



May 12, 2021

Bid Bulletin No. 2

Name of Project:	2021-07G: ACQUISITION OF TECHNOLOGY COMMERCIALIZATION LABORATORY EQUIPMENT FOR THE PROVISION OF HIGHER EDUCATION SERVICES
	ABC: P4,000,000.00 (Lot 1 – P240,000.00; Lot 2 – P3,760,000.00)

Modification in the Technical Specification

This Bid Bulletin No. 2 is issued to modify or amend items in the Bidding Documents for the above cited project. This shall form an integral part of the said Bidding Documents. The changes in the technical description shall also apply to the Schedule of Requirements and Price Schedules found in the Bidding Documents

Section VII. Technical Specifications

Item	From	To
Lot 1: Air-conditioning Unit		
1	2.0 HP Split Type Wall Mounted Inverter ACU Maximum cooling capacity at least 19,694 Btu/hr and 20,777kl/hr EER: 13.0 Btu/hr and 13.7kl/hr Refrigerant Type: R410a Eco-Friendly Refrigerant Power supply: 220-230V/ 60Hz 1 Single Phase Power Consumption: 1725W Rated Current: 7.5A Room Area Capacity: 23 – 33 Sqm Wireless Remote Control Timer Switch FEATURES : 2 Way Draining Digital Display Fast Cooling Refrigerant Leakage Detect Eco Mode 3M filter Self –diagnosis Refreshed Air Flexible Installation Easy Installation & Maintenance	No modification



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	<p>Anti-Corrosion Low Noise Cold Catalyst Technology 1 year warranty parts and service ** 5 years warranty on compressor* With installation and Electricals</p>	
Lot 2: Laboratory Equipment		
1	<p>SPECTROPHOTOMETER, Optical Specifications: -Wavelength Range: 190 - 1100 nm. -Spectral Bandwidth (Slit Width): 4 nm. -Monochromator: Single beam Littrow type, grating 1200 lines/mm. -Wavelength Accuracy: ± 0.8 nm. -Wavelength Repeatability: ± 0.5 nm. -Wavelength Calibration: Automatic at start. -Light Source: Tungsten halogen/deuterium lamp. -Detector: Solid silicon photodiode. -Photometric Readout: 1/4 VGA 320 x 240 pixels (dots) backlit LCD. -Photometric Range: 0 to 200%T / -0.3 to 3.0 A / 0 to 9999 °C. -Photometric Accuracy: $\pm 0.5\%$T. -Zero Drift: Baseline Flatness: ± 0.004 A. -Stability: 0.002 A/h at 500 nm. -Stray Light: Scanning Speed: High, medium, low maximum 1000 nm/min.</p>	<p>SPECTROPHOTOMETER, Optical Specifications: -Wavelength Range: 190 - 1100 nm. -Spectral Bandwidth (Slit Width): 4 nm. -Monochromator: Single beam Littrow type, grating 1200 lines/mm. -Wavelength Accuracy: not more than ± 0.8 nm. -Wavelength Repeatability: not more than ± 0.5nm -Wavelength Calibration: Automatic at start. -Light Source: Tungsten halogen/deuterium lamp. -Detector: Solid silicon photodiode. -Photometric Readout: 1/4 VGA 320 x 240 pixels (dots) backlit LCD. -Photometric Range: 0 to 200%T / -0.3 to 3.0 A / 0 to 9999 °C. -Photometric Accuracy: $\pm 0.5\%$T. -Zero Drift: Baseline Flatness: ± 0.004 A. -Stability: 0.002 A/h at 500 nm. -Stray Light: Scanning Speed: High, medium, low maximum 1000 nm/min. -includes Training with end Users, Commissioning and Installation -Certificate of Distributorship -Warranty : One (1) Year on Parts and on Service.</p>
2	<p>EXHAUST HOOD, Specifications: -Standard Dimensions (LxWxH)(mm): 900 x 800 x 650 -Strong Ventilation -Long Lasting Grade 304 Stainless steel Material -Equipped with: 1. Removable Stainless-Steel Baffle Filter Effectively separates Air and Fume as being exhausted 2. With motor exhaust Fan and Lamp</p>	<p>EXHAUST HOOD, Specifications: -Standard Dimensions (LxWxH)(mm): 900 x 800 x 650 -Strong Ventilation -Long Lasting Grade 304 Stainless steel Material -Equipped with: 1. Removable Stainless-Steel Baffle Filter Effectively separates Air and Fume as being exhausted 2. With motor exhaust Fan and Lamp -Including Installation and</p>



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		<p>Commissioning</p> <ul style="list-style-type: none"> -Certificate of Distributorship -Warranty: One (1) Year on Parts and on Service.
3	<p>VISCOSIMETER, Speeds: 100, 50, 20, 10, 5, 2.5, 1, 0.5 Accuracy : +1% of FullScale Range in use Repeatability: +0.2% of Full Scale range in use Operating Temperature: -20 C (-4F) to 65 C (149F)</p>	<p>VISCOSIMETER, Speeds: 100, 50, 20, 10, 5, 2.5, 1, 0.5 Accuracy : +1% of Full Scale Range in use Repeatability: +0.2% of Full Scale range in use Operating Temperature: -20 C (-4F) to 65 C (149F)</p> <ul style="list-style-type: none"> -includes Training with end Users, Commissioning and Installation -Certificate of Distributorship -Warranty : One (1) Year on Parts and on Service.
4	<p>INCUBATOR, Temperature range: ambient temperature plus 5 °C to 100 °C</p> <ul style="list-style-type: none"> - High temperature accuracy thanks to APT.line technology - Natural convection - Controller with LCD display - Electromechanical control of the exhaust air flap - Inner door made of tempered safety glass - 2 chrome-plated racks - Stackable - Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm - Ergonomic handle design - USB port for recording data <p>Temperature range 5 °C above ambient temperature to [°C]: 100 Temperature variation at 37 °C [± K]: 0.4 Temperature fluctuation at 37 °C [± K]: 0.1 Heating-up time to 37 °C [min]: 55</p> <p>Electrical data Rated Voltage [V]: 230 Power frequency [Hz]: 50/60 Nominal power [kW]: 0.35 Unit fuse [A]: 6.3 Phase (Nominal voltage): 1~</p> <p>Measures Interior volume [L]: 115 Measures - Doors Unit doors: 1 Measures - Internal Dimensions</p>	<p>INCUBATOR, Temperature range: ambient temperature plus 5 °C to 100 °C</p> <ul style="list-style-type: none"> - High temperature accuracy thanks to APT.line technology - Natural convection - Controller with LCD display - Electromechanical control of the exhaust air flap - Inner door made of tempered safety glass - 2 chrome-plated racks - Stackable - Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm - Ergonomic handle design - USB port for recording data <p>Temperature range 5 °C above ambient temperature to [°C]: 100 Temperature variation at 37 °C [± K]: 0.4 Temperature fluctuation at 37 °C [± K]: 0.1 Heating-up time to 37 °C [min]: 55</p> <p>Electrical data Rated Voltage [V]: 230 Power frequency [Hz]: 50/60 Nominal power [kW]: 0.35 Unit fuse [A]: 6.3 Phase (Nominal voltage): 1~</p> <p>Measures Interior volume [L]: at least 115 Measures - Doors</p>



	<p>Width [mm]: 510 Height [mm]: 530 Depth [mm] : 420 Measures - Outer dimensions Width net [mm]: 710 Height net [mm]: 735 Depth net [mm]: 605 Wall clearance sidewise [mm]: 100 Wall clearance back [mm]: 160 Environment-specific data Energy consumption at 37 °C: 25 Wh/h Fixtures Number of shelves (standard/maximum): 2/5</p>	<p>Unit doors: 1 Wall clearance sidewise [mm]: 100 Wall clearance back [mm]: 160 Environment-specific data Energy consumption at 37 °C: 25 Wh/h Fixtures -includes Training with end Users, Commissioning and Installation --Certificate of Distributorship -Warranty : One (1) Year on Parts and on Service.</p>
5	<p>KJELDAHL DIGESTION SET UP, Specifications: Heating places: 8 Size of tubes [ml]: 250/300 Temperature max. [°C]: 430 Temperature control accuracy [%]: +/- 0.5 Programs: 99 Display size [inch]: 2.4 Power consumption [W]: 1000 Dimensions W / D / H [mm]: 515 / 483 / 728 Weight [kg]: approx. 31 Nominal voltage [V]: 230 (115) Frequency [Hz]: 50 - 60 - Digestion tubes - KJELDATHERM® digestion block with two-tier console and operating unit - Insert rack for tube - Exhaust manifold with drip tray - Water jet pump - Isoversinic-tubing PRECISE TEMPERATURE CONTROLLER - Control accuracy +/- 0.5% - 99 programs with max. 40 heating stages - can be programmed - 30 predefined methods - Variable heating speeds. HIGH QUALITY COMPONENTS: - Aluminum digestion block with optimum energy utilization and effective all-round insulation - Enameled, acid-resistant surface - Sample tubes and extraction unit made of high quality - Duran® glass - Housing is extra corrosion-protected. SAFETY FEATURES: - Thermally insulated handles</p>	<p>KJELDAHL DIGESTION SET UP, Specifications: Heating places: 8 Size of tubes [ml]: 250/300 Temperature max. [°C]: at least 430 Temperature control accuracy [%]: +/- 0.5 Programs: 99 Display size [inch]: 2.4 Power consumption [W]: 1000 Nominal voltage [V]: 230 (115) Frequency [Hz]: 50 - 60 including consumables PRECISE TEMPERATURE CONTROLLER - Control accuracy +/- 0.5% - 99 programs with max. 40 heating stages - can be programmed - 30 predefined methods - Variable heating speeds. SAFETY FEATURES: - Thermally insulated handles - Drip tray for collecting acid residue - Safety temperatures can be set - Acoustic and visual error warnings - Exhaust equipment switches on automatically - Overheating protection. WITH SCRUBBER: Specifications Nominal voltage [V]: 230 / 115 Frequency [Hz]: 50 - 60 / 60 Features: - Powerful suction washer; tried and tested quality for extraction and washing out of the inorganic acid fumes created during digestion.</p>



	<ul style="list-style-type: none"> - Drip tray for collecting acid residue - Safety temperatures can be set - Acoustic and visual error warnings - Exhaust equipment switches on automatically - Overheating protection. <p>WITH SCRUBBER: Specifications Dimensions W / D / H [mm]: 330 / 450 / 420 Weight [kg]: 19 Nominal voltage [V]: 230 / 115 Frequency [Hz]: 50 - 60 / 60 Features: - Powerful suction washer; tried and tested quality for extraction and washing out of the inorganic acid fumes created during digestion. - Condenses and neutralizes aggressive acid fumes, suited for all KJELDATHERM® systems: For digestion with sulphuric acid in nitrogen determination using the Kjeldahl method, digestion with aqua regia (heavy metal digestion) and with perchloric acid/nitric acid (hydroxyproline digestion). - Optimum extraction at exceptionally low operating costs. - With two-stage preseparator for elimination and neutralization. - Continuously adjustable suction capacity</p>	<ul style="list-style-type: none"> - Condenses and neutralizes aggressive acid fumes - Optimum extraction at exceptionally low operating costs. - With two-stage preseparator for elimination and neutralization. - Continuously adjustable suction capacity --includes Training with end Users, Commissioning and Installation -Certificate of Distributorship -Warranty : One (1) Year on Parts and on Service.
6	<p>KJELDAHL DISTILLATION UNIT, Specifications: Cooling water consumption [l/min]: 2 / 5 / 7 Cooling water pressure [bar]: 1-6 Distillation time [min] : 2 - 4 Recovery rate [%]: > 99.5 Reproducibility [%]: +/- 1 Detection limit N [mg] :0,1 Nominal voltage [VAC]: 230 / 115 Frequency [Hz]: 50 - 60 Nominal wattage [W]: 2200 Weight [kg]: 38 Dimensions W / D / H [mm]: 527 / 390 / 697 Order Information: Version Acid resistant, 230 V/ Equipped with acid resistant pumps WITH TANK LEVEL CONTROL AND 3 STORAGE TANK 10 LITERS, HDPE</p>	<p>KJELDAHL DISTILLATION UNIT, Specifications: Cooling water consumption [l/min]: 2 / 5 / 7 Cooling water pressure [bar]: 1-6 Distillation time [min] : 2 - 4 Recovery rate [%]: > 99.5 Reproducibility [%]: +/- 1 Detection limit N [mg] :0,1 Nominal voltage [VAC]: 230 / 115 Frequency [Hz]: 50 - 60 Nominal wattage [W]: 2200 - including consumables -includes Training with end Users, Commissioning and Installation -Certificate of Distributorship -Warranty: One (1) Year on Parts and on Service.</p>
7	<p>FIBER ANALYZER, CONSTRUCTION MATERIAL: epoxy painted stainless steel structure</p>	<p>FIBER ANALYZER, Manual or Automated system TYPE OF EXTRACTIONS: cold and hot</p>



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	<p>TYPE OF EXTRactions: cold and hot extractions SAMPLES: individually processed NUMBER OF SAMPLES: 3 positions SAMPLE QUANTITY: from 0,5 to 3 g REPRODUCIBILITY (RSD): ± 1% SAMPLE REMOVAL: air pump REAGENT DISCHARGE: peristaltic pump DIGITAL TIMER: 0 - 99 minutes with acoustic signal at the end TEMPERATURE: electronic regulation REAGENTS AND COOLING WATER : separated outlets DIGITAL TIMER: 0 - 99 minutes with acoustic signal at the end POWER: 900 W WEIGHT: 35 Kg (77 lb) DIMENSIONS (WXHXD): 530x620x390 mm (20.9x24.4x15.4 in) APPLICATIONS: Raw fiber (Weende, Wjstrom) Neutral or acid detergent treatment fiber (Van Soest) Lignin, Cellulose, Hemicellulose Including: RC 2 - F20700430 Heat shield - 40000167 PVC tube - 10001086 Glass crucible P2 - 6pcs - A00000140 2 x Reagent glass bottle - 10001112 Pincer for crucibles - 10000247 Crucibles holder - 40000166 Inlet tube – 10000280 Water spray device - A00001135</p>	<p>extractions SAMPLES: individually processed NUMBER OF SAMPLES: at least 3 positions SAMPLE QUANTITY: from 0,5 to 3 g SAMPLE REMOVAL: air pump (Optional) REAGENT DISCHARGE: peristaltic pump (Optional) DIGITAL TIMER: 0 - 99 minutes with acoustic signal at the end TEMPERATURE: electronic regulation REAGENTS AND COOLING WATER : separated outlets (optional) DIGITAL TIMER: 0 - 99 minutes with acoustic signal at the end Including: consumables -includes Training with end Users, Commissioning and Installation -Certificate of Distributorship -Warranty : One (1) Year on Parts and on Service.</p>
8	<p>SOXHLET FAT ANALYZER, Specifications: Max. Temperature [°C]: 425 Heating places: 6 Size of flasks [ml]: 250, 500 Dimensions W / D / H [mm]: 900 / 225 / 650 Weight [kg]: 14 Nominal voltage [V]: 230, 115 Frequency [Hz]: 50 - 60 Nominal wattage [W]: 2700 consisting of: - Serial heating bench EV16, 6-place, D 85mm, 425°C, 230VAC 50-60Hz 2700W - Interchangeable top mould AII, D 95 mm - Airbath insert (cobweb) SP II, for</p>	<p>SOXHLET FAT ANALYZER, Specifications: Max. Temperature [°C]: 425 Heating places: 6 Size of flasks [ml]: 250, 500 Nominal voltage [V]: 230, 115 Frequency [Hz]: 50 - 60 Nominal wattage [W]: 2700 consisting of: - Serial heating bench - Interchangeable top mould - Airbath insert - Support rod S - Soxhlet Glass Set (6 units) - Holder (2 units)</p>



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<p>interchangeable top mould AII</p> <ul style="list-style-type: none">- Support rod ST60, L 600 mm- Soxhlet Glass Set, 250ml (6 units)- Holder SHK2 (2 units)	<ul style="list-style-type: none">-includes Training with end Users, Commissioning and Installation-Certificate of Distributorship-Warranty : One (1) Year on Parts and on Service.
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This Bid Bulletin No. 2 is issued this 12th day of May, 2021 for guidance and information of all concerned


RONALD REAGAN T. ALONZO, Ph.D.
BAC Chairperson