



IB 2023-09 PROCUREMENT OF VARIOUS LABORATORY EQUIPMENT

Brief description of the Project: *Supply, Delivery and Installation of various Laboratory Equipment*

ABC: Php. 4,050,000.00

Delivery Period – 60 Calendar Days

Source of Funds: DOST PCAARRD GIA

1. 1-unit Vertical Laminar Flow Hood/ Clean Bench

Specifications: with memory function in case of power failure; audio and visual alarm (abnormal airflow velocity); interlock function: V lamp and blower; LED lamp; external size (wxdxh): at least 1500x700x(2090-2340)mm; internal size (wxdxh): at least 1400x575x625mm; work surface height: at least 750-1010mm; maximum opening: 480mm; display: LCD display; airflow velocity: at least 80-99 fpm; material: working area: 304 stainless steel; main body: 1.2mm cold-rolled steel with anti-bacteria powder coating; front window: motorized; 55mm toughened glass; anti-UV; polyester fiber pre-filter; HEPA filter: one, 99.995% efficiency at 0.3um; noise: ≤ 67 dB(A); illumination: ≥ 300 lx; waterproof sockets: one socket (double type), American standard, maximum power: 500W; power supply: 220 VAC; consumption: 950W; UV lamp: 40Wx1; LED lamp: 18Wx1; standard accessory: manually height adjustable base stand, LED lamp, UV lamp, wind speed sensor, waterproof socket; gross weight: at least 280kg, with AVR, with warranty and installation

ABC: 600,000.00

2. 1-unit UV-VIS Spectrophotometer

Specifications: wavelength range: 190–1100 nm; wavelength accuracy: ± 0.1 nm, 10, 100, 200, 400, 800, 1200, 2400, 3600, 6000 nm/min; spectral bandwidth: 0.5 nm, 1 nm, 1.5 nm, 2 nm, and 4 nm; optical system: Czerny-Turner, Dual Beam Monochromator; light source: Tungsten-Halogen and Deuterium Lamps; UV-Vis DS5; Silicon Photodiode detectors; cuvette type: quartz or glass; with built-in touch screen monitor or better connected to PC with software installation, with AVR, with warranty and equipment training

ABC: 750,000.00

3. 1-unit Vertical Autoclave

Specifications: capacity: 100 liters; temperature range: 105–134 °C; sterilization temperature: 134°C; heat average: ≤ 1 °C; working pressure: 0.22 MPa; maximum working pressure: 0.23 MPa; timer range: 0–60 minutes; overall dimension (lxwxh): at least 590x590x1080mm; weight: at least 85kg; power: 4500W; power supply: AC220V 50Hz; stainless steel structure; hand wheel type; door safety lock system; digital display; automatic exhaust system for cold air and pressure; over-temperature and over-pressure auto-protection; alarm function for completion of process and low water level; self-inflating-type seal; drying system, with accessories for water source inlet, with AVR, with warranty, installation, and equipment training

ABC: 350,000.00

4. 1-unit Continuous Stirred Tank Fermenter/ Bioreactor

Specifications: Tank: 3 liters nominal volume, charging factor $\geq 80\%$, high-temperature resistant borosilicate glass, AISI 316L stainless steel tank lid; Controller: stirring system: high precision servo motor, rotating speed $0\sim 1200\text{rpm}$, top mechanical stirring, single-layer inclined blade stirring paddle, flat blade stirring paddle; temperature control system: pt100 platinum electrode (high temperature quick release form) sensor; insulation blanket electric heating method, $+5\sim 65^\circ\text{C}$; foam system: highly sensitive defoaming probe, mechanical defoaming probe, mechanical defoaming paddle with rake compression, peristaltic pump flow addition; feeding system: peristaltic pump flow addition, manual or automatic control; pH detection and control system: Swiss Mettler Toledo, $2.00\text{--}12.00\text{ pH}$, $0\text{--}130^\circ\text{C}$ sterilization temperature; DO2 detection and control system: Swiss Mettler Toledo, $0\sim 200\%$ control range, $0\sim 130^\circ\text{C}$; BIOF-D2 Controller, LF-Control 2.0 control system: Adopy HSSP standard spraying process, Siemens PLC control system, 10.1-inch advanced HMI touch screen, curve display function, historic data recording and export; air intake system: flowmeter and filter; sampling: sterile sampling system, autoclavable, dual design, users can inoculate with traditional flame inoculation; chassis at least $565\times 310\times 680\text{mm}$; power supply: 220VAC, with AVR, with warranty, installation, and equipment training

ABC: 700,000.00

5. 1-unit Water Purification System

- **Specifications:** Applications: Microbiology, Cell Culture; Bacterial retention: 99%; Feedwater connector: 3/4 in. NPT; feedwater source/input: tap water; Product Water Type/output: both type I and type II water; Resistivity: Type 1: $18.2\text{ Mohm}\cdot\text{cm}$ at 25°C
Conductivity: Type 1: $0.055\mu\text{S}/\text{cm}$; endotoxin concentration: $0.005\text{ EU}/\text{mL}$
Bacterial content: $<0.01\text{ CFU}/\text{mL}$; total organic carbon: 1 to 5 ppb; Feedwater pressure: 1 to 6 bar; operating pressure: 1 to 6 bar; Permeate performance: 3 L/hr. at 10°C ; flow rate: $0.6\text{ L}/\text{min}$.; RO flow rate: 3 L/hr.; particle $>0.2\mu\text{M}/\text{mL}$: <1 ; includes: internal 6 L tank with vent filter, RO/pretreatment cartridge, ultrapure polisher cartridge, sterile $0.2\mu\text{m}$ filter, pressure regulator, and UV lamp; hand dispenser kit at least 3m maximum length from the unit; Power consumption: 0.06 kW; Electrical requirements: 220V; Dimensions (wxh): at least $305\times 545\text{mm}$; Depth: at least 400 mm; Net weight: at least 22 kg; preferably with AVR, With warranty, installation, and equipment use training

ABC: 600,000.00

6. 1-unit Ultra-low Freezer

Specifications: Sizes: external size of at least $700\times 700\times 1,580\text{mm}$; internal size of at least $458\times 430\times 788\text{mm}$; vertical; capacity of at least 158liters; temperature range $-40\text{--}86^\circ\text{C}$ accuracy 0.1°C , microprocessor control, LED display; high temperature, sensor failure; direct refrigeration, mixture refrigerant; 1 set compressor, copper condenser, and evaporator; unibody design and mono-assembly foaming (rigid polyurethane insulation material) body, cold-rolled steel with an antibacterial powder coating on the external body; lockable door with 4 casters; 3 chambers with inner door; 2 pieces of shelf; 480W consumption; 220V power supply; 72-hour battery backup for power failure alarm; gross weight of at least 155kg, with AVR, warranty, installation, and equipment training

ABC: 400,000.00

7. 1-unit Oven Sterilizer

Specifications: CRC/mild steel with powder coating; temperature range: 10°C to 250°C; temperature stability: $\pm 1^\circ\text{C}$; with mains and load indicators, fan switch and main switch, temperature controller; power supply: 220 VAC; single phase; 60 Hz; double metal sheet body with AIS pockets; three fans cooling body; digital temperature control with display; thermostat added to control the transfer of heat for fine temperature control; insulated glass door window to view the sample; perforated stainless steel removable two racks; temperature over shoot high and low temperature alarm; external size (wxdxh): at least 500x550x735; internal size (wxdxh): at least 350x350x350; volume capacity of at least 45–65 liters, with AVR, with warranty, installation, and equipment training

ABC: 150,000.00

8. 1-unit Laboratory Refrigerator

Specifications: Capacity: at least 510 liters; shelves: 8; doors: 2; load in KW: 2; Exterior material: pre-painted galvanized iron at least 1.2 mm thick sheets powder-coated with coated-resistant paint; interior material: stainless steel 304 mar finish 0.91 mm thick sheets; shelves material: stainless steel wire mesh shelves; insulation material: PU foam: insulation size from the back, from sides, door: 60mm, 60mm, 60mm; 1 number of compressors: 1; with heat exchanger; with oil separator; refrigerant: R134A, CFC- and HFC-free; temperature range: ambient to at least 2°C; temperature uniformity: $\pm 1^\circ\text{C}$; temperature accuracy: $\pm 0.5^\circ\text{C}$; controller type: microprocessor-based digital controller; display type: LCD; data logging: RS 232 port; with 21 CFR; with castor wheels; lock type: single hand-operated compressed door latch; gasket material: silicon; defrost type: automatic; phase: single; voltage: 220V; with warranty and installation

ABC: 100,000.00

9. 1-unit Shaker Incubator

Specifications: Controller: PID; display: LCD; circulation mode: forced convection; rotary shaking; unishaft drive; temperature range: 5~60°C; accuracy: $\pm 0.1^\circ\text{C}$; temperature uniformity: $\pm 1^\circ\text{C}$; 30~300rpm rotating speed: rotating accuracy: $\pm 1\text{rpm}$; vibration range: 25mm; CFC-Free refrigerant; 200W cooling consumption; heating consumption: 800W; timing range: 0~999.59h; shaking plate size: 780x480mm; standard capacity: 250mlx40pcs; maximum capacity: 2000mlx12 or 1000mlx28 or 250mlx40; mirror stainless steel internal material: cold-rolled steel with anti-bacterial powder-coated external material; safety functions: audio and visual alarm for over-temperature; alarm for over-speed; independent over-temperature protector; shutdown protection for door opening; leakage or over-current protection; power supply: 220V; internal size (wxdxh) mm: at least 870x550x395; external size (wxdxh) mm: at least 1150x780x640; gross weight (kg): at least 190, with AVR, with warranty, installation, and equipment training

ABC: 400,000.00