RE-TENDER INVITATION NOTICE

Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram-695581

Email: chem12uniker@gmail.com

No. DC/ST/33/Eq/2025-26 dated 27/01/2026

Sealed tenders are invited from the authorized dealers for supply, installation and commissioning of **1. Upright Low temperature -20° C Freezer refrigerator. 2. Cooling Microcentrifuge 3. Laboratory Hydraulic Pellet Press** 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-3/02/2026

Item no. I - Upright Low temperature -20° C Freezer refrigerator:

System Overview

The upright –20 ℃ low-temperature freezer is required to provide stable and uniform sub-zero storage conditions for temperature sensitive biological and chemical reagents to ensure sample integrity and experimental reproducibility. For storing assay reagents, enzymes, antibodies, antigens to be incorporated in prefabricated microfluidic chips at controlled low temperatures, enabling reliable on-chip reactions and consistent performance of microfluidic devices.

Technical Specifications

Sl.No.	Description	Specifications
1.	Refrigeration Requirement	Upright low-temperature -20 ℃ freezer for storage of biological samples, vaccines, drugs, and other sensitive materials
2.	Refrigeration System	High-performance compressor-based refrigeration system with efficient evaporator and condenser
3.	Interior Construction	Stainless steel interior with adjustable shelves and interior lighting
4.	Insulation	High-density foam insulation for improved energy efficiency and temperature stability
5.	Door Construction	Double-layered insulated door with magnetic gasket and lock & key facility
6.	Temperature Control	Microprocessor-based temperature controller with digital display
7.	Alarm System	Visual and audible alarms for temperature deviation, door-open condition and in case of malfunctioning.
8.	Power Supply	220-240 V, 50 Hz, single-phase
9.	Storage Capacity	Minimum 250L
10.	Dimensions (W × D × H)	Minimum 25 × 25 × 75 inches or better
11.	Temperature Range	- 20 ℃ to 25 ℃
12.	Energy Efficiency	Energy Class A+
13.	Defrost System	Frost-free operation
14.	Controller Type	Microprocessor controlled
15.	Locking System	Yes
16.	Quick Freezing	Available

18.	Insulation Thickness	Minimum 80 mm PUFF insulation
19.	Door Type	Reversible door
20.	Storage Configuration	Minimum 7 transparent freezer compartments
21.	Drawer Type	Pull-out drawers

22. Performance

The flawless performance of the equipment has to be demonstrated and certified in accordance with **operation qualification, installation qualification, and performance qualification**.

23. 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. **Complaints should be addressed and rectified with in 24 hours.**

Item no. II - Cooling Microcentrifuge:

System Overview

A cooling microcentrifuge required for rapid separation and preparation of temperature sensitive biological samples (blood, serum, proteins, nanoparticles) prior to their introduction into microfluidic chips, ensuring sample purity. It supports microfluidic assays by enabling efficient pelleting, washing, and concentration of cells or nanomaterials at controlled low temperatures, leading to reproducible on-chip analysis and reliable assay performance.

Technical Specifications

Sl.No.	Description	Specification
1.	Temperature Range	-20 ℃ to 40 ℃
2.	Maximum Speed	15,000 rpm (200-15,000 rpm in 100 rpm increments)
3.	Door Lock System	Electronic magnetic door locking system
4.	Pre-cooling Function	

		Automatic pre-cooling system
5.	Rotor Safety Alarm	Rotor imbalance detection alarm
6.	End Alarm	Sound indicator at end of run
7.	Safety alarm	Sound and visual alarm for system malfunction or operational fault.
8.	Cooling Performance	Achieves 4 ℃ from room temperature in less than 10 minutes
9.	Program Storage	Up to 9 programmable memory slots
10.	Rotor Safety	3-layer sealed rotors for safe centrifugation
11.	Rotor Material	High-strength aluminium alloy, fully autoclavable at 121 ℃
12.	Acceleration/Deceleration	9 adjustable levels for smooth braking and separation
13.	Rotor Capacity	Compatible with 0.2 mL, 0.5 mL, 1.5 mL, 2 mL, and 5 mL tubes / PCR tubes
14.	Condensation Control	Should possess external condensation collection tank
15.	Maximum RCF	21,380×g, step: 10×g
16.	Sample Capacity	1.5-2mL×24, 0.2/0.5mL×36, PCR-8 strips×4,5mL×12,5mL×18
17.	Temperature Setting	-20 ℃ to 40 ℃
18.	Run time	30s-99 min or minimum; HOLD (continuous running)
19.	Acceleration/Deceleration Time	25s↑25s↓ or better
20.	Motor Type	Brushless DC motor
21.	Safety Features	Dual door lock, over-speed and over-temperature protection with internal diagnostics

22.	Power Requirement	Single-phase , 100-120V/200-240V, 50Hz/60Hz.500W
23.	UPS	Equipment Compatible UPS has to be Provided

24. Performance

The flawless performance of the equipment has to be demonstrated and certified in accordance with operation qualification, installation qualification and performance qualification.

25. 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.

Item no. III - Laboratory Hydraulic Pellet Press

System Overview:

A laboratory hydraulic pellet press required to compress powdered samples into uniform pellets under controlled pressure. It is adaptable for sample preparation in XRD, XRF, and FTIR analyses to obtain flat, dense, and reproducible pellets. The press applies high compressive force through a hydraulic mechanism, ensuring consistent pellet quality with minimal sample loss and is commonly used in chemistry, materials science, geology, and environmental laboratories.

Technical Specifications

Sl.No.	Description	Specification
1.	Pressing system	Manual hydraulic
2.	Maximum load capacity	25 ton
3.	Pressure range	1-25 ton (10–250 kN)
4.	Pressure Indication	Analog pressure gauge
5.	Pressure control	Fine pressure regulation valve
6.		30mm

	Ram stroke	
7.	Platen alignment	Self-aligned pressing plates
8.	Compatible die size	13 mm
9.	Die set requirement	Two stainless steel die sets
10.	Pellet thickness range	1-10 mm
11.	Pellet uniformity	High-density, crack-free pellets
12.	Frame	Heavy-duty steel
13.	Surface finish	Corrosion-resistant coating
14.	Mounting	Bench top / Floor-mounted
15.	Pressure relief valve	Automatic
16.	Over-pressure protection	Should be provided
17.	Hand safety guard	Should be provided
18.	Die ejection tool	Should be provided
19.	Die size (Optional)	20 mm, 25 mm, 32 mm, 40 mm

20. Performance

The flawless performance of the equipment has to be demonstrated and certified in accordance with operation qualification, installation qualification and performance qualification.

21. 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 03/02/2026.

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). The amount of Tender Form Fee and EMD varies with the item of instruments to be quoted. The details are furnished below

Item of Instrument quoted	Cost of Tender Form to be remitted	EMD to be remitted
Item no. I	**Rs.472**	**Rs.1500**
Item no. II	**Rs.472**	**Rs.1500**
Item no. III	**Rs.472**	**Rs.1500**
Item no. I, II	**Rs.708**	**Rs.3000**
Item no. II & III	**Rs.590**	**Rs.2500**
Item no. I & III	**Rs.590**	**Rs.2500**
Item no. I, II & III	**Rs.944**	**Rs.4000**

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.**Those vendors who have submitted the bids during the first invitation of tender (Ref. No. No. No. DC/ST/24/Eq/2025-26 dated 06/01/2026) for the same instrument have to submit the DD of cost of tender form fee only**.

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 03**/02/2026. 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.**

Sd/-

The Head
Department of Chemistry
University of Kerala