

**KERALA HEALTH RESEARCH AND WELFARE SOCIETY**

Regd .Office : TRIVANDRUM

A3-2245/21/KHRWS

21.05.2026

**E-TENDER NOTICE**

Invitation for installation of Molecular Lab setup with fully automated RT PCR Machine at KHRWS. The Kerala Health Research and Welfare Society (KHRWS) was established in the year 1973 under Travancore Cochin Literary Scientific and Charitable Societies Registration Act XII of 1955 to make better infrastructure facilities in the Medical Colleges and other Govt.Hospitals in the state and to strengthen the public Health Care System.

The society is functioning as its Registered Head Office at the GH Campus , Trivandrum and is having six regional offices.

- Regional Office , Thiruvananthapuram
- Regional Office, Kollam
- Regional Office , Kottayam
- Regional Office, Thrissur
- Regional Office , Kozhikode
- Regional Office, Kannur

Looking forward for a long standing relation with you.

Best wishes,

Sd/-  
Managing Director  
KHRWS

## **TENDER SCHEDULE**

1.	Tender No.	A3-2245/21/KHRWS
2.	Cost of tender Document	6000/-(inclusive of 18% GST)
3.	Estimated Cost / Unit	60,00,000/-
4.	Earnest Money Deposit	1,00,000/-
5.	Performance Security ₹	5% of the LOI/ Supply Order/ WO value – excluding GST (for successful tenderers)
6.	Validity of Performance Security	Up to 90 days after the date of completion of the contractual obligations

### **Important Dates:**

Sl No.	Particulars	Date and time
1.	Online tender submission Start date	22.05.2026
2.	Online tender submission End Date	23.06.2026
3.	Date of online Bid Opening	24.06.2026

### **IMPORTANT NOTE:**

**THE IMPORTANT POINT THAT PARTICIPANTS IN THE TENDER SHOULD NOTE IS THAT AMONG THE 23 EQUIPMENT MENTIONED IN THE TENDER, THE "FULLY AUTOMATED RT PCR MACHINE" EQUIPMENT IS TO BE INSTALLED ON A RENTAL BASIS. THE REMAINING 22 EQUIPMENT WILL BE PURCHASED.**

**BE PURCHASED.**

## **Technical Specifications**

### **Technical Specifications for Molecular lab setup with Fully automated RT PCR machine**

1. The bidder should provide the complete list of instruments needed to set up the molecular lab using fully automated RT PCR machine.
2. The list of equipment and the technical specification for each instrument is mentioned in the list below.
3. The bidder will be responsible for installation, training and service support of all the instruments.
4. In the list of instruments mentioned below, the S.No. 1 - **“fully automated RT PCR machine” should be placed on OPEX model (reagent rental)** against the workload mentioned for each assay. The remaining **22 instruments will be on outright purchase.**
5. The bidder should quote the pricing for the other supporting instruments for the lab setup as mentioned in the list below.
6. The bidder should be the manufacturer (or) authorized distributor of the manufacturer of the Fully automated RT PCR instrument.
7. The bidder should provide 3 years warranty for all the instruments. Comprehensive AMC should be quoted from 4<sup>th</sup> year till 10<sup>th</sup> year.
8. The lab infrastructure, which includes civil work, electrical, plumbing, air conditioning, flooring, and lab furniture, will be done by the institution as per molecular lab guidelines.
9. The UPS for all instruments should be provided by the bidder as per the requirement of each machine.
10. IQ, OQ, PQ and calibration documents must be provided by the bidder for all the instruments. Calibration to be performed once a year and the certificate must be provided by the bidder.
11. Undertaking to be provided on Rs.10 stamp paper for the service and warranty of all the instruments.

### **List of Instruments with Specifications**

#### **1. Fully automated RT PCR machine - 1 unit**

- The system should be CE-IVD and US-FDA approved, and assays should be WHO Prequalified preferably for COVID-19, CTNG, HPV Genotyping, HBV, HCV, HIV, CMV

- viral loads and HCV genotyping, MTB, MTB Drug Resistance, with fully automated, for extraction, assay set (Master mix Addition) and PCR amplification
- The system should offer a high throughput capability of maximal 96 samples per run at a time, however also provide flexibility to run 24/48/72 sample batches.
  - System should have flexibility to extract nucleic acid from whole Blood, Serum/Plasma, Urine, swabs, semen, Biopsy, Surgical fluids, Liquid based cytology, BAL, breast milk, sputum, Bone marrow, CSF, Culture, DBS (for HIV & HCV), faeces etc
  - All the assays should have noncompetitive internal controls feature to monitor the complete process starting from extraction to amplification and detection
  - System should contain integrated barcode reader for patient sample tube, reagent tracking including the controls and reagents, entire test record should be traceable from end to end.
  - The extraction system should use magnetic bead-based technology for all the assays with flexibility to accept primary tubes to minimise the hands-on time and error in sample sorting
  - The system should ensure contamination control providing Aerosol barrier tips, unidirectional process flow, optimize pipetting algorithm (Air gap technology after each aspiration step) and capable of performing two parameters (e.g. HIV -HCV and EBV-CMV) simultaneously in the same run
  - The system should offer automatic data analysis software for quantitative and qualitative assays without any manual interpretation and review of the data
  - To optimize efficiency and minimize waste based on our workload, we kindly request that the vendor provide assay pack sizes of 96 tests with longer expiry This adjustment would better align with our operational requirements and enhance resource utilization.
  - The vendor should quote Cost per reportable test (CPRT) for the following assays from the same brand as that of the fully automated machine. CPRT must be worked out considering 24 samples per batch. Individual break-up of the pricing of reagent, control, calibrator, accessories, etc must also be provided.
    1. HBV Quantitative - 100 tests per month
    2. HCV Quantitative - 100 tests per month
    3. HIV-1 Quantitative - 100 tests per month
    4. CMV Quantitative load - 100 tests per month
    5. EBV Quantitative - 100 tests per month
    6. HPV High Risk Qualitative - 100 tests per month
- (Note: The CPRT must be given considering the above workload. However, the actual purchase volume may differ as per the workload of the lab)

## **2. Open system RT PCR - 1 unit**

- The machine should be capable of running 96 well PCR plate.
- Max ramp rate 5 deg cel per sec
- Heating and cooling method: Peltier
- Temperature range: 0 to 100 deg cel
- Temperature accuracy:  $\pm 0.2$  deg cel of programmed target at 90 deg cel.
- Optical Detection:  
Excitation: 6 filtered LEDs
- Detection: 6 filtered photo diodes  
Range of excitation/emission wavelengths: 450-730 nm

- Sensitivity: Detects 1 copy of target sequence in human genomic DNA
- Compatible Laptop to be provided with the machine with latest specifications supporting the instrument software.

### **3. Biosafety cabinet Class II B2 - 2 units**

- Size: 3\*2\*2 ft.
- The cabinet should be powder coated on the outside.
- UV light in-built for decontamination
- Stand should be provided for the cabinet
- The instrument should be CE certified and the manufacturer should provide ISO 13485 certificate.

### **4. Vertical Laminar airflow - 1 unit**

- Size: 3\*2\*2ft
- The cabinet should be powder coated on the outside.
- UV light in-built for decontamination.
- Stand should be provided for the cabinet
- The instrument should be CE certified and the manufacturer should provide ISO 13485 certificate.

### **5. PCR workstation - 1 unit**

- Size: 3\*2\*2ft
- The cabinet should be powder coated on the outside.
- UV light in-built for decontamination.
- Table-top model
- The manufacturer should provide ISO 13485 certificate.

### **6. Microvolume UV-Vis Spectrophotometer (for Nucleic acid quantification) - 1 unit**

- To measure purified DNA, RNA, and protein concentration up to 30 Abs and calculate critical A260/A280 and A260/A230 purity ratios
- Absorbance range: 0.04 to 30 Abs (10 mm equivalent)
- Instrument should be CE certified
- Measurement time less than 5 seconds
- Sample volume: 1 to 2  $\mu$ L
- Detection limit: 2.0 ng/ $\mu$ L (1.6 ng/ $\mu$ L) dsDNA (RNA) 0.06 mg/mL (0.03 mg/mL) BSA (IgG)

### **7. Refrigerated Centrifuge - 1 unit**

- Bench-top model with capacity of 14800rpm with 1.5/2ml adaptor
- Rotor for 24\*1.5ml tubes
- Instruments should be CE certified
- Temperature range: -9 deg cel to +40 deg cel.

**8. Mini centrifuge (2ml tube adaptor) - 2 units**

- Brushless DC motor
- Rotor for 8\*1.5ml tubes
- Max speed: 6000rpm
- Instrument should be CE certified

**9. Mini centrifuge (8-well strip tube adaptor) - 1 unit**

- Brushless DC motor
- Rotor for 2\*0.2ml PCR strip tubes
- Max speed: 6000rpm
- Instrument should be CE certified

**10. Vortex Mixer - 3 units**

- Max speed 2500rpm
- Orbital Shaking movement
- Run type: Continuous (or) Touch operational
- Instrument should be CE certified

**11. Dry bath incubator with shaker - 1 unit**

- Temperature range: 5 to 100 deg cel
- Speed range: 200 to 1800 rpm
- Instrument should be CE certified

**12. Lab Centrifuge - 1 unit**

- Table-top model with Brushless DC motor
- Rotor for 12\*5ml test tubes
- Max Speed of 5000rpm
- Instrument should be CE certified

**13. PCR plate centrifuge - 1 unit**

- Table top model with 2\*96 well PCR plate adaptor
- Speed range: 2200 to 2800 rpm
- Instrument should be CE certified

**14. Micro Pipette 0.1 to 2uL - 2 unit**

- Fully autoclavable pipette
- Super Blow-out feature with 150% increase in air boost to ensure efficient delivery of micro-volumes.
- Made of tough PVDF components that stand up to harsh chemicals and the damaging effects of UV light.

**15. Micro Pipette 1 to 10uL - 4 units**

- Fully autoclavable pipette
- Super Blow-out feature with 150% increase in air boost to ensure efficient delivery of micro-volumes.
- Made of tough PVDF components that stand up to harsh chemicals and the damaging effects of UV light.

**16. Micro Pipette 2 to 20uL - 4 units**

- Fully autoclavable pipette
- Super Blow-out feature with 150% increase in air boost to ensure efficient delivery of micro-volumes.
- Made of tough PVDF components that stand up to harsh chemicals and the damaging effects of UV light.

**17. Micro Pipette 10 to 100uL - 3 units**

- Fully autoclavable pipette
- Super Blow-out feature with 150% increase in air boost to ensure efficient delivery of micro-volumes.
- Made of tough PVDF components that stand up to harsh chemicals and the damaging effects of UV light.

**18. Micro Pipette 20 to 200uL - 2 units**

- Fully autoclavable pipette
- Super Blow-out feature with 150% increase in air boost to ensure efficient delivery of micro-volumes.
- Made of tough PVDF components that stand up to harsh chemicals and the damaging effects of UV light.

**19. Micro Pipette 100 to 1000uL - 3 units**

- Fully autoclavable pipette
- Super Blow-out feature with 150% increase in air boost to ensure efficient delivery of micro-volumes.
- Made of tough PVDF components that stand up to harsh chemicals and the damaging effects of UV light.

**20. Micro pipette stand - 4 units**

- Fully autoclavable
- Positions to hold 5 micropipettes
- Polypropylene material

**21. Lab refrigerator 2 to 8 deg cel - 2 units**

- Volume: 300 Litre
- Glass door for visibility of products inside
- Instrument should be CE certified

**22. Deep Freezer minus 20 - 2 units**

- Vertical model
- Volume: 300 Litres
- Corrosion resistance CRCA/GI powder coated steel exterior
- Instrument should be CE certified

**23. Ultra low Deep Freezer minus 80 - 1 unit**

- Vertical model
- Volume: 300 Litres
- Dual compressor
- Corrosion resistance CRCA/GI powder coated steel exterior
- Instrument should be CE certified
- In case of power failure the rate of fall of temperature not more than 2°C/Hour with the holdover

Sd/-

**Managing Director**