



# CENTRAL UNIVERSITY OF SOUTH BIHAR

SH-7, Gaya- Panchanpur Road, Village- Karhara, Post- Fatehpur,  
P.S- Tekari, District- Gaya (Bihar) PIN- 824 236

Date: 10/01/2020

## CORRIGENDUM NOTICE

**Tender Notice No.: CUSB/PSD/PHY/TENDER/18/2019-20, Dated 02/01/2020  
(Supply & Installation of “Laboratory Equipments” for Physics Lab)**

Refer to above mentioned tender notice, the following corrigendum is published for queries received from prospective bidders.

**Name of the equipment: Vibrating Sample Magnetometer (VSM)**

### **Previously submitted specification**

Temperature Range	50K-400K or Above
Coil Type	1 <sup>st</sup> order Gradiometer (Cu)
Coil set bore	Min 6.3mm
Oscillation Frequency	40Hz or above
RMS sensitivity at zero field	0.5% or better
RMS Sensitivity at field B	$6 \times 10^{-7}$ + $3 \times 10^{-7}$ emu/tesla X B(T) or 0.5% or better
Accuracy	0.5% or better
Largest measurable moment	40/(Peak Amplitude [mm])
Sample Holder	Different sample holder are required
Other requirement	Sample mounting/alignment kit is required & Computer with software (License for lifetime required)

### **Modified Specification**

About System	<ul style="list-style-type: none"><li>• System should be fully cryogen-free. Only small amount of helium gas should be required for its fully automated start-up and operation.</li><li>• System must have a built in cryopump and vacuum gauge for controlling the sample environment. The cryopump must be able to pump out the sample chamber to less than 10<sup>-4</sup> Torr under 10 minutes or better.</li><li>• Sample chamber must have a common sample interface at bottom for convenient access and flexibility during different measurements</li><li>• Quoted system must be Air-cooled. There may not be any requirement of chiller/additional cooling unit to reduce the maintenance/downtime.</li><li>• Magnetic moment noise levels must be less than <math>6 \times 10^{-7}</math> emu at 300 K for 1 second integration time and 40 Hz frequency or better.</li><li>• VSM system must perform rapid, completely automated centering operations. There should not be any need to perform manual adjustments to centre the sample.</li><li>• Suitable sample holders and Sample preparation/alignment box should be included.</li><li>• Magnet power supply, temperature controller preferred from the manufacturer instead from third party.</li></ul>
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Temperature Range	<ul style="list-style-type: none"><li>Fully automated temperature control from 50 K to 400 K or higher range</li><li>Sample chamber Temperature control must be achieved through solid and variable conduction cooling (Gas flow based system not preferred).</li></ul>
Superconducting Magnet:	<ul style="list-style-type: none"><li>Longitudinal magnetic field of <math>\pm 3T</math> or higher should be available or more.</li><li>Coil Type 1<sup>st</sup> order Gradiometer (Cu)</li><li>Coil set bore Min 6.3mm</li><li>Time to cool down the magnet from totally warm system must be efficient (<math>\leq 10</math> Hrs.). Magnet cool down data should be provided. Log files may be asked during technical evaluation.</li><li>Field charging rate: 0.1 – 300 Oe/sec or larger (provide supporting data)</li><li>Time taken to reach full field should be within 2 minutes (specify and provide supporting data) or better</li><li>Oscillation Frequency 40Hz or above</li></ul>
RMS sensitivity at zero field	0.5% or better
RMS Sensitivity at field B	$6 \times 10^{-7} + 3 \times 10^{-7}$ emu/tesla X B(T) or 0.5% or better
Accuracy	0.5% or better
Largest measurable moment	40/(Peak Amplitude [mm])
Sample Holder	Different sample holder are required
Data acquisition and analysis	Licensed windows based operating software with compatible Computer with the measurement options. Measurement should be fully automated. The software must control all instrument's electronics, hardware, data acquisition and data analysis. The software should include a comprehensive sequence editor for setting up unattended measurement runs. Each user must be able to set their own measurement sequences and data files so experimental set-ups and data are safe on a multi-user system.
Other requirement	<ul style="list-style-type: none"><li>Sample mounting/alignment kit is required &amp; Computer with software (License for lifetime required)</li><li>Vendor must provide at least 10 customer satisfaction letter/certificates from Indian Institutes/Labs where similar measurement systems are installed and working satisfactory.</li><li>List of same model installed in India with contact person name, address and phone number, email id must be specified.</li></ul>

**Registrar**