

# Specifications for Raman Spectrometer

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## List of items

- Portable Micro-Raman Spectroscopy

S. No.	Specifications	Details
<b>1.0</b>	<b>Spectrometer specifications</b>	
1.1	Detector:	Linear Array CCD 3648 Pixels or better
1.2	Cooled Detector:	yes
1.3	Slit Size:	Continuous 10 $\mu$ m to 400 $\mu$ m variable
1.4	Spectrometer FL:	200 mm or better
1.5	A/D resolution:	16 bits or better
1.6	Exposure time:	1ms to 60 sec or better
1.7	Laser:	Wavelength: 532nm/785nm Power: 300mW or higher Stability: 1 % or better
1.8	Resolution:	5 – 14 $\text{cm}^{-1}$ or better
1.9	Raman shift:	200 - 4500 $\text{cm}^{-1}$
1.10	Objective Lens:	20 x or better
1.11	Focusing:	Linear Stage height movement
<b>2.0</b>	<b>Application requirements</b>	
2.1	Characterisation of molecular structure of nanoparticles of metals like Ti, C, Ni	

## Other Requirements

1. Quotations with the complete solution for the above requirement will only be accepted. Offers for individual lens or beam expander will not be acceptable.

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 machine 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. Test certificates for all the stages confirming the specifications from OEM are required with shipping/freight documents.
5. Suppliers to provide training for programming, operation and maintenance at IIT Madras at free of cost.
6. All necessary safety regulations such as CE compliance, low voltage directive, EMC regulations compliance details, Alarms and emergency switch off in case of any malfunctioning must be provided. The system must be equipped with all the necessary safety interlocks. Provisions for safety wear are essential.
7. The complete system and its associated hardware should have a standard warranty of 1 year or more 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.
8. All technical literature/catalogues and drawings of various systems should accompany the quotation. All the documents should be in English.
9. Installation and commissioning should be provided by the supplier or 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.
10. The system should have compatibility with Indian environment conditions (for better power/energy stability)

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