

Department of Physics, University of Kerala, Karyavattom,
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2308920

Tender No: KU/PHY/442/21-22

Dated: 03.01.2022

Quotations are invited for the supply and installation of the following equipment for research purpose in **two-bid mode**.

High temperature horizontal tubular furnace

High temperature tubular furnace, Horizontal, with Tubular Working Chamber, low thermal mass model, electrically operated is used for thermal treatment of samples, specially designed for use in Vacuum/Inert Atmospheric [Argon/Nitrogen] Gas Applications at high temperature.

Replacement of Alumina Tube of Tubular Furnace

Number	Item	Description/Remarks
1.	High temperature tubular furnace	<ol style="list-style-type: none">1. Rated maximum temperature of 1400°C.2. Fabricated from mild steel sheet sections with necessary reinforcement for mechanical rigidity. The structure has to be finished in heat resistant paint.3. Inner Chamber: Hot face chamber has to be assembled from low density high temperature resistant bricks, with supporting insulation on all sides using low thermal mass ceramic fibre blanket.4. Mode of heating: By Silicon Carbide Heating Rods. (Platinum/13% Rhodium Platinum Thermocouple to act as Sensor).5. Specimen holding tube: The chamber with a removable high purity [Al₂O₃ Content 99.5%] non pores Alumina Tube, with dimensions 75mm x 85mm x 1000mm Long.6. Openings at both ends are to be provided with Metallic End Flanges with Neoprene/ Whiton Sealing Gasket., Ports for Inlet and Outlet, and with provision for chilled water cooling to protect the sealing gasket from being burnt out.7. Temperature control: By a 16 Segmented Micro Processor Based Programmable P.I.D. Temperature Controller, for Ramp/Dwell Control, coupled with a Thyristor Power Control Unit.8. Control cubicle:<ul style="list-style-type: none">· Micro Processor Based Programmable P.I.D. Temperature Controller.· Thyristor Power Control Unit.

	<ul style="list-style-type: none"> • Ammeter. • Voltmeter. • Indicators and Switches. • Output Connecting Leads. • Safety Fuse, etc. <p>TECHNICAL SPECIFICATIONS:</p> <p>Normal Hot Zone Area : 75mm Dia x 300mm Long. Uniform Zone Length : Minimum of 200mm. Alumina Tube Dimensions : 75mm I.D. x 85mm O.D. x 1000mm Long. Rated Maximum Temperature : 1400°C. Cont. Operating Temperature : 1300°C. Mode of Heating : By Silicon Carbide Heating Rods. Temperature Control : By μP Based Programmable PID Controller. Accuracy : +/- 1°C. Sensor : Platinum/13% Rhodium Platinum. Operating Voltage : 230Volts, 1Phase, 50Hz, 32A Current Rated AC Power Point. Power Rating : 6.0KWS.</p>
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Replacement of Alumina tube with above mentioned technical specifications are needed for the high temperature tubular furnace.

Quotes should be inclusive of the cost, freight, taxes etc. Terms and conditions of warranty should be clearly mentioned. The Alumina tube should be delivered at the Department of Physics, University of Kerala. The quotes should be valid for at least 120 days. **Please quote your technical bid and price bid separately. The quotations should address “The HoD, Department of Physics, University of Kerala, Karyavattom Campus.”**

The sealed quotations (hard copies only) should reach **“Dr. Savitha Pillai.S, UGC Assistant Professor, Department of Physics, University of Kerala, Karyavattom Campus, Thiruvananthapuram – 695 581”**, Kerala on or before 03.02.2022, 3.00 pm.

Sd/-

The HoD

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University of Kerala
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Head
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