

**Global Tender Notification for setting up “Cell Culture Lab Setup in Viral
BSL3 extension” at the Centre for Infectious Disease Research, Indian
Institute of Science, Bangalore (TENDER FROM FOREIGN VENDORS)**

Date: 4th January, 2022

Last date of submission of tenders: 18th January, 2022

To Whom It May Concern

This is to seek quotations valid for 90 days for the supply of equipment as per the specifications described below. A quotation should clearly indicate the terms and conditions of the vendor, delivery schedule, applicable taxes, payment terms etc. The tender should be submitted in two separate sealed envelopes – one containing the “Technical bid” and other containing the “Commercial bid”, both of which should be duly signed and must reach the undersigned on or before 17:00 hours, 18th January, 2022.

Please note:

1. Quote should come only from Foreign/ International Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
2. The compliance table should include all the items and in the same order. The first column should describe your compliance in a “Yes” or “No” response. If “No” the second column should state, the extent of the deviation. The “third” column should state the reasons for the deviation if any. The fourth column can be used to compare your solution with that of your competitors or provide details as requested in the technical requirements table below.
3. The quotations should be on FOR-IISc Bangalore basis in INR only
Quote/bids should be addressed to:

The Convener

Centre for Infectious Disease Research

Indian Institute of Science, Sir CV Raman Avenue, Bengaluru 560 012

TENDER SPECIFICATIONS

The 'Turnkey Project' for setting up "Cell Culture Lab Setup in Viral BSL3 extension" will include supplying following equipment with their technical specifications provided below.

1. Specifications for -80 deg C ULT Freezer (Double Door)

- Vertical Deep freezer
- Temperature: -50 to -86 deg C
- Capacity: app 650 liters
- Doors: Two Exterior doors, four inner shelves with individual doors
- System with microprocessor control and monitoring system
- Digital display of temperature, Audible and visual alarm
- Easily adjustable shelves (4 shelves), easy to access controls.
- Interior: Stainless steel
- Alarm for monitoring freezer conditions like power failure, high or low temperature, probe failure, door open, clean gasket, low battery, hot condenser and clean filter is necessary.
- Modes for following functions : Select run, set temperature, set high alarm, set low alarm, calibrate or optional back up mode
- Non CFC refrigerant, Hermetic compressors
- Controlled airflow for increased cooling: front to back air circulation system for longer compressor life
- RTD control monitor probe to maintain a stable freezer temperature
- Tamper resistant controller to prohibit accidental set point alteration of temperature below or above the freezers operating range
- Refrigeration: HP: Two 1 HP (2545 BTUH each)
- Insulation: Type: Non-CFC, foamed-in-place polyurethane.
- Quantity: 5.0'' (12.7cm) cabinet, 4.5'' (11.4cm) door
- Estimated Kilowatts per 24 Hours should not be more than 17.
- System should be cULs Listed, CE marked and ISO 9001 certified
- Should have more than 30 installation base in Karnataka
- Suitable 5KVa servo stabilizer should be supplied along with the equipment

2. Cell Imaging System Specifications

- Completely integrated “all-in-one” inverted cell imaging system
- Single compact unit including: inverted microscope, digital color camera and 12.1” highresolution
- (1,024 x 768 pixels) color monitor with adjustable tilt
- Long life LED illumination (up to 50,000 hours)
- 3.1 megapixels Color camera built-in to the microscope base
- 4-position objective turret
- User defined Phase-contrast LWD objectives options (4x, 10x, 20x and optional 40x)
- Rack and pinion focus mechanism using Coaxial focus knobs with tension control
- System should have option for mechanical stage attachment
- Optional mechanical stage for all types of microplates or other vessels
- Compact footprint; the entire system can be easily moved into a cell culture hood
- Inbuilt image acquisition, image review and editing software.
- Low power consumption (less than 20 Watts/hr)
- Two USB output ports
- Direct output to USB storage device
- Supported output file formats: . 24-bit full-color TIFF or PNG; JPEG, BMP (2,048 x 1,536 pixels).

3. Specifications for Refrigerated Centrifuge

- Max Speed: Approx. 18000 rpm for fixed angle rotor
- Max RCF: Approx. 30500 x g for fixed angle rotor
- Max Capacity: 6 x 50 ml for angle rotor and 4 x 145 ml for swing out rotor
- Rotor locking system: Auto-Lock rotor exchange
- Microprocessor based control system
- Drive: Direct, brushless induction low profile motor
- Centrifuge should have imbalance detection system – SMARTSpin
- Temperature range: -10°C to +40°C
- Noise level: <57 dB
- 3 direct program buttons, plus 96 additional programs accessible via folder, all with alphanumeric program naming

- Centrifuge must be capable of spinning 4 microplates at a time
- Motorized latch with optional automatic opening
- Centrifuge rotor must quickly adjust the parameters for accurate RCF calculation
- Immediate toggle between RCF and speed control
- Highly visible, backlit LCD display for clear reading
- Brushed stainless steel centrifugation chamber
- Rotor Biocontainment certification by CAMR* in Porton Down, UK
- Standards: IEC 61010-1, IEC 61010-2-020, IEC 61010-2-101, EN 61326-1
- Certificates: UL Listed / CE marked / IVD compliant / Certified biocontainment
- Rotor required:
 - Fixed angle Rotor 6 x 50 ml – Speed 9500 rpm and 12000 x g with 15 ml and 6.5 ml
 - conical tube adapter
 - Fixed angle rotor 24 x 1.5/2 ml – Speed 18000 rpm and RCF of 30500 x g
 - Suitable stabilizer should be supplied along with the equipment

4. Bio Safety Cabinets (2 numbers)

- The Bio safety cabinet should be Type A2 in which 70% Air should be re- circulated and
- 30% of the air should be exhausted
- The Bio Safety Cabinet must include two DC motors. High power consuming AC motors should not be used
- The motor must automatically adjust the airflow speed without the use of a damper to ensure continuous safe working conditions, even without maintenance adjustments.
- In order to preserve safety to the user and the environment, the exhaust blower on the cabinet must continue operating when the supply blower stops working. If the exhaust blower should fail, the supply filter will also be turned off.
- In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor from temperature, humidity and other environmental phenomena that can impact the sensor's performance.

- The microprocessor must display the inflow and down flow air velocities in real-time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions.
- The front window must be a 10” sash opening and be made of laminated safety glass to ensure containment of potentially hazardous samples in the case of accidental glass breakage.
- All interior and exterior parts must be painted or smooth to ensure no risk of cuts to users or maintenance personnel.
- The front of the cabinet must be angled 10° to help minimize glare on the window to the user, and to ensure that the user’s posture is comfortable during a working session. Inadequate user ergonomics in a safety cabinet may lead to excessive fatigue, unsafe working habits and harmful consequences to user safety or product contamination.
- The cabinet noise level must be less than 63 dB(A) for a 4 foot cabinet as measured in a sound proof room 12 inches in front of the cabinet and 15 inches above the work surface. Lower noise levels promote more comfortable and safer working habits of the user.
- The Biosafety Cabinet should have microprocessor controller and same must be located on a slanted front panel so it is easy to see and reach from a seated working position in front of the cabinet.
- The interior of the front window must be accessible for cleaning without requiring the user remove or support the window.
- The biological safety cabinet must be capable of achieving current state-of-the-art in energy efficiency. A biological safety cabinet with lights on and fan at operating speed should consume less than 200 watts for a nominal four foot width and have a reduced energy mode for non-operational maintenance on containment in the work area.
- The cabinet must automatically reduce fan/blower motor speed to 30% when the front window sash is in closed position to ensure reduced energy consumption when the cabinet is not in use.
- In order to provide maximum effectiveness, efficiency and safety to laboratory Personnel, UV light must be programmable to allow for specific exposure times from 0 to 24 hours. The automatic shut off feature on the UV light saves money on replacement of the bulbs.
- The Cabinet should have provision to fit taps for Vacuum, Water and Non Combustible Gas. Taps should be quoted as optional items.
- The Bio safety Cabinet should be NSF certified with listing on NSF website.

- The Bio safety cabinet should incorporate HEPA filter of the class H 14 EN 1822 or better and having minimum efficiency of 99.995% at 0.3 μm particle size.
- Approximate Dimension
- Exterior 1500 H x 1300 W x 800 D; Interior 800 H x 1200 W x 500 D
- Ventilation System Exhaust and Inflow air volume approx 300-350 CFM
- Heat Emissions at 25°C should be approx 0.2 KW or lesser.
- The Bidders should provide details of Standard Warranty available
- The cabinet Should be provided with Microprocessor controller and large LED display for inflow and Down flow air velocity and hours of operation, Audible and visual Alarms for HEPA filter failure, blower failure, airflow speed failure, Incorrect window position.
- The BSC must incorporate an LED Indicator to indicate filter loading and should provide visual and audible alarm to indicate excessive HEPA filters loading which can result in unsafe airflows deviation from the NSF recommended inflow and down flows air velocity values measured in meters per second or foot per minute.
- The cabinet should be provided with fixed / adjustable Height Stand, UV Light and one set of detachable arms rest and one / two electrical outlet.
- The Drain Pan of the BSC should be made of Stainless Steel. The drain pan should not be painted, or powder coated.
- The Bio safety cabinet should have dual side wall with negatively pressurized interstitial space.

5. CO2 Incubators for cell culture (2 Numbers)

- Interior Volume: CO2 incubator with work chamber volume approximately within the range of 170- 185 lts
- Heating System: System should have direct heating and air jacketed heating system
- Doors: System should have 2 doors. Outer door: reversible, heated and should be of painted steel
- Inner door: one gas tight tempered inner glass door.
- Interior Chamber: Interior chamber should be made of stainless steel containing copper or polished stainless steel with rounded corners on all sides for easy cleaning. The shelves and fan impeller also should be made of stainless steel and should not have nuts or bolts for shelf supports to reduce the scope of growth of contamination.

- Exterior Chamber: Exterior chamber should be of painted steel. An antimicrobial coating to the exterior surface of the incubator is preferred.
- Shelves: At least 4 nos. stainless steel perforated shelves should be supplied.
- Access Port: Should be supplied with access port to allow any cable, plug or tubing to be easily inserted into or out of the chamber
- Air Filter: HEPA air filtration for air purity inside the chamber
- Air Circulation: The system should be provided with an in-chamber fan which gently and evenly distributes clean, humidified air throughout the chamber
- Temperature Control Range:
- Control by PID control system
- Control: ± 0.1 °C
- Range: 5°C above ambient to 50°C
- Uniformity: ± 0.3 °C at 37 °C.
- CO₂ control Range: CO₂ range 0-20%, with ± 0.1 % accuracy
- CO₂ Controller: Should have Infra-Red CO₂ Sensor for measurement of CO₂ from 0 –20 % with accuracy of ± 0.1 % inside the chamber. Should have a PID control system
- CO₂ Gas Inlet: It should have microbiological filter or HEPA filter for CO₂ gas inlet
- Internal chamber Humidity: System should be supplied with removable stainless steel pan/ reservoir with 3-4lts capacity. Relative humidity upto 95% to 100% at 37°C Natural evaporation with humidifying pan/reservoir
- Alarm Contacts: Deviation of temperature, CO₂, power, NO and NC
- Decontamination: System should have built-in moist or dry heat decontamination (sterilization).
- Sterilization temperature for dry heat should be above 140°C or above
- Voltage: Suitable for 230V, 50/60 Hz
- Stabilizer: Suitable branded voltage stabilizer should be included in the offer
- Data Output: On-board data logging facility - optional
- Display and control: The system should have a main screen with an alphanumeric digital display or touch screen (LED/LCD) display.
- System should have display and control for Temperature and CO₂. For relative humidity display and control may be optional
- Certification: CE / ISO / UL certification

- 6. Microvolume (DNA/RNA/Protein) spectrophotometer
- Low volume UV-VIS Spectrophotometer with following specifications
- Wavelength Range: 190-850 nm or better
- Minimum Sample Size: 1 μ L
- Pathlength: (auto-ranging 0.03 to 1 nm)
- Light Source: Xenon flash lamp
- Detector Type: 2048-element CMOS linear image sensor
- Wavelength Accuracy: +/- 1 nm
- Spectral Resolution: <1.8 nm (FWHM @Hg 254 nm)
- Absorbance Accuracy: \pm 3% (at 0.97 absorbance at 302 nm)
- Absorbance Range: Pedestal-0-550 A (10 mm equivalent) : 0-1.5 A (Cuvette)
- Detection Limit : Pedestal: 2 ng/ μ L dsDNA, BSA (IgG) : 0.06 (0.03) mg/mL
- Cuvette: 0.2 ng/ μ L dsDNA. BSA (IgG) : 0.006 (0.003) mg/mL (Cuvette)
- Maximum Concentration: 27,500 ng/ μ L (dsDNA)
- 820 (400) mg/mL (BSA (IgG))
- Measurement Time: < 8 seconds
- Stirring for cuvette option: 9 speeds
- Temperature Control cuvette option : 37 $^{\circ}$ C
- Sample pedestal Material of Construction: 303 stainless steel and quartz fiber
- Chemo metrics based algorithm should be used to detect contaminants, bubbles in the sample.
- No holders or accessories should be used in process and while measuring the samples.
- Sample retention technology.
- Touch Screen: 7 inch 1280 \times 800 high-definition colour display, android based Quad Core ARM Cortex A-9 Processor, Multipoint capacitive touch, Gesture Recognition : Single point, single point hold, swipe and pinch, Compatible with lab gloves, Built-in speaker.
- Connectivity : Three USB-A ports, Ethernet, Bluetooth and Wi-Fi
- PC Software Requirements: Windows[®] 7 and 10, 64 bit
- Accessory Support : Dymo Label Writer 450 printer, Bluetooth keyboard, mouse and barcode reader.
- Internal Storage: 32 GB flash Memory

- Audio : Built in Speaker
- Operating Voltage : 12 V (D.C.)
- Power Consumption : Operating : 12 -18W
- Standby : 5W
- Software : Software should have feature to identify the contaminants in the sample and report a corrected sample concentration. It should also detect the bubbles and other anomalies in the sample column. Software should provide instant feedback about sample quality with on-demand technical support for guided troubleshooting.
- Application Support: Nucleic Acid A260, A260/A280, A260/A230 and Labeled Nucleic Acids; Protein A280 and A205, Protein Pierce 660, Protein Bradford, Protein BCA, Protein Lowry, Labeled Proteins, OD600, Kinetics, UV-Vis, and Custom Methods.
- Languages : English, Spanish, Polish, Korean, Japanese, German, French, Chinese.

Warranty

- 3 Years extended warranty on all the equipment for service visit, repair and part replacement.

Supply terms

Within 6 weeks of PO release, items must be supplied, installed and verified.

Terms and conditions:

1. Quote should come only from Foreign Equipment Manufacturer (OEM) or their Indian authorized distributor.
2. The quotations should be on FOR-IISc Bangalore basis in INR only.
3. The quotations should be submitted in two bids system; i.e., Technical bid, and Commercial bid.
4. The technical bid must include all details of technical specifications of the instrument along with commercial terms and conditions masking only the price component. Bill of materials, brochures, technical datasheets, and any other document may be enclosed to help the evaluation of the technical bid. Please also include warranty terms and any other information on upgradation terms in the technical bid.
5. The commercial bid must include the price of the instrument in Indian currency indicating break up of: Installation, commissioning and training charges, including any incidental expenses, if any.

6. Price of every line item in the commercial bid should be quoted along with the total quoted price for the instrument to be operational (fixed and ready to use) in our facility.
7. Both the Technical and Commercial bid should be put in separate sealed envelopes, and put together in another cover stating, **“Cell Culture Lab Setup in Viral BSL3 extension”** and should reach us on or before 17:00 hours 18th -January 2022.
8. The vendor should have a good track record of having previously supplied at least 5 of each Items listed in the Tender notification, in India (please furnish details).
9. The vendor should have team of dedicated engineers for application and service support based out of Bangalore.
11. The validity period of the quotation should be 90 days
12. If the goods are found to be defective, they have to be replaced or rectified at the cost of the supplier within 30 days from the date of receipt of written communication from us. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.
13. The purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time period to award of construct without thereby incurring any liability of the affected bidder or bidders
14. Please submit the proposal to the following address:
The Convener, Centre for Infectious Disease Research, Indian Institute of Science, C. V. Raman Avenue, Bangalore 560012.