

# Revised Technical Specifications or PB 18-03-11

Item	Specification	Statement of Compliance
1	<p>Seven (7) Units Top loading balance Capacity: <b>3000-4000g</b>; 0.01g Readability; Weighing Applications: Weighing, Parts Counting, Percent Weighing, Check Weighing, Animal/Dynamic Weighing, Totalization, Density Determination, Display Hold, Mole Weighing; Color Touchscreen Display; Weighing Units: mg, g, kg, ct, N, oz., ozt, dwt, lb, lb: oz., grin, hkt, sgt, twt, tical, tola, Custom unit 1.; 9.2 inches height; AutoCal, Internal calibration; readability; 15 weighing units plus 1 custom unit; Applications include weighing, parts counting, % weighing, dynamic weighing &amp; density determination; Includes RS232 interface (cable</p>	<p>Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of <b>ITB</b> Clause 3.1 (a)(ii) and/or <b>GCC</b> Clause 2.1(a)(ii)</p>

	<p>sold separately), integral security bracket, weigh below hook, up-front level indicator and backlit display</p>	
2	<p>Two (2) Units Thermohygrometer          Operating Range: 0 °C to 50 °C (32 °F to 122 °F); 0 %RH to 100 %RH; Calibrated Temperature Accuracy: ± 0.125 °C from 16 °C to 24 °C; Calibrated RH Accuracy: ±1.5 %RH from 20 %RH to 70 %RH; Inputs: Up to two sensors, measure temperature and relative humidity, detachable, cable-extendable, interchangeable, self-contained calibrations; Alarms: Password-protected visual, audible, and external alarms for temperature, temperature rate, RH, RH rate, and fault conditions; Power: 12 V dc from external 100 to 240 V dc power supply; Battery Backup: Standard 9 V battery enables continued measuring during power disruptions</p>	
3	<p>One (1) Unit Moisture probe          Can be used as stand-alone or connected to PC; Range: 0.000 to 1.000 Aw (0 to 100% RH); 41 to 122F (5 to 50C); Operating ambient: 0 to 99% RH (noncondensing); 14 to 140F (-10 to 60C); Accuracy: +/- 0.001Aw and +/- 0.3C; Power:230VAC; Digital display; Set includes: meter, probe, RS-232 cable, software, AC adapter, 14-mm and 40-mm sample cup holders, disposable sample cups, calibration standard</p>	
4	<p>Fourteen (14) Pieces Data Logger          barometric pressure, temp, humidity and dew point; industrial probe 137 mm (5"), cable 3 m (10'), stripped wire leads; Accuracy/Range: ±2.0 mbar/ 10 to 1100 mbar (1 to 110 kPa); Resolution: 0.1 mbar; Accuracy/Range: 10 to 90%: ±2%; Non-linearity: ±3%;</p>	

	<p>Hysteresis: <math>\pm 1\%</math> RH; Response Time: 8 seconds, tau  63%; Repeatability: <math>\pm 0.1\%</math>  Resolution: 0.1%, 12 bit;  Industrial Probe: <math>\pm 0.5^\circ\text{C}</math> for 5 to <math>45^\circ\text{C}</math> (<math>\pm 1^\circ\text{F}</math> for 41 to <math>113^\circ\text{F}</math>); up to <math>\pm 1.5^\circ\text{C}</math> for <math>-40</math> to <math>5^\circ\text{C}</math> and <math>45</math> to <math>85^\circ\text{C}</math> (up to <math>\pm 2.7^\circ\text{F}</math> for <math>-40</math> to <math>41^\circ\text{F}</math> and <math>113</math> to <math>185^\circ</math>; Probe Physical Dimensions: <math>16 \text{ } \varnothing \times 137 \text{ mm L}</math> (<math>0.63 \text{ } \varnothing \times 5 \text{'' L}</math>) Cable with DB9 or Stripped Leads: Length: 3 m (10') ;  Operating Temp: <math>-55</math> to <math>105^\circ\text{C}</math> (<math>-67</math> to <math>221^\circ\text{F}</math>); Ethernet (RJ45): Fixed or auto-negotiating 10/100BASE-T, Auto MDI/MDIX; Sensor: Digital 4-wire (DB9): removable 8 position screw terminals; Material: Polycarbonate case, with DIN rail mount; Embedded WEB Server: Serves WEB pages containing real-time data and live updated charts within definable time intervals; Software: OPC Server; macro for datalogging in Excel program; compatible with Windows operating systems  Inclusion: On site installation and training of end-user</p>	
5	<p>One (1) Set Data Logger  Sensor types: total solar radiation, LWS, Temp, Temp/ RH, precipitation and windspeed;  Input channels: 5 channels, each supporting 12-bit analog, 32-bit digital pulse; Weather-proof, UV and impact resistant IP55, NEMA 3R; 5 AA Alkaline or lithium batteries; Storage: 1mb (36,000 scans of all 5 ports); with interface cable and software interface; For outdoor</p>	
6	<p>Four (4) Units Moisture meter  Dielectric capacitance (50MHZ); for grains and seeds;  1-40 % measurement range; 240 ml sample volume;  with weight scale; automatic temperature correction by integrated thermistor; auto-power off; auto display for</p>	

	<p>level icon; digital LCD; 1.5V alkaline; "AA" size x 4 batteries; 240mW power supply; 125(W) x 205(D) x 215 (H) mm; approx 1.3 kg; with funnel; manual hopper (sample cup); brush; Operating Manual</p>	
7	<p>Four (4) Units Oven  240V, 50/60Hz, temp control-electronic; temp display-LED; temp range: Auxilliary functions of calibration offset and key-lock, safety features include self diagnostic circulating and overheat protection, circulating method: forced air circulation, temp range: 10 to 260°C, temp dist accuracy: less than 3.0°C ( at 260°C), max temp reaching time approx 90min, Internal capacity: 150-160L; Internal dimension: approx 600x500x500mm, External dim: approx 710x651x870mm (50° C to 225° C; uniformity @ 200° C; +/-0.05° C; sensitvty: +/-0.5° C); recovery time: 4 mins; 8 max adjustable shelves, number of trays: 6 – 8 trays</p> <p>Inclusion: (4pcs) AVR with anti surge protection suitable to the power requirement of the oven</p>	
8	<p>One (1) Unit Stereo microscope with accessories; Objectives Zoom Range: 0.66X-5.1X; Field Diameter (mm) : F24; Working Distance (mm) : 110; Stereo Angle ( °): 12; Viewing Angle ( °): 35; Video Output Distribution: Standard 0:80; Guide Rail Stand Focusing Distance (mm): 80; Pillar Stand Focusing Distance (mm): 115; Different video output connectors, built-in digital image model; Trinocular head port for easy addition of cameras and built-in illuminator; With Accessories: Universal T adapter for DSLRs</p>	

	Inclusion: with UPS (2-in-1)	
9	<p>Two (2) Units Gradient PCR Thermal Cycler  Capacity: (1 unit) 96 &amp; (1 unit) 384 well, 3-6 temperate zones; Program memory: <b>500 to 1000 typical programs</b> onboard; unlimited with USB flash drive expansion; Temperature range: 4–100°C; Temperature gradient: ±0.5°C of programmed temperature; Gradient temperature range: 4–100°C; PCR volume range: 10 - 100 µL; Maximum heating rate: 4-6.0oC / sec; Maximum cooling rate: 2- 4.0oC / sec; Temperature accuracy: ±0.2oC-0.5 (30-100oC); Ramp rate adjustable: <b>2.5 - 6°C/sec</b>; Display: color touch screen; Hot lid temperature range: 30oC -110oC; Max. number of steps: 30; Max. number of cycles: 100; Max. power consumption: 600 -700Watts; Input voltage: 50–60 Hz; 220–240; Interfaces: USB, LAN; Ambient temp: 15°C to 37°C;</p> <p>Inclusion:</p> <p>1 unit 2KVA and 1 unit 3KVA (AVR)  1 unit 2KVA &amp; 1 unit 3KVA (UPS)  Sample PCR Plates 384 &amp; 96 well;  One time preventive maintenance;  built-in internal calibration/  On site calibration &amp; installation  Two years warranty</p>	
10	<p>Two (2) Units Gel Vertical electrophoresis with power source (with 3 to 4 outlets)  Overall Dimensions: W x D x H (cm) 45 x 19 x 12; Dual;  Glass Plate, Dimensions: W x L (cm) 33 x 10; Slab Gel  Run Time: 30-90 min.; Inclusions:</p> <ul style="list-style-type: none"> <li>• Platinum electrodes;</li> <li>• Long-lasting silicone gaskets;</li> <li>• Safety cover with power leads;</li> <li>• White spring clamps;</li> <li>• 2 combs;</li> <li>• 2 sets of Gel Wrap spacers;</li> <li>• 2 sets of Gel Wrap glass plates;</li> <li>• 2 lengths of Gel Wrap gasket;</li> </ul>	

	<ul style="list-style-type: none"> <li>• Conversion plate for running one gel at a time</li> </ul> <p>Inclusion: One time preventive maintenance</p>	
11	<p>One (1) Unit Thermo mixer</p> <p>Allow mixing of aqueous solutions in various types of plates, tubes and vortex mixing, PCR plates (skirted, semi-skirted, unskirted)</p> <p>96 or 384 deep well plates, 0.2 ml PCR tubes and PCR strips</p> <p>0.5 ml microtest tubes</p> <p>1.5 ml / 2.0 ml microtest tubes;</p> <p>Speed range: 300 – 3000 rpm;</p> <p>Touch vortex speed: 3500 rpm;</p> <p>Orbit diameter: 3 mm;</p> <p>Operation mode: Timer, touch vortex and continuous operation;</p> <p>Digital time setting: 1sec – 99h 59min;</p> <p>Noise Level: &lt;50 dB;</p> <p>Voltage: AC 100-240V, 50/60Hz;</p> <p>Power: 40 to 45W;</p> <p>Fuse: 250A, 1A, Ø5x20;</p> <p>Dimension(W x D x H): not less than 196 x 270 x 170 mm;</p> <p>Permissible ambient temperature: 4 - 45°C;</p> <p>Permissible relative humidity: =70%</p> <p>Inclusion: One time preventive maintenance</p>	
12	<p>One (1) Unit Waterbath (with cover)</p> <p>Working temperature range from +18 °C to +99.9 °C</p> <p>Models with filling volumes from 4.8 to 30 L or higher</p> <p>Temperature stability of ± 0.2 °C</p> <p>Heating capacity up to 2 kW</p> <p>Bright display</p> <p>Mains switch is protected against spray water</p> <p>Integrated protection against running dry 220-240V,</p> <p>1 year warranty on parts and service.</p>	
13	<p>Supply, delivery and installation of One (1) Unit Refrigerated Microcentrifuge machine with 24 to 30 wells 10-15,000 rpm, maximum RCF 20.380G, 2mlx 24, -9 to 35 degrees,</p> <p>additional function flash and soft brake function,</p> <p>imbalance detection function, with features of safety</p>	

	<p>devices and alarm, 220-240V, 50-60 Hz, with energy saving function, ambient temp range 15-37 degrees, refrigerated,</p> <p>Rotor: (1pc) 24x1.5/2.0, (1pc) Centrifuge 4 standard microplates of 2 midi-deep well plates, (1pc) 8 conical tubes capacity or round buckets ok Tube capacity or plates: 4 plates</p> <p>1 year warranty on parts and service</p> <p>Inclusion: <b>With AVR</b> and One time preventive maintenance</p>	
14	<p>One (1) Unit Gel Documentation System Controlled by a protocol via application specific setup for image area, illumination source, filter, analysis, and reporting, fully automated, autofocus, applicable to Colorimetry, Densitometry upgradeable to Chemilluminescence, 3-7 position filters, stain-free imaging, maximum sample size is 28x36cm, trans-UV and epi-white are standard, 3 modes, CCD detector, <b>6-10 mega pixel</b> image resolution, 220-240V, user friendly image capture software, compatible to latest version of Windows and i-Mac, Ambient temperature 15-37C, operating humidity &gt;70%.</p> <p>1 year warranty on parts and service.</p> <p>Inclusion 1 set spare UV lamp, PC/desktop and printer, AVR and UPS. One time preventive maintenance One time calibration of camera</p>	
15	<p>One (1) Unit Spectrophotometer High performance, UV/Vis spectrophotometer, UV 10-380nm and Vis = 390-700nm Full Spectrum Scan 200-650nm, detection range dsDNA: 5-7,500 ng/μl, absorbance accuracy &lt; 1.75 % @ 0.7 A (0.67 nm path) @ 260 nm</p>	

	<p>of the reading, measure time 4- 6 seconds,  sample volume range 0.0 to 2.0ul,  standalone,  web based interface,  internal storage 6-9 GB, 220-240 volts,  USB LAN connection, durable, inert surfaces provide easy to clean, scratch resistant surfaces, touch-Screen glove compatible user friendly with AVR  With control panel &amp; lighting system.</p> <p>Warranty: 2 yrs service &amp; 1 year parts.</p> <p>Inclusion free service check up and cleaning for 1 year,</p>	
16	<p>One (1) Unit Biological Refrigerator (inverter type)  72 cu ft, 2-3 swing glass (clear) doors, 12 adjustable shelves, 1-10 degrees Celsius, 220-230 volts with AVR.  With digital type control panel &amp; lighting system.</p> <p>Warranty: 2 yrs service &amp; 1 year parts.</p> <p>Inclusion: free service check up and cleaning for 1 year</p>	
17	<p>One (1) Unit Ultralow freezer  High performance, temperature range ( -80 to -86 degrees, single door with four layer sealing structure, 4-5 shelves with 4-5 inner doors, stainless steel interior  Capacity: 14.9 Cubic feet, 421 liters  Dimension: 51.2cm x 17.7 x 28.2 cm  LCD, Touch screen, USB Port, with lock, energy saving function, 208V/220V 55-60hz, white, low noise,  Outside ambient temperature 15-37 degrees, 1 year warranty on parts and service and 5 years warranty for compressor,</p> <p>Inclusion AVR and one time preventive maintenance service.</p>	