

## Department of Physics

Indian Institute of Engineering Science & Technology, Shibpur

Howrah – 711103

Reference No. IEST/PHY/SJ/Lab. Equip./02

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### Notice Inviting Quotation

Sealed quotations are invited for supply of the following item/ equipment or to carry out works listed below as per mentioned specifications. The quotation should include all kinds of taxes/ duties/ VAT and delivery/ installation charges of the items. The quotations/ completed bidding documents are to be submitted to Dr. Samar Jana, Head, Department of Physics, IEST, Shibpur, Howrah – 711103.

Last date of submission of the sealed quotation is 7 working days from the date of publication in the website of the Institute and tenders will be opened on the next working day at 3 p.m.

Dr. Samar Jana  
Associate Professor & Head  
Department of Physics  
IEST, Shibpur, Howrah – 711103

#### List of Item/Equipment:

Sl. No.	Description / Specification of the item/equipment
1.	<p><b><u>High Temperature Chamber Furnace:</u></b></p> <p><b>Fully Automatic &amp; programmable system and floor model.</b></p> <p>Inner chamber size (W x H x D) : 6 inch x 6 inch x 12 inch Maximum working temperature : 1400°C Continuous working temperature : 1200°C</p>

Heating rate : 2 – 12°C/min

**Construction:**

Body made of: Thick gauge steel sheet with powder coating finish along with air ventilation system on back side to remove fumes.

Preferably, Double wall chamber, Swing out automatic hinge type door with safety door switch to interrupt power when door is open.

**Insulation:**

- 1<sup>st</sup> stage: High alumina tiles CUMILAG 29 carborundum make to withstand temperature up to 1550°C.
- 2<sup>nd</sup> stage: Fiber board to withstand temperature up to 1425°C.
- 3<sup>rd</sup> stage: Fiber board to withstand temperature up to 1260°C.
- 4<sup>th</sup> stage: High seal board to withstand temperature up to 800°C.

**Heating Element:**

Silicon carbide heating element solid type

Resistance : 1.2 to 1.5 ohms

**Thermocouples:**

Pt.Pt/Rh-13%, R – type thermocouple with alumina sheath and connector.

**Control system:**

Honeywell make microprocessor based digital programmable PID controller of model DC – 1040 with 8 segment and 2 programming facility with an accuracy  $\pm 2c$ .

Thyristor drive unit to control the power with PID controller.

Panel having lamps load/ main, on/off switch, Digital ammeter/ voltmeter, PID controller, contractor relay, MCB and other necessary electrical accessories.

To work on 220/240V, AC, single phase.