



**UNIVERSITY OF KERALA**  
**DEPARTMENT OF AQUATIC BIOLOGY & FISHERIES**

Karyavattom, Thiruvananthapuram 695 581, Kerala, India  
Telefax: +91 471-2308131; +91 9447216157; Email: aquaticbiology@gmail.com

**QUOTATION NOTICE**

Sealed quotations are invited from the Original Equipment Manufacturers (OEM) or their authorized dealers for supply and installation of the following equipments for implementing the **Establishment of Molecular Systematics Lab** (No. Ad.AV.03/ 34514/2019) at the Department of Aquatic Biology and Fisheries, University of Kerala as per the specification mentioned here.

Last date and time of receipt of quotations: 21-12-2020; 03.00 PM

Quotation may be addressed to: The Professor & Head, Department of Aquatic Biology and Fisheries, University of Kerala, Karyavattom, Thiruvananthapuram 695581

SL. No.	Item	Specifications	
1	GRADIENT PCR (One)	Lid Temperature range	37 - 110 °C
		Block Temperature Accuracy	: $\pm 0.2^{\circ}\text{C}$
		Block Homogeneity	$\leq \pm 0.3^{\circ}\text{C}$ (20°C to 72°C); $\leq \pm 0.4^{\circ}\text{C}$ (90°C)
		Heating rate	3 °C/s; Cooling rate: 2 °C/s
		Block temperature control	: range from be 4°C to 99°C
		Block	Single aluminum (96 x 0.1ml/0.2ml, 71 x 0.5 ml and 96 well PCR plate)
		Heating and cooling of block	: Peltier technology (with patented Triple Circuit Technology)
		Maximum power consumption	: 700 W
		Gradient temperature range	: 30 – 99°C with 0.1°C minimum gradient spread
		Gradient function	Should be able to test 12 different temperatures
		Customized programming	: Maximum of 20 steps in a cycle and 99 cycles
		Warranty	3 years
		Other features:	
<ul style="list-style-type: none"><li>• Preprogrammed protocol templates for easy selection</li><li>• Instrument should display remaining runtime in larger font and the status of the run</li><li>• Calibration according to NIST (USA), DKD/PTB (Germany) UKAS/NPL (UK), UL/cUL listed</li></ul>			

SL. No.	Item	Specifications
	<b>Geldoc analyser</b> (for viewing gels in Molecular biology Laboratory) <b>(One)</b>	
2	<b>Geldoc analyser</b>	Max. image area (W x H) : 21 x 14 cm
		Detector 6.3 mp CMOS
		Pixel Size 2.4 x 2.4 um
		Bit depth (gray levels) 65,536
		Dynamic range >3.5 orders of magnitude
		Excitation source Trans-UV, Epi-white, Trans-white, Trans-blue
		Emission filter 535-645 nm
		Data output 16 bit or 8 bit: SCN, TIFF, JPEG image files
		Operating humidity 20-80% relative humidity (non-condensing)
		Warranty 3 years

SL. No.	Item	Specifications
3	Micropipette Set: One set (6 nos) of Micropipette set	
	4-digit display Volume- 0.1-2.5 ul, 0.5-10ul, 2-20 ul, 10-100ul, 20-200 ul, 100-1000ul Stand for pipettes Air displacement pipettes Can autoclaved without disassembled Tip ejection force of pipettes can be low as 3.6 N	

SL. No.	Item	Specifications
4	<b>Gel Electrophoresis with One Powerpack</b>	
	Length of Gel Tray: > 10 cm Width of Gel Tray: > 15 cm Distance to electrode: > 14.5 cm Output current: 300 V Display: 3 digit LED Operating conditions: 0-40oC, 0-95% humidity (non-condensing) Input protection: fuse on both hot and neutral Timer: 1-999 min, fully adjustable Output range: 10-300 V; 4-400 mA	

<p>Pause/resume function: Yes  Safety features: No-load detection, sudden load change detection, overload/short- Circuit detection; over voltage protection  Output terminals: 4 pair recessed banana jacks in parallel</p>
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SL. No.	Item	Specifications	
5	<b>Refrigerated Centrifuge (One)</b>	Max. RPM/RCF for Fixed Angle	Approx. 16,000 rpm / 27,590 x g
		Max. RPM/RCF for Swing-out	Approx. 5,000 rpm / 5,394 x g
		Max. Capacity for Fixed Angle	6 x 250 mL, 8 x 50 mL, 20 x 5.0 mL conical, 48 x 2.0 mL
		Max. Capacity for Swing-out	4 x 1,000 mL, 4 x 5 MTPs
		Temp. range (°C)	-11°C to 40°C
		Time control	Pulse, Timed < 10 hr or Continuous
		RCF/RPM conversion	YES
		ACC/DEC Ramps	9/10
		Program Memory	100 (3 Quick Program call button)
		Power Supply	220~230 V, 60/50 Hz (110 V optional)
		Power Requirement	2.0 KVA
	Rotor	2, 5, 50, 250 and 1000 ml	
	Safety features	Rotor autoclavable (121° C for 20 min) Rotor made of anodized alumini to resist chemical Chamber made of stainless steel Automatic imbalance/rotor detection Automatic motorized locking when lid almost closed Low noise levels less than 63db at max speed	

SL. No.	Item	Specifications
6	<b>-80 Freezer</b>	
		Type: Vertical Temperature range: Programmable temperature range from -50°C to -86°C Control: Micro Processor control of temperature and alarms Cascade Refrigeration: Hermetically-sealed two stage cascade system

	<p>Insulation: Triple silicon section seal with ultra-thin vacuum insulation panel</p> <p>Chamber: Latch able inner door to minimize cold air loss</p> <p>Vacuum vent with plunger: Fitted with decompression valve facility &amp; heated air vent</p> <p>Shelves: 5 internal doors and 5 adjustable Stainless-Steel Shelves</p> <p>Security: Password and Keyed locks on the outer doors</p> <p>Power: On-Off switch is located behind the locked panel</p> <p>Battery Backup: Activates alarms &amp; display temperature with power failure</p> <p>Alarms: Audible and Visible alarms for Temperature filter clean, power out, Low Battery, System Fail, and Fault analysis.</p> <p>Door seal: Inner door fitted with low temperature safe silicone seal</p> <p>Filter: Front mounted compressor filter</p> <p>Power consumption: Approx. 10.8 kWh/day</p> <p>Noise level: Approx. 55 dB</p> <p>Stability: “Voltage Boost-Buck” is needed</p> <p>Certification: UL, CE and CSA certified</p>
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### **Terms and Conditions**

1 The bidder should submit following documents along with bid:

- Detailed technical compliance of product quoted with cross reference
- Brochure and literature of the product quoted establishing its Brand, Make, Model and Technical Specifications
- List of addresses of Offices/Company’s Service Centres
- Original Equipment Manufacturer (OEM) Certificate/ Undertaking. If the bidder is not an OEM, Certificate of authorized dealership/ distributorship from the OEM.
- Certificate from the OEM for technical support to the bidder and supply of spares.

2. Incomplete & conditional quotations received after the due date will be summarily rejected without assigning any reasons thereof

3. The Price/Rate quoted should be inclusive of all Taxes Freight, Packing & Forwarding Charges, Handling, Delivery Charges, installation charges etc.

4. The configuration given is the minimum configuration that is/are required. Vendors may choose to supply higher/better/ enhanced systems, but their financial quotes shall be treated as if they have been offered for the specified configuration only.

5. The bid shall be typed and shall be signed by the bidder or a person duly authorized to bind the bidder to the contract.

6. The bidder is expected to examine all instructions, forms, terms, condition, and technical specifications in the quotation Documents. Failure to furnish all information required by the

quotation documents or submission of a bid not substantially responsive may result in the rejection of its bid.

7. The bidders shall give undertaking that all the Components used in the equipments shall be original make as per the technical specifications submitted and the hardware/software shall be supplied with the authorized license certificates, if found contrary the supplier shall replace the component/equipment with original one at their own cost 8.

8. All prices should be in INR

9. Delivery and installation: Proposed delivery schedule should be mentioned clearly. Delivery and installation should be made at the Department in Karyavattom campus without any extra cost. Complete installation, testing of the system and demonstration are to be provided at site.

11. Service facility: Supplier should mention their details of service setup and manpower in Kerala who are responsible for service and supply of AMC, if any.

12. In case of any dispute, the decision of the University authority shall be final and binding on the bidders. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

The quotations should be submitted in sealed over with title **“Quotation for the equipments for the “Establishment of Molecular Systematics Lab” at the Department of Aquatic Biology & Fisheries, University of Kerala”**



Dr A BIJU KUMAR

**Dr. A. BIJU KUMAR**  
**Professor & Head**  
**Dept. of Aquatic Biology & Fisheries**  
**University of Kerala**  
**Thiruvananthapuram-695 581, India.**



Date: 02.12.2020