



**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**  
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Prof. Himanshu Sinha  
Project Coordinator

Ref: BT/HIMNS/2020/001/SPL  
Dated: 10.06.2020

Limited Tender No: BT/HIMNS/2020/001/SPL

**Due Date: 23.06.2020, 3:00pm**

**Pre-Bid meeting: - Not required.**

**Technical Bid opening meeting on Due Date: 23.06.2020, 4:00pm**

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**Real-time quantitative PCR thermal cycler instrument**” conforming to the specifications given in (Annexure-I).

**Terms and Conditions of Limited Tender**

- 1. Preparation of Bids:** - The Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.
- 2. Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:  
**Prof. Himanshu Sinha,  
Department of Biotechnology,  
IIT Madras  
Chennai - 600 036**
- 3. Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Biotechnology**.
  - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
  - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
- 4. Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
- 5. Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical bid
- 6. Late offer:** - The offers received after the due date and time will not be considered

7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Vendor has to submit a Bank Guarantee from a Nationalized Bank of India equal to the amount of advance payment.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Technical Bid Opening:** The technical bid will be opened **on 23.06.2020 4:00pm at the Department of Biotechnology, IIT Madras** and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them.**
13. **Performance Security:-**The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.
14. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
15. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
16. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
17. **Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "[workflow@rt.iitm.ac.in](mailto:workflow@rt.iitm.ac.in)".

Yours sincerely,

**Prof. Himanshu Sinha,**  
**Department of Biotechnology,**  
**IIT Madras**  
**Chennai - 600 036**

**Technical Specifications for Real-time quantitative PCR thermal cycler instrument**

1. Real-time quantitative PCR thermal cycler instrument with gradient for 96-wells in 0.2 ml tube operated by an external Windows laptop.
2. Sample volume range 5-50  $\mu$ l.
3. Optical system specifications:
  - i. Multiple long life-time LEDs (RGBW) based light source with min. 470-700 nm wavelength range.
  - ii. Highly sensitive detector should be either a photomultiplier tube (PMT) or a photodiode. CCD based detectors are not preferred.
  - iii. Calibration free usage/installation of new dyes either without filter modules, or if filter modules are used, a min. of 4 user interchangeable filter modules should be provided.
  - iv. Simultaneous multiplex fluorescent dye detection of at least FAM, SYBR Green, Alexa488 dyes.
  - v. Sensitivity up to one copy of target sequence or sensitivity up to 5 nmol/l FAM in 30  $\mu$ l sample in 96-well plate.
  - vi. A dynamic range of 10 log magnitude.
  - vii. Individual scanning to illuminate and to detect fluorescence from each well of a 96-well plate without edge effect.
  - viii. Readout time of less than 15 sec for multiplex (at least 4 colours simultaneously) single measurement in 96-well plate. A readout time of less than 10 sec for a single multiplex measurement preferred.
4. Temperature control specifications:
  - i. Sample block temperature range 4-99  $^{\circ}$ C.
  - ii. Block heating rate of min. 5.0  $^{\circ}$ C/sec, higher heating rate preferred.
  - iii. Block cooling rate of min. 5.0  $^{\circ}$ C/sec, higher cooling rate preferred.
  - iv. Block homogeneity/uniformity of less than  $\pm 0.2$   $^{\circ}$ C (at 55  $^{\circ}$ C) with accuracy of max.  $\pm 0.2$   $^{\circ}$ C; lower values of block uniformity and accuracy preferred.
  - v. Linear gradient with at least 20  $^{\circ}$ C temperature span, higher temperature span preferred.
  - vi. Temperature increments of a min. 1.0  $^{\circ}$ C/cycle.
  - vii. Time increments of min. 5 sec/cycle.
5. Open type control and user-friendly MIQE-compliant qPCR evaluation software capable of performing the following analysis:
  - i. Absolute and relative quantification of gene and miRNA expression
  - ii. delta-delta  $C_t$
  - iii. Allelic discrimination
  - iv. Melt curve analysis

- v. Multiplex assay function
  - vi. PCR efficiency
6. The qPCR instrument should be license-free and must be open for the usage of different reagents and plastic ware including 0.2 ml PCR tubes, 8-well strips or 96-well micro plates.
  7. Minimum one-year warranty on the machine; however, additional two-year warranty preferred. A separate warranty on optical system preferred.
  8. Should include a suitable Windows 10 laptop with pre-installed MS Office with free to use license of the qPCR software for PC that can also be installed on multiple other machines for data analysis.
  9. A list of qPCR installations in reputed institutions in India in the last three years.
  10. Two bid system: separate technical and financial bids