



April 28, 2025

Bid Bulletin No. 2

Modification of the Technical Specifications and Answers to Clarifications

Name of Project:	2025-04G: Acquisition of Equipment and other Equipment for the Provision of Higher Education Services (Lot 2: Agricultural Laboratory Equipment)
ABC: Php4,140,000.00	

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

A. Section VII. Technical Specifications

Item	From	To
1	MULTIWATER PARAMETER QUALITY INSTRUMENT Auto Stable Built-in barometer Auto buffer recognition for US and NIST buffers Connectivity: USB 2.0 User-upgradeable software via USB and website Data Manager desktop software Data Memory: 5,000 data sets (data, date, time, user-defined info) Display: Graphic display with detailed Help; backlit display AND keypad DO Sensors: Polarographic or galvanic field sensors; self- stirring polarographic BOD sensor for the lab With needed Accessories YSI Galvanic Dissolved Oxygen Sensor YSI pH (ISE) Sensor YSI Ammonium (ISE) Sensor YSI Nitrate (ISE) Sensor YSI Chloride (ISE) Sensor	MULTIWATER PARAMETER QUALITY INSTRUMENT Auto Stable Built-in barometer Auto buffer recognition for US and NIST buffers Connectivity: USB 2.0 or USB 3.0 User-upgradeable software via USB and website Data Manager desktop software Data Memory: 5,000 data sets (data, date, time, user-defined info) Display: Graphic display with detailed Help; backlit display AND keypad DO Sensors: Polarographic or galvanic field sensors; self- stirring polarographic BOD sensor for the lab With needed Accessories Galvanic Dissolved Oxygen Sensor pH (ISE) Sensor Ammonium (ISE) Sensor Nitrate (ISE) Sensor Chloride (ISE) Sensor
2	6-PACK + CAROUSEL BUNDLE PIPETTORS (1) Pipette adjustable 0.1-2.5µL (1) Pipette adjustable 0.5-10µL (1) Pipette adjustable 2-20µL (1) Pipette adjustable 10-100µL (1) Pipette adjustable 20-200µL (1) Pipette adjustable 100-1000µL (1) Pipette carousel for 6 Pipette	6-PACK + CAROUSEL BUNDLE PIPETTORS autoclaveable: Yes single channel (1) Pipette adjustable 0.1-2.5µL (1) Pipette adjustable 0.5-10µL (1) Pipette adjustable 2-20µL (1) Pipette adjustable 10-100µL (1) Pipette adjustable 20-200µL (1) Pipette adjustable 100-1000µL (1) Pipette carousel for 6 Pipette
3	DIGITAL BOTTLETOP, BURETTE/DISPENSER; 50ML – CLEAR Clear Bottle Min Volume (mL)0.01 Max Volume (mL) 50 Division (mL)0.01	DIGITAL BOTTLETOP, BURETTE/DISPENSER; 50ML - CLEAR 1x Clear Bottle Min Volume (mL)0.01 Max Volume (mL) 50 Division (mL)0.01 Accuracy±0.2%



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE

Office of Bids and Awards Committee

Pinaod, San Ildefonso, Bulacan, Philippines 3010

	<p>Accuracy\pm0.2%</p> <p>Reproducibility\pm0.1%</p> <p>Wetted Parts Borosilicate glass, ceramic, ETFE, FEP, PFA, platinum-iridium, PP, and PTFE</p>	<p>Reproducibility\pm0.1%</p> <p>Wetted Parts Borosilicate glass, ceramic, ETFE, FEP, PFA, platinum-iridium, PP, and PTFE</p> <p>Offers three-digit resolution for volumes under 20 mL</p> <p>Requires no switching between filling and titrating</p> <p>Can be set for 2 or 3 digits below 20 mL</p>
4	<p>DIGITAL BOTTLETOP, BURETTE/DISPENSER; 50ML – AMBER</p> <p>Amber Bottle</p> <p>Min Volume (mL)0.01</p> <p>Max Volume (mL)50</p> <p>Division (mL)0.01</p> <p>Accuracy\pm0.2%</p> <p>Reproducibility\pm0.1%</p> <p>Wetted Parts Borosilicate glass, ceramic, ETFE, FEP, PFA, platinum-iridium, PP, and PTFE</p>	<p>DIGITAL BOTTLETOP, BURETTE/DISPENSER; 50ML – AMBER</p> <p>1x Amber Bottle</p> <p>Min Volume (mL)0.01</p> <p>Max Volume (mL)50</p> <p>Division (mL)0.01</p> <p>Accuracy\pm0.2%</p> <p>Reproducibility\pm0.1%</p> <p>Wetted Parts Borosilicate glass, ceramic, ETFE, FEP, PFA, platinum-iridium, PP, and PTFE</p> <p>Offers three-digit resolution for volumes under 20 mL</p> <p>Requires no switching between filling and titrating</p> <p>Can be set for 2 or 3 digits below 20 mL</p>
5	<p>BENCHTOP METER, PH ELECTRODE, CONDUCTIVITY/TEMP PROBE, WITH SOFTWARE AND STAND</p> <p>pH</p> <p>pH Range –2.000 to 20.000</p> <p>Resolution 0.001, 0.01, 0.1 pH</p> <p>Accuracy \pm0.002 pH</p> <p>Calibration Up to 6 (USA, NIST, DIN, or custom buffer sets)</p> <p>mV</p> <p>Connectors BNC</p> <p>Range \pm2000.0 mV</p> <p>Resolution 0.1 mV</p> <p>Accuracy \pm0.2 mV</p> <p>Calibration Offset up to +150</p> <p>Connectors BNC</p> <p>ISE</p> <p>Range 0.001 to 19,999 ppm</p> <p>Resolution 2 or 3 Digits</p> <p>Accuracy 0.5% full scale (monovalent), 1% full scale (divalent)</p> <p>Calibration Up to 8 points</p> <p>Connectors BNC</p>	<p>BENCHTOP METER, PH ELECTRODE, CONDUCTIVITY/TEMP PROBE, WITH SOFTWARE AND STAND</p> <p>pH</p> <p>pH Range –2.000 to 20.000</p> <p>Resolution 0.001, 0.01, 0.1 pH</p> <p>Accuracy \pm0.002 pH</p> <p>Calibration Up to 6 (USA, NIST, DIN, or custom buffer sets)</p> <p>mV</p> <p>Connectors BNC</p> <p>Range \pm2000.0 mV</p> <p>Resolution 0.1 mV</p> <p>Accuracy \pm0.2 mV</p> <p>Calibration Offset up to +150</p> <p>Connectors BNC</p> <p>ISE</p> <p>Range 0.001 to 19,999 ppm</p> <p>Resolution 2 or 4 Digits</p> <p>Accuracy 0.5% full scale (monovalent), 1% full scale (divalent)</p> <p>Calibration Up to 6 points - 8 points</p> <p>Connectors BNC</p>
6	<p>LCD DIGITAL MAGNETIC HOTPLATE STIRRER</p> <p>7 x 7 in. Magnetic Hot Plate Stirrer</p> <p>Digital speed controlling, max. speed at 1500 rpm</p> <p>Work plate temperature is optimized up to 550°C.</p> <p>Two rotating knobs enable easy adjustment of speed and temperature</p> <p>Heat only, stir only or heat and stir together functions</p> <p>Remote control able, providing PC control and data transmission</p>	<p>No Changes</p>
7	<p>PHASE CONTRAST AND DARK FIELD MICROSCOPE</p> <p>Head: Binocular</p> <p>Eyepieces: 10x/22mm</p> <p>Nosepiece: 5 Place Nosepiece</p>	<p>PHASE CONTRAST AND DARK FIELD MICROSCOPE</p> <p>Head: Binocular</p> <p>Eyepieces: 10x18mm - 10x22mm</p>



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE

Office of Bids and Awards Committee

Pinaod, San Ildefonso, Bulacan, Philippines 3010

	<p>Objectives: Plan Phase 10x, 20x, 40x, 100x Oil Stage: Mechanical XY Condenser: Phase turret condenser - brightfield, ph1, ph2, ph3, darkfield Focusing: Coarse & Fine Illumination: Halogen w/ blue filter</p> <p>Inclusions: compatible AVR initial calibration certificate 1 year warranty on parts and services</p>	<p>Nosepiece: 5 Place Nosepiece or Quintuple reversed nosepiece (5 positions) Objectives: Plan Phase 10x, 20x, 40x, 100x Stage: Mechanical XY Condenser: Phase turret condenser - brightfield, ph1, ph2, ph3, darkfield Focusing: Coarse & Fine Illumination: Halogen w/ blue filter</p> <p>Inclusions: compatible AVR initial calibration certificate</p>
8	<p>DIGITAL ORBITAL SHAKER DIGITAL FEEDBACK CONTROL Shaking Motion Orbital Motion Speed Range 10 ~ 300 rpm Max. Load 10 kg Amplitude of Rotation (mm) 20, 30, 40 Available (30 as Factory Default) Motor Brushless DC Motor Permissible Ambient Temperature Ambient +5 ~ 50°C Permissible Relative Moisture 85% Timer & Alarm 99hr 59min (with Continuous run.), Error status & Timer-end Display Digital LCD with Back-Light Function Controller Programmable Digital Feedback Controller</p>	<p>DIGITAL ORBITAL SHAKER DIGITAL FEEDBACK CONTROL Shaking Motion Orbital Motion Speed Range 10 ~ 300 rpm Max. Load 10 kg Amplitude of Rotation (mm) 20 - 40</p> <p>Motor Brushless DC Motor Permissible Ambient Temperature Ambient +5 ~ 50 °C Permissible Relative Moisture 85% Timer & Alarm 99hr 59min (with Continuous run.), Error status & Timer-end Display Digital LCD with Back-Light Function Controller Programmable Digital Feedback Controller</p>
9	<p>DIGITAL RECIPROCATING SHAKER 10~300 RPM, LOW NOISE WITH PROGRAMMABLE DIGITAL FEEDBACK CONTROL Shaking Motion Reciprocating Speed Range 10 ~ 300 rpm Amplitude of Rotation (mm) 20, 30, 40 Available Timer & Alarm 99hr 59min (with Continuous run.), Error status & Timer-end Display Digital LCD with Back-Light Function Controller Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn+Pus) Program Function 10 Steps, 6 Programs Platform Universal Platform for various Shapes & Size of Flask Durable & Flexible Plastic Flask holder Alarm (Error Status and Timer-end)</p>	<p>DIGITAL RECIPROCATING SHAKER 10~300 RPM, LOW NOISE WITH PROGRAMMABLE DIGITAL FEEDBACK CONTROL Maximum Load: 8kg - 10kg Shaking Motion Reciprocating Speed Range 10 ~ 300 rpm Amplitude of Rotation (mm) 20 - 40 Timer & Alarm 47h 59min - 99hr 59min (with Continuous run.), Error status & Timer-end Display Digital LCD with Back-Light Function Controller Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn+Pus) Program Function 10 Steps, 6 Programs or Manual Platform Universal Platform for various Shapes & Size of Flask Durable & Flexible Plastic Flask holder It will be used for 250 - 500 ml Erlene Meyer Flask (Pyrex). Alarm (Error Status and Timer-end)</p>
10	<p>SCIENTIFIC VORTEX MIXER - Deal for Mixing Solutions in Test Tubes or Small Flasks with Circular, Oscillating Movement - Variable Speed Control Allows Slow Speed Shaking Action up to High Speed Vortexing - Gentle Mixing to Re-suspending Pellet - Continuous-run or touch-activated run modes. - Powerful motor for efficient mixing - Optimized counterbalance system minimizes vibration.</p>	<p>SCIENTIFIC VORTEX MIXER Speed Range: 0~3300 rpm Speed Display: Scale Run Type: Touch operation Mixing Motion: Orbital Orbital Diameter: 2mm 6 mm Motor Type: Shaded pole motor Motor Rating Input: 58 W Motor Rating Output: 10 W Permissible Ambient Temperature: 5 - 40 °C Permissible Relative Humidity: 80% RH Protection Class: IP21</p>



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE
Office of Bids and Awards Committee
Pinaod, San Ildefonso, Bulacan, Philippines 3010

	<ul style="list-style-type: none">- Special designed silicon feet absorb vibration at high speeds.- Electronic speed control for constant speed even during changes in load- Universal Head for a variety of mixing applications- Accepting vessels up to 76mm diameter- MBR(Methyl Methacrylate Butadiene Rubber) feet for ultra stability and vibration damping	Power Supply: 110–120V / 220–230V, 50/60 Hz Variable speed of 0 to 3,000rpm for gentle shaking to rapid mixing of samples Touch or continuous operation mode Includes a standard top head for mixing a single test tube or other small vessel up to 30mm in diameter Electronic speed control maintains constant speed even during changes in load
11	SOIL COLOR BOOK – FOR SOIL <ul style="list-style-type: none">- 10Y and 5GY soil chart for glauconite soils,- 5R soil chart for Australia and Southeast Asia-7.5R soil chart for tropical and semi-tropical soils.- low chroma “white” page shows half steps from 8.5 to 9.5 in value with chromas of 1 and 2 for N, 7.5YR, 10YR, and 2.5Y.- Page to describe carbonate, silica, gypsum, and soluble salt precipitates and evaporites-Light gray pages to decrease sun glare.	No Changes
12	LABORATORY SPEED BLENDER (FOR ANIMAL OR PLANT TISSUE) 16-Speed Blender Large 40-oz (118mL) glass pitcher with a plastic lid. The lid can also be used as a convenient 60mL mixing cup.	No Changes
13	PORTABLE 60 LITERS/DAY DEHUMIDIFIER FOR LABORATORY Extraction rate: 60 liters/day at 80% RH Power rating: 920W, 220V, 60Hz, single phase with rollers casters Refrigerant: R410a, 240g Rated current: 4.3A Max noise level: 48dB Bucket capacity: 6.5 Liters Humidity control range: 35 to 80% Ambient environment 5-32C	No Changes
	All Items must have: At least 1 year warranty after sales services installation / assembly Training on how to use and maintain the equipment	All Items must have: At least 1 year warranty after sales services installation / assembly Training on how to use and maintain the equipment Equipment Manual Distributors Certificate

B. Answer to the Clarification of Suppliers on the Technical Specifications

Item	Clarification	TWG Answer
MULTIPARAMETER WATER QUALITY INSTRUMENT	Is data memory of 500 datasets acceptable?	End User required 5000 Data sets
	Can we omit the brand YSI on the accessories, so that we can also offer other brands that are equivalent to your requirements.	YSI brand was removed
DIGITAL BOTTLETOP, BURETTE/DISPENSER; 50ML - CLEAR	The specifications posted are for the clear bottle with a max capacity of 50mL.Are we correct in assuming that the item being purchased is a 50mL clear bottle?	Clear bottle is included in the Specifications. We can accept adjustment to some specification, but the below requirements are absolute.



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE
Office of Bids and Awards Committee
Pinaod, San Ildefonso, Bulacan, Philippines 3010

		<ul style="list-style-type: none"> • Offers three-digit resolution for volumes under 20 mL • Requires no switching between filling and titrating • Can be set for 2 or 3 digits below 20 mL
	We would like to clarify in this item, that this digital Burette dispenser must come with a clear bottle? The specification written down was for the digital bottle top burette/ dispenser thus we would like to ask if we can offer any clear bottles that are compatible with the unit as long as ma me-meet yung specification nung bottle top?	<p>Clear bottle is included in the Specifications</p> <p>We can accept adjustment to some specification, but the below requirements are absolute.</p> <ul style="list-style-type: none"> • Offers three-digit resolution for volumes under 20 mL • Requires no switching between filling and titrating • Can be set for 2 or 3 digits below 20 mL
DIGITAL BOTTLETOP, BURETTE/DISPENSER; 50ML – AMBER	The specifications posted are for the amber bottle with a max capacity of 50mL. Are we correct in assuming that the item being purchased is a 50mL amber bottle?	<p>Amber bottle is included in the specifications We can accept adjustment to some specification, but the below requirements are absolute.</p> <ul style="list-style-type: none"> • Offers three-digit resolution for volumes under 20 mL • Requires no switching between filling and titrating • Can be set for 2 or 3 digits below 20 mL
	We would like to clarify in this item, that this digital Burette dispenser must come with an amber bottle? The specification written down was for the digital bottle top burette/ dispenser thus we would like to ask if we can offer any amber bottles that are compatible with the unit as long as ma me-meet yung specification nung bottle top?	<p>Yes, must have an amber bottle</p> <p>We can accept adjustment to some specification, but the below requirements are absolute.</p> <ul style="list-style-type: none"> • Offers three-digit resolution for volumes under 20 mL • Requires no switching between filling and titrating • Can be set for 2 or 3 digits below 20 mL
BENCHTOP METER, PH ELECTRODE, CONDUCTIVITY/TEMP PROBE WITH SOFTWARE AND STAND	<ol style="list-style-type: none"> 1. Are 4 (four) calibration points acceptable? 2. For the ISE, which ions are we specifically aiming to detect? 	<ol style="list-style-type: none"> 1. Adjusted the Calibration points, 6 point to 8 points, you can offer anything in between 2. For ISE, for pH (Hydrogen ions) and measuring the conduct electricity, related to total dissolved salts/ions (Monovalent or Divalent).
	Can we suggest to range the calibration point to five to six Para naman po maka offer po kami and hindi lang sya limited to certain brands?	Calibration was ranged, 6points – 8 points, you can offer anything in between.
PHASE CONTRAST AND DARK FIELD MICROSCOPE	Is 3W LED for illumination acceptable? LED lamps typically outperform halogen lamps in many aspects such as lifespan, energy consumption, heat generation and consistency in color	In terms of illumination, we prefer image quality produced over lifespan as this is the main objective of this item. If this meets the



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE
Office of Bids and Awards Committee
Pinaod, San Ildefonso, Bulacan, Philippines 3010

	<p>temperature. Our microscope additionally has Kohler Illumination which optimizes the light path to produce crisper images.</p> <p>In terms of the condenser, can we offer a more advanced dark field option using a condenser with reflective cardioid mirrors, paired with a 5 W LED and a 100x iris objective. This setup enables true 1000x dark field magnification with significantly improved image quality. Would that be of interest for your application?</p> <p>(justification: The condenser with cardioid mirrors and a powerful LED light gives much brighter and more focused illumination, which is essential for seeing very small details clearly at 1000x magnification in darkfield. The special 100x lens with its own adjustable iris helps fine-tune the image, making tiny structures stand out sharply. Compared to a phase turret condenser, which is designed for multiple modes and not specialized for darkfield, this setup gives much clearer, higher-contrast images when viewing tiny, nearly invisible samples)</p> <p>Q 2: In terms of the illumination light, can we offer a Kohler NeoLED since they are significantly longer lifespan than halogen bulbs and more energy-efficient, consuming less power to produce the same brightness as a halogen lamp?</p>	<p>minimum requirements it may be accepted.</p> <p>1. Yes you can offer more advance or higher than the specifications posted</p> <p>2. In terms of illumination, we prefer image quality produced over lifespan as this is the main objective of this item. If this meets the minimum requirements it may be accepted.</p>
DIGITAL ORBITAL SHAKER	<p>Is 19mm acceptable?</p>	<p>Specifications changed from fixed 20 30 40, to 20 – 40, you can offer anything in between 20-40. Based from the end-user 19mm is not acceptable</p>
DIGITAL RECIPROCATING SHAKER	<p>1. Is 22mm orbit diameter acceptable?</p> <p>2. Is Plate Type Brushless DC Motor acceptable?</p> <p>Plate-type BLDC motors provide a low-vibration, low- noise, and dust-free environment, especially beneficial for applications requiring stable and gentle shaking.</p> <p>3. Are these timer settings, continuous or up to 47h 59min, acceptable?</p> <p>Our offered unit has Beltless Magnetic Induction Drive that minimizes vibration, noise, heat generation. It makes stable, gentle shaking. Thus, this also ensures the shaker operates at the desired settings, even with slight variations in load or other factors.</p> <p>4. Our offered unit can be manually set at desired settings which enables flexibility per</p>	<p>1. Amplitude of rotation was changed from fixed 20, 30, 40 to ranged 20 – 40. You can offer anything in between 20-40</p> <p>2. Yes. Type of motor is not included in the specification.</p> <p>3. Timer settings was set to range, 47h 59min – 99hr 59min. You can offer anything in between</p> <p>4. Manual option was added</p> <p>5. Yes. It will be used for 250 - 500 ml Erlene Meyer Flask (Pyrex).</p>



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE
Office of Bids and Awards Committee
Pinaod, San Ildefonso, Bulacan, Philippines 3010

	run. 5. Is stainless steel spring type flask holder acceptable? May we clarify which flask size the holders will be used on?	
	May we know what is the maximum load capacity for this?	Maximum Load Capacity is 8kg to 10kg, you can offer anything in between.
6- Pack + Carousel Bundle Pipettors	1. We want to clarify regarding the "1 lot" stated in the schedule of requirement, is this "1 set"? 2. Aside from the carousel type, can we offer a linear stand?	1. one set is 1 (one) pack equal to 1 (one) lot. It must have 1 set of 6 Autoclavable one-channeled Pipettes (with varying volumes based on the request) 2. It must have a Carousel type rack.
	Please specify if this is single channel or multi channel	Single Channel
Scientific Vortex Mixer	May we know what the speed range is for this?	Speed range is 0-3000 rpm.
	There are no technical specifications indicated in the bid documents, only features from a specific brand. May we indicate the technical specifications of our offered brand in the Technical Compliance instead of typing "Comply"?	Specifications are added.
	With regards to the Bid Price Schedule in the Financial Component, may we request the BAC to remove the technical specifications in the financial bid form. Since the technical details have been discussed in the technical components, it seems redundant to have the technical specifications indicated as well in the financial components.	Technical specifications shall still be indicated in the Price Schedule.

For the guidance and information of all concerned.


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