

# CSIR - NATIONAL PHYSICAL LABORATORY

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From: Director, CSIR-NPL  
Tender No. 14-VI/GAB(1124)23PB/T-232

Dated: 19.02.2024

## CORRIGENDUM

With reference to NPL's Global Tender ID: **2024\_CSIR\_744771\_1**, Pre-Bid Conference (PBC) was concluded on 13.02.2024 for "**Hyperthermia Measurement System/Instrument**". Consequent upon the outcome of PBC, **some changes have been made in the technical specification of captioned tender. Revised specifications are as follows:**

**Hyperthermia Measurement System**  
**For measuring heating efficiency (Specific Absorption Rate) of Nanoparticles/Fluids.**  
**DETAILED TECHNICAL SPECIFICATIONS**  
**(FINAL)**

S. No.	Detail	Specific requirement
	Hyperthermia system	A system with frequency, magnetic field and intensity control to maintain the intensity <1% error during the experiment.
1.	Frequency	50 kHz-1000 kHz range as standard with software control.
2.	Magnetic field intensity	Variable magnetic field ranges from 0 to 500 Oe or higher with automatic software control. A calibration certificate and a field map for each coil must be provided.
3.	Sample holder	The calorimetric sample holder should have a suitable sample chamber/holder for 1 and 2 ml sample tubes, which provides good thermal insulation.  For in-vitro measurements, the planar coil set should have 9 cm diameter for experiments on Petri dishes and other planar sample with a circulating water bath (room temperature to +60°C or higher with accuracy $\pm 1$ °C or better) for thermalization and controlled atmosphere.
4.	Temperature sensor:	High-precision 3-channel Fibre optic thermal sensor (with accuracy $\pm 0.5$ °C or better) physically integrated into the hardware and into the main software.
5.	Automation	The system should have automatic frequency and intensity real-time control and monochromatic AMF (alternating magnetic field generation) output.

6.	Data acquisition Software	Data acquisition, measurement and analysis software for control and automation controllable by Personal computer. System software must be capable of providing Full Specific Power Absorption graphs in one single experiment.  Including a PC, which is compatible with the running of the software.
7.	Installation & commissioning	Installation and commissioning should be done by company/factory trained service engineer.  The supplier should have supplied similar equipment in India at least 2 Nos. The user list with contact details is to be provided along with the installation report.
8.	Acceptance	System would be accepted based on functional testing & demonstration against a standard sample brought by the service engineers.
9.	Training	Vendor should provide comprehensive training related to operation, calibration, maintenance & safety of equipment for 2-3 persons at CSIR-NPL, immediate after acceptance of the equipment.
10.	Warranty	Vendor to provide comprehensive parts and labor warranty (excluding consumables) for a period of one year after acceptance of the system. Two years extended warranty should be quoted separately.  Assurance of the availability of service, consumables & essential spare parts of the equipment for the period of 7 years.
11.	Technical documentation	Vendor to supply hard & soft copy manuals related to operation, maintenance with schematics.
12.	Safety	Technical documentation should include safety operation procedures.
13.	Power & Utilities/footprint dimensions	Single phase as per Indian standard values.
14.	Future upgradation	a. System must be upgradable for IR Imaging and thermal Imaging cameras with software control. b. System must be upgradable for Laser Photothermal system. c. System must allow for magnetic heating procedures during optical microscopy in the future.

All other terms & conditions of said tender will remain the same.

  
Sr. Controller of Stores & Purchase

**FORM TO BE USED BY TSC FOR FINALISING PRE-BID MINUTES**

**File No.** 14-VI/GAB(1124)23-PB;Dt: 21-02-2023

**Date:** 13/02/2024

**TSC Minutes**

Based on the Pre-bid meeting (online/offline) and recommendation of I/O, the following changes have been made in the specifications:

<b>Original Specifications</b>	<b>Final Specifications</b>
<b>Please See Annexure II</b>	<b>Please See Annexure I</b>

The file is forwarded to Purchase Section for uploading the final specifications and TSC minutes on the website and CPPP Portal.

Declaration: We hereby declare that we have no conflict of interest with any of the bidder in this tender