Galvanometric scanner for laser micromachining

Minimum tender specifications for *Galvanometric scanner for laser micromachining*.

1. **Aperture** — min. 15 mm or larger
2. **Wavelength range (standard):**

   standard coatings for wavelength window of choice for lasers in

   a) near-IR (700 -1100 nm), visible 400-600,
   b) visible (400 – 700 nm) Green lasers, or
   c) UV (250 – 400 nm)
   d) CO_2 laser wavelengths

   (laser wavelength will be specified at purchase)
3. **Max. laser power (standard systems)** — 100 W with air cooling
4. **Typical scan angle** — ±0.3 rad
5. **Image field size** — 40 mm x 40 mm or larger
6. **Typical spot size** — 10 µm

7. **Tuning** — Fast vector tuning or better
8. **Tracking error** — (max.) 0.5 ms or lower
9. **Marking speed** — (min) 0.5 m/s or more
10. **Positioning speed** — 10.0 m/s or higher

11. **Step response time**
12. **At 1% of full scale** — (max.) 1 ms or lesser
13. **At 10% of full scale** — (max.) 2 ms or lesser

14. **Precision Electrics / Control**
15. **Servo control galvanometer scanner** — digital servo control board

16. **Scan axes** — 2-axis system

17. **Air Cooling** — yes
18. **Water cooling** — option should be provided

19. **Control Software should be provided.**
20. **Installation and Maintenance:** Quotation must include installation, commissioning and annual maintenance for 3 years

Other Requirements

1. Quotations with the complete solution for the above requirement will only be accepted.
2. I.I.T. 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 (Quote items separately)
3. The offer/bids should be sent only for a laser systems that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.
4. Suppliers to provide training for programming, operation and maintenance at IIT Madras at free of cost.
5. The complete system and its associated hardware/should have a standard warranty of 2 years from the date of installation, commissioning and acceptance of the system at IIT madras. Suppler modification (s)/software upgrades shall be intimated and the same will be made available free of cost during the warranty period.
6. All technical literature/catalogues and drawings of various systems should accompany the quotation. All the documents should be in English.
7. Installation and commissioning should be provided by the supplier its Indian agent. The Indian agent should have well proven service capability on similar systems with factory trained service engineers available in India. Details of their engineers expertise should be enclosed along with the offer and will be a key factor in the decision making.
8. The system should have compatibility with Indian environment conditions (for better power/energy stability)

9. The last date for receipt of the quotation is as per tender terms & conditions