

TENDER INVITATION NOTICE

Department of Chemistry, University of Kerala, Kariavattom,

Thiruvananthapuram-695581

Email: chem12uniker@gmail.com

No. DC/ST/22/Eq/2025-26 dated 03/01/2025

Sealed tenders are invited from the authorized dealers for supply, installation and commissioning of a **Vacuum Furnace** in the Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram-695581 in connection with the implementation of the research project “Establishment of Microfluidic Devices Research Laboratory” proposed under the State Plan Grant for the year 2025-26.

Last date of submission of Quotation-21/01/2026

VACUUM FURNACE

System Overview

The vacuum furnace designed for high-temperature material processing applications such as Perovskite synthesis, calcination, and thermal treatment under controlled vacuum or inert atmospheres. It should provide uniform and stable heating up to 1000 °C, ensuring precise temperature control and reproducible material properties. The system is suitable for laboratory-scale research requiring contamination-free and reliable thermal processing.

Technical Specifications

Sl.No.	Description	Specification
1.	Type	High-temperature vacuum furnace
2.	Maximum operating temperature	1200 °C
3.	Working temperature range	Ambient to 1000 °C
4.	Application	Heat treatment, annealing, sintering, degassing, and material research
5.	Effective chamber size	Minimum 4-inch usable dimension
6.	Chamber material	High-purity recrystallised alumina
7.	Inner surface finish	Smooth, vacuum-compatible

8.	Thermal insulation	Multi-layer ceramic fiber insulation
9.	Hot zone length	Minimum 150 mm or better
10.	Heating elements	Silicon carbide/Molybdenum disilicide/ graphite/suitable high temperature alloy
11.	Heating configuration	Uniform heating from all sides
12.	Temperature uniformity	±5 °C at operating temperature
13.	Heating rate	Programmable up to 10 °C/min
14.	Temperature controller	Eurotherm Controller
15.	Temperature sensor	Type K or Type S thermocouple
16.	Control accuracy	±1 °C
17.	Programmability	Multi-step ramp and soak profiles
18.	Ultimate vacuum level	$\leq 1 \times 10^{-3}$ mbar
19.	Vacuum pump	Rotary vacuum pump
20.	Vacuum valve	Manual or pneumatic high-vacuum isolation valves
21.	Cooling method	Natural cooling / forced air cooling / water-cooled jacket with mandatory water circulation
22.	External surface temperature	Not exceeding 60 °C during operation
23.	Input power	230 V / 415 V AC, 50 Hz
24.	Over-temperature protection	Automatic shutdown
25.	Vacuum interlock	Should be provided
26.	Door safety interlock	Should be provided
27.	Emergency stop	Emergency stop switch
28.	Control panel	Microprocessor-based control panel
29.	Display	Digital display for temperature and vacuum
30.	Sample holders and trays	Should be provided
31.		Suitable high-temperature crucibles (alumina /Zirconium) for sample holding [one from each]

	Crucible	
32.	Gas inlet	Inert gas inlet (Ar / N ₂)
33.	Compliance	Conforms to applicable ISO / IEC standards
34.	Performance	The flawless performance of the equipment has to be demonstrated and certified in accordance with operation qualification, installation qualification and performance qualification.
35	Warranty of the equipment and software	A comprehensive warranty of minimum of three years from the date of installation should be provided. During the warranty period, there should be two mandatory service visits per year. On-site service with required spares/consumables shall be ensured during the warranty period.

*Sealed tenders should reach The Assistant Professor and Head, Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram-695581 on or before 21/01/2026.

The cost of tender form and EMD(Earnest Money Deposit) should be submitted as Demand Draft(DD) issued from a Nationalised & Scheduled Commercial Bank, drawn in favour of the Assistant Professor and Head, Department of Chemistry payable at SBI, Kariavattom Campus(IFSC code SBIN0070043).

Cost of Tender Form	INR 1180/-
Earnest Money Deposit	INR 5000/-

The cost of tender form will not be refunded and the separate DD towards the cost of the tender form and the EMD should be submitted. The compliance statement should be submitted that includes all parameters in specification, as detailed in Tender Document.

General Terms and Conditions:

1. Quotes should be inclusive of cost, freight, taxes etc. and should be delivered at the Department of Chemistry, University of Kerala, Kariavattom.
2. Incomplete & conditional quotations and quotations received after the due date will be summarily rejected without assigning any reasons thereof.
3. The undersigned reserves the right to reject or accept the quotation without assigning any reason.
4. **Installation and Commissioning:** The items shall be installed and commissioned at the Department of Chemistry, University of Kerala, Kariavattom Campus. The supplier should bear all incidental expenses.
5. **Payment:** The University will release the payment only after inspecting the equipment and satisfy that the supply is as per the requirements. The payment will be made after successful completion of the supply and producing invoice in duplicate.
6. **Validity of tender:** Tender submitted shall remain valid at least for 90 days from the date of opening the tender. Validity beyond three months from the date of opening of the tender shall be by mutual consent.

7. The model number, make, and a printed literature of the product shall submit positively.
8. A signed compliance matrix (on specifications and conditions) should be submitted along with the quote.
9. In case of the dispute arises; the decision of University authority shall be final and binding on bidders.
10. General rules relating to the purchase of materials/equipment will also applicable to this quotation.
11. Those who are interested should send their **bid along with the Tender document (sealed and signed in each page), separate DD towards the cost of the tender form and the EMD, Compliance statement and the technical specification/brochure** in a sealed cover superscribed with **“Quotation for Ref. No: (.....) Equipment Name: (.....)”** and addressed to **The Assistant Professor and Head, Department of Chemistry, University of Kerala, Kariavattom Campus, Thiruvananthapuram-695581, Kerala** on or before **21/01/2026**. The tenders will be opened at the Department of Chemistry at 3.30 PM on the same day in the presence of vendors then present.

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**The Head
Department of Chemistry
University of Kerala**