
 - e.** Clear Aperture CA (mm): 45.3
 - f.** Coating: Hard Coated
 - g.** Minimum Transmission (%): =85 Mount
 - h.** Thickness (mm): 5.0
 - i.** Substrate: Optical Glass Substrate with Thickness (mm): 3.5 ± 0.5 typical

8. A temperature controlled sample stage for illuminating the sample should be provided. It should be a copper plate mounted with heaters and fitted with PID controller with 0.1 deg accuracy. The cell chuck should be capable of vacuum hold-down (when connected externally to our own vacuum pump). In addition, the following criteria should be satisfied:

- a. Area for keeping the sample: 3.5" x 3.5"
- b. Temperature Range: Room temp to 70 °C
- c. Power Input: 115-240 VAC
- d. Power Usage: 80-120 W



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