

TERMS OF REFERENCE AND CONDITIONS

Project/Title	SUPPLY, DELIVERY AND INSTALLATION OF VARIOUS LABORATORY EQUIPMENT
Total Approved Budget for the Contract	Four Million Five Hundred Thousand Pesos (P 4,500,000.00) Inclusive of all government taxes, fees imposed and all duties, if any, and all incidental expenses.
Fund Source	Revolving Fund
Delivery Terms/Schedule	60-90 calendar days upon issuance of Notice to Proceed Note: No more request for extension of delivery period will be granted during the contract implementation except amended by a Bid Bulletin
Place of Delivery	PHILIPPINE CARABAO CENTER National Headquarters and Gene Pool Science City of Muñoz, Nueva Ecija
Definition of Similar contract	Similar contract refers to project/s that involves supply, delivery and installation of various laboratory equipment
Minimum Requirements for Bidders	<ol style="list-style-type: none"> 1. It is understood that all items to be offered must be brand new and complying with the specifications called for. 2. The bidder must have completed a SINGLE LARGEST COMPLETED CONTRACT (SLCC) within the last five (5) years similar to the project equivalent to at least fifty percent (50%) of the ABC amounting to (P 2,250,000.00) OR Completed at least two (2) similar contracts, the aggregate amount of which should be equivalent to at least fifty percent (50%) of the ABC and the largest of these similar contracts must be at least half of the percentage of ABC required above amounting to (P 1,125,000.00)

TECHNICAL SPECIFICATIONS

1) 1 UNIT AUTO KJELDAHL DISTILLATION UNIT

ABC: P 1,000,000.00

End-user: C.Baltazar

Specifications:

- Power supply: 200-240V; 50-60 Hz
- Distillation time: 3.5 min. at 30mg nitrogen (6.5 min. at 200mg nitrogen) with distillation capacity of approximately 40mL/min
- Measuring range: 0.1—200mg nitrogen
- Reproducibility: $\pm 1.0\%$ relative (including the digestion step)
- Recovery is greater than 99.5% at nitrogen levels between 1 and 200mg

Standard Features:

- Variable output steam generator speeds up operation for fast, effective test runs
- Accurate bellows pumps give long-term stability in dispensing reagents

Design:

- Consists of a microprocessor-controlled distilling unit with tube emptying and automatic addition of receiver solution
- Self adjusting cooling water control conserves water
- Temperature control on distillate ensures accurate results
- Built-in variable output steam generator for deionized water or tap water
- Alkali/water/receiver/waste tanks with level sensors

Safety Features:

- Sensors for tube in place, safety door and distillate temperature
- Alarms for reagent availability
- Level/overpressure sensors for steam generator
- Steam Addition for Equilibration technology reduces exothermic reaction when alkali is added to the acid/salt digestate and eliminates need for manual predilution of samples

Inclusions:

- Tanks with level sensors for alkali/water/receiver solution/waste
- 1 ea digestion tube 250 ml;
- 1 ea digestion tube 100 ml;
- Combi-adapter/ **equivalent**
- 1 ea water chiller
- 1ea User Manual

Other inclusions:

- Minimum of one year warranty on parts and services
- Inclusive of compatible AVR
- Product installation from a qualified product specialist/ application chemist and on-site applications training on the use of equipment

- Certificate of Warranty
- Schedule PMS
- Inclusive on-site calibration with certificate
- After sales-service schedule shall be provided

2) 1 UNIT FIBER EXTRACTOR/ANALYZER

ABC: P 1,400,000.00

End-user: C.Baltazar

Specifications:

- Sample size: 0.5 - 3 g
- Measuring range: 0.1% - 100%
- Capacity per batch: Up to 6 samples simultaneously
- Capacity per day: Up to 36 analyses (crude fibre method acc. to Weende) per day
- Repeatability: ± 1 % relative at 5% - 30% fibre level
- Accuracy: According to official methods
- Power supply: 200-230V ± 10 %, 50-60 Hz
- **Power Consumption: range from 1.000 kW-1.5kW**
- Water Supply: Tap water for condensors (appr. 2 l/min) and water aspirator (during filtration)

Features:

- Performs Crude Fibre (CF), Neutral Detergent Fibre (NDF), amylase treated Neutral Detergent Fibre (aNDF), Acid Detergent Fibre (ADF) and Acid Detergent Lignin (ADL)
- Six samples processed simultaneously
- Accessories for batch handling
- Integral extraction and filtration
- No sample transfer and no loss of sample
- Separate unit for solvent dehydration, lignin determination and defatting
- High reproducibility of conditions and results
- Saves time and laboratory space
- Minimal downtime and service with long-life components

Inclusions:

- 1 pc Acid tank for crude fiber (20L and above)
- 1 pc Alkali tank for crude fiber (20L and above)
- 1 pc NDS tank for NDF (20L and above)
- 1pc ADS tank for ADF (20L and above)
- 1 ea Reflector
- 1 ea Reagent bottle 1
- 1 ea Reagent bottle 2
- 1 ea Water spray device
- 1 ea Water aspirator
- 1 ea Holder for 6 crucibles
- 4 ea crucibles P2 6/set
- 1 ea user manual
- Scrubber for Kjeldahl Digestor
- Cold Extraction Unit

Other inclusions:

- Minimum of one year warranty on parts and services
- Inclusive of compatible AVR
- Product installation from a qualified product specialist/ application chemist and on-site applications training on the use of equipment
- Certificate of Warranty
- Schedule PMS
- Inclusive on-site calibration with certificate
- After sales-service schedule shall be provided

Specifications of Cold Extraction Unit*Features:*

- For defating of samples
- For extraction at ambient temperature e.g. lignin determination and for solvent dehydration of fibre residues
- Includes: 1 ea Spray bottle 500 ml (red), 1 ea crucible P2 St (40-100um) 6/set, 1 ea AVR

3) 1 UNIT MUFFLE FURNACE

ABC: P 300,000.00

End-user: C.Baltazar

Specifications:

- Capacity: 0.5 Cubic Feet, 14 Liters
- Temperature Range: 100° to 1200°C
- Interior Dim: minimum of 6.8"H x 12.8"W x 10"D
- Temp Uniformity: $\pm 2.2^{\circ}\text{C}$ at 1000°C
- Temp Stability: $\pm 0.3^{\circ}\text{C}$ at 1000°C
- Power Output: maximum of 3095 Watts
- Amperage: maximum of 12.9A
- Electrical: 240V 50/60Hz

Key Features:

- Four heating elements are located on the chamber top, bottom and sides for enhanced temperature uniformity
- Built-in vent port removes undesirable contaminants and moisture to extend the life of the element and unit
- Rear of chamber incorporates a 0.38-inch diameter port for monitoring chamber temperatures with independent measuring devices
- Optional stainless-steel shelf doubles load capacity (maximum temperature of 900°C)
- Door safety switch stops power to heating elements when door opens
- Thermocouple break protection cuts power to the heating elements, preventing a thermocouple failure runaway condition

Temperature Controllers

- Digital single set point control (A1): Single display shows actual temperature or setpoint

Inclusions:

- Cord and plug set
- Chopper Grinder

Other inclusions:

- Minimum of one year warranty on parts and services
- Inclusive of compatible AVR
- Product installation from a qualified product specialist/ application chemist and on-site applications training on the use of equipment
- Certificate of Warranty
- Schedule PMS
- Inclusive on-site calibration with certificate
- After sales-service schedule shall be provided

Specifications of Chopper Grinder:

- High-speed, 2-pole induction motor
- Dishwasher safe blades, bowls and covers
- Stackable bowls for compact storage

Includes: Blades for Chopping and Grinding

Features:

- The chopping assembly consists of a work bowl with a two-blade hub designed for thorough, fast and efficient chopping of garlic, shallots and onions, as well as leafy herbs such as basil, rosemary, parsley and thyme. The cover has two protected openings for the addition of liquids, oils or eggs, even while motor is running.
- The grinding assembly features a unique, patent-pending work bowl with cover that has a specially designed three-blade hub for grinding of spices and hard foods such as Parmesan and Romano cheeses, hard chocolate, nuts, coffee beans, peppercorns, allspice, celery seed and mustard seed. The cover is closed on top so nothing escapes. Includes a handle for easy removal.
- Unit features heavy-duty construction. Enlarged, 1/3 HP motor accelerates quickly and maintains high speed for quick and efficient chopping and grinding. Unit is UL listed and has a one-year, limited manufacturer's warranty.

4) 1 UNIT VERTICAL ULTRA LOW FREEZER

ABC: P 850,000.00

End-user: E. Atabay

Specifications:

Temperature range: -40 to -86°C

Ambient Temperature Range: 15 to 32°C

Capacity: 350-363L

External Dimension (WHD): ≤ 96x80x188cm

Number of outer door: 2

Number of inner door: 4

Net Weight: 270-290kg

Features:

- 350-363 liter capacity
- 4 individual inner doors
- Individual inner doors can be opened independently to minimize sample exposure.
- Inner door slip-joint hinge design allows for easy door dismantling during maintenance and cleaning.
- Triple gasket seal provides maximum protection against thermal intrusion.
- High-performance reliable compressors.
- System is optimized to provide maximum efficiency in even the most extreme ambient conditions.
- Allows the freezer door to be opened shortly after adding samples.
- **Stainless steel**
- Main door slip-joint hinge design allows for easy door dismantling during freezer installation in a lab with small door opening.
- Simple controller, with large display of actual temperature and clear indication of alarms (high/low temp, hot condenser, low battery)
- **Alarm list: Compressor alarm, Sensor alarm, Power shortage audiovisual alarm: compact with battery as backup to monitor status of the actual temperature of machine during power failure.**

Other inclusions:

- Minimum of one year warranty on parts and services
- **Inclusive of 6KVA (Uninterrupted power supply) and AVR**
- Product installation from a qualified technical representative and on-site applications training on the use of equipment
- Certificate of warranty
- Schedule of PMS
- Inclusive of on-site calibration with certificate
- After sales-service schedule shall be provided

5) 1 UNIT UPLC FLUORESCENCE DETECTOR

ABC: P 950,000.00

End-user: M. Villanueva

OPERATING SPECIFICATIONS:

Wavelength Range	200 to 890 nm (Excitation) 210 to 900 nm (Emission)
Bandwidth	20 nm
Wavelength accuracy	±3 nm
Wavelength Repeatability	±0.25 nm
Sensitivity*	S/N > 1000 (Raman spectrum of H ₂ O)
Measurement Range	0.001 to 10,000 EU
Data Acquisition	Up to 80 Hz
Unattended Operation	Leak sensors, full diagnostic data captured through console software

OPTICAL COMPONENT SPECIFICATIONS:

Light Source	Hg/Xe arc lamp (1000 hour warranty)
Flow cell design	Axially illuminated
Cell Volume	< 2 µL
Pressure Limit	500 psi
Wetted Materials	Stainless steel, fused silica, FEP, PEEK

ELECTRICAL SPECIFICATIONS:

Power Requirements	100 to 240 VAC
Line Frequency	50 to 60 Hz
Power Consumption	280 VA (Nominal) (minimum)
Outputs	Four outputs (2 Analog and 2 Event)
Inputs	Four event inputs

*Conditions: 2Hz, 2sFTC, Ex416 nm, Em 365 nm, Single λ mode

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	4 to 40°C (39 to 104°F)
Operating Humidity	<95%, Non-Condensing
Compliance	IVD, CE Mark, CSA, C-tick and UL

Other inclusions:

- Inclusive of calibration of UPLC equipment prior to installation of fluorescence detector as accessory of the equipment
- Minimum of one year warranty on parts and services
- Installation of the equipment should be done by a qualified technical specialist and on site applications training on the use of equipment
- Certificate of Warranty

- Schedule PMS
- Inclusive on-site calibration with certificate
- After sales-service schedule shall be provided