

## **DECISION OF PRE BID MEETING**

**Tender for Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Faculty  
of Animal Science and Export Agriculture  
Department of Animal Science**

**Tender No** : UWU/G/NCB/17/04

**Date & Time** : 10<sup>th</sup> July 2017 at 09.00 am

**Venue** : Finance Division

At the Pre Bids Meeting following clarification were made against the bidders' questions.

- a. Changes in specifications – Specifications of following items were change at the Pre Bid Meeting( Refer annexure for new specification)

<b>Item No</b>	<b>Item</b>	<b>Reference Annexure</b>
1	Electro fisher	<b>Annexure 01</b>
2	BOD Incubator	
3	Canopies with ducting system	
4	Fume Hood	
5	Glassware washer	
6	Ice flake maker	
7	Micro Centrifuge	
8	Refrigerated centrifuge	
9	Rotary evaporation system with vacuum pump and chiller	
10	Uv-Visible spectrophotometer	

Chairman

Department Procurement Committee

Uva Wellassa University

TECHNICAL SPECIFICATIONS				
SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF LABORATORY EQUIPMENT FOR FACULTY OF ANIMAL SCIENCE AND EXPORT AGRICULTURE – DEPARTMENT OF ANIMAL SCIENCE				
No	Item	Specifications	Qty	Bidders' Response
1	Electro fisher	<b>Power</b>	1	
		Battery powered (24 V rechargeable battery)		
		Battery life: at least 40 minutes continuous working		
		Conductivity Range: 10 - 2000 $\mu\text{S}/\text{cm}^3$		
		Input Voltage: 24 V DC,		
		Output Voltage: 50 to 900 V in 5 V steps,		
		Output power: 400W continuous, 35,000W peak		
		40 minutes (or higher) battery life at maximum continuous usage		
		<b>Protection</b>		
		Overload protection		
		Tilt switch		
		Immersion sensors		
		Electrode out of water warning alarms		
		Sealed molded polyethylene and ABS case		
		Electrode pole switch		
		Emergency stop switch		
		Output Indicator		
		Quick release adjustable shoulder harness,		
		<b>Accessories (Should supply with equipment free of charge)</b>		
		Electrode ring and pole (Anode and Cathode),		
		Battery and Battery charger		
		Original catalogue		
		warranty certificate		
		<b>Other</b>		
		Backpack type		
		Able to work in any weather conditions		
		Waterproof (much preferred)		
		<b>Insulator safety suite, Gloves and Boots</b>		
		Water proof		
		<b>(If not supply free with device, quote as optional items)</b>		
		Non-electrical conductor material		
		<b>Warranty</b>		
		Two Years (or more) from the Manufacturer		
		<b>Training</b>		
		In house training should provide free of charge		
2	BOD Incubator	Incubation temp – 3c to 50c	1	
		Accept 5 BOD system		
		Volume- 215L		
		<b>Warranty: One Year (or more) from the Manufacturer</b>		
		Manufacturer authorization		
3	Canopies with ducting system	Dimension 32'' x 42 ''(inch)	2	
		<b>Stainless steel (304/316)</b> <b>(For a single story building)</b>		



4	Fume Hood	Fume hood should be high chemical resistant Polypropylene and one piece welded structure	1	
		Ducted system with blowers (Suitable for a single story building)		
		Exterior dimensions ( WxDxH) approximately 1800 x 800 x 2300 mm		
		Work space dimensions (WxDxH) approximately 1600x600x1100 mm		
		User-friendly digital control system including fan speed control, and displays for air pressure, signal light, operation time and alarms		
		Worktop should be chemical resistant (Purpose- to conduct Kjeldahl digestion)		
		Exterior – Welded white polypropylene structure with enhanced thermal characteristics		
		Front Sash Opening-720 mm or higher		
		Wind speed at 0.5+0.1 m/s, 100±FPM		
		Standard compliance to EN-14175 / ASHRAE 110-1995		
		Should have fluorescent lamp with safety cover		
		Noise level should be less than 52dB		
		Should have power outlet, water		
		<b>Warranty: Two Years (or more) from the Manufacturer</b>		
5	Glassware washer	Manufacturer authorization		
		External and internal surface cleaning of flasks, wide mouth bottles, Petri dish, beaker etc	1	
		Washing procedure- Please specify		
		Air heater with circulating fan, drying temperature can be set 80 or over °c		
		Programmable , please specify the number of programs		
		Capacity approximately 100 L or better		
		Washer chamber size WxDxH mm 600x600x450		
		Interior and exterior material should be stainless steel		
		Water consumption per cycle 30L		
		Water pressure minimum 0.5 Mpa		
		Noise Below 60 dBa		
		Power consumption below 10 Kw		
		Accessories should include beaker racks, combined racks, flask rack, petri dish racks and pipette racks		
		Power 220V/ 50-60Hz/ single phase		
		Manufacturer authorization required		
		Minimum warranty period – 3 Years		
		After sales services Please specify		
		<b>Warranty: One Year (or more) from the Manufacturer</b>		
		Manufacturer authorization		
6	Ice flake maker	Structure should be completely realized in stainless steel 18/10 AISI 304. Inside, the structure it includes a bin, realized in atoxic plastic material, where is stored the ice, when this bin is full, the machine should stop itself to produce ice. The bin is also insulated, to avoid the melting of the ice stored	1	
		Feet: made in plastic material, adjustable in height for leveling		
		Door: in the front part of the appliance is located the door plastic made that closes the storage bin		

		Water inlet and outlet: both located in the rear part of the appliance. The water inlet is 3/4" size, while the water outlet is 24 mm Ø. • Kind of ice : flake		
		Production (Kg/24h) : 90		
		Bin capacity (Kg) : 20		
		Cooling unit: bottom mounted, with the condensing unit compounded by 1 hermetic compressor and 1 finned condenser		
		Water consumption (litres/Kg): 1 (version A), 6,3 (version W)		
		Refrigerant: R404a CFC-free		
		Voltage (V/ph/Hz) : 220-230/1/50		
		Noise level (dB(A)) : ≤ 50		
		<b>Warranty: One Year (or more) from the Manufacturer</b>		
		Manufacturer authorization		
7	Micro Centrifuge	24 x 1.5/2.0 ml /eppendorf tube	1	
		Max. speed 14,000 rpm		
		Automatic lid opening		
		<b>Warranty: Two Years (or more) from the Manufacturer</b>		
		Manufacturer authorization		
8	Refrigerated centrifuge	LED display	1	
		Temperature 4°C to 40°C		
		Max speed up to 13000 rpm		
		With different Rotors (swing bucket rotor)for 15 ml, 50 ml, 250 ml tubes/bottles		
		<b>Warranty: Two Years (or more) from the Manufacturer</b>		
		Manufacturer authorization		
		With compatible UPS		
9	Rotary evaporation system with vacuum pump and chiller	Rotation - Very quiet motor (belt instead of gearwheel)	1	
		RPM from 20 to 280 / min		
		Vacuum seal - The inert PTFE sealing ring		
		Stop cock - Easy control of the vacuum, parallel aeration of the system and refilling of flask is possible.		
		Manual Action Lift - stroke distance 140mm - 160 mm approx.		
		Robust lift construction -Construction guarantees a long lifetime		
		Lift blocker to protect flasks against breakage		
		Control device for Vacuum regulation – Optional		
		Condenser – Vertical Condenser		
		1400 cm2 cooling surface		
		Water bath - Precise temperature range from room temperature to 95 °C		
		Water bath - Temperature adjustment is possible +/- 2°C		
		Prepared for up to 4 liter capacity flasks		
		1200 - 1500 W heating power for water bath		
		Enables quick distillation start		
		Additional glassware/consumable parts such as flasks/vapor duct/seal shall be quoted separately		
		<b>Rota vapor:</b>		
		Dimensions (L x H x D) : 450 - 500 x 600-650 x 500-550 mm approx.		
		Power consumption, 30W approx.		

		Rotation speed : 20 - 280 rpm		
		Enable the use of Flask sizes : 50 to 4000ml,		
		Need Additional 1000ml capacity evaporating and condensing flasks 3 each.		
		<b>Water Bath</b>		
		Power consumption, 1500- 1800 W		
		Bath size, 4 liter		
		Max. flask size, 4 liter		
		Digital temperature display actual and adjusting set temperature		
		Over temperature protection		
		<b>Vacuum Pump</b>		
		Suction capacity 1.5 meter cube per hour		
		Final vacuum 10 mbar /accuracy +/- 2 mbar		
		Power consumption 150 W		
		Pump - DC, Brushless		
		Material - PTFE, Chemical resistant diaphragm pump		
		<b>Recirculation Chiller</b>		
		Temperature range, -5°C to +25°C		
		Power consumption 850 W approx.		
		Temperature display - digital		
		Temperature regulation accuracy +/- 1 °C		
		Tank volume 1 L		
		Flow rate 2.5 L per min approx.		
		Pump pressure range, 0.5 – 0.7 bar		
		With Manufacturer warranty (Not less than 12months) & Manufacturer authorization		
10	Uv-Visible spectrophotometer	Operating principle must be with two beams: Absorption single-beam spectrophotometer with the reference beam.	1	
		Instrument should operate moment switched on with no warming up time.		
		Sample volume ranging from 400 µL to 4 mL.		
		Wave length range from 200 nm to 830 nm, with spectral scanning feature.		
		System should also allow using conventional quartz/glass/plastic cuvettes. (10mm)		
		Must have evaluation methods with factor, standard or standard series.		
		Must have Multi – wavelength, Dual wavelength applications with subtraction and division analysis.		
		Pre-programmed methods for a quick start.		
		Direct operation on the device, with no requirement for PC.		
		Measuring results (>1,000) can be saved directly on the device.		
		>100 method programs in memory		
		Spectral band width : < 4 nm		
		Photometric measuring range : 0 A to 3.0 A at 260 nm		
		Random error: $\leq 0.002$ if A = 0, $\leq 0.005$ (0.5 %) if A = 1		
		Systematic error: $\pm 1\%$ if A = 1		
		<b>Warranty: Two Years (or more) from the Manufacturer</b>		
		Manufacturer authorization		