

## **Amendment No. 01 to Bidding Document**

**Project Title:** Procurement of Laboratory Equipment Supply, Installation and Commissioning

**Bid Reference No.:** SLIBTEC/PROC/211/NCB/G&S/Procurement of Laboratory Equipment Supply, Installation and Commissioning

**Date of Issue:** 15<sup>th</sup> July 2025

### **Subject: Amendment to Bidding Document - Changes to Specifications**

This Amendment No. 01 is hereby issued to amend the specifications contained in the original Bidding Document issued on 08<sup>th</sup> July 2025 in accordance with the provisions outlined in that document. It is recommended that all bidders pay attention to the following modifications:

#### **1. Section Affected**

Section II – Technical Specifications

List of Goods and Delivery Schedule

#### **2. Amended Specification**

Item number 63 was removed from the tender.

Item number 62 was a quantity change to 2 units.

All Autoclaves should have the following standards and certifications as a mandatory requirement for the tender.

- ASME Section VIII Division I or Pressure Equipment Directive (PED) (2014/68/EU)
- For stainless steel of the pressure chamber, AISI 300 series

All BSLs should have the following standard and certifications as a mandatory requirement for the tender.

- ISO 14644 or NSF/ANSI 49 or EN 12469

All equipment should have an acceptable document proving the electrical safety of the equipment and the user as a mandatory requirement for the tender.

All equipment should have one of the following certificates.

performance tests, a QC report, or a factory-acceptable test report

Item No	Specification	Requirement	Priority	Bidders' Response (Yes / No)	Remarks
01	Equipment	Tri-Gas Incubator			
	Make	(Please specify)			
	Model and Model year	(Please specify)			
	Country of origin	(Please specify)			
	Direct Heat Chamber	Approximately 160L electropolished copper chamber with compact footprint, easily stackable	C		
		Adjustable, perforated shelving	C		
		Reversible exterior door (changing left to right or vice versa) for added flexibility			
	Chamber material	Copper	C		
	Active Airflow	In-chamber fans gently distribute clean, humidified air throughout the chamber ensuring homogeneous conditions	C		
		Fast recovery of all parameters ten minutes or less for stable culturing conditions	C		
		Auto-stop function disables fan operation during door openings to minimize air exchange	C		
	Filtration	In-chamber ULPA or equivalent to achieve ISO 5 clean room air quality in the culture chamber within five minutes or less and continuously filters the entire chamber air volume every 60 seconds or less	C		
		Continuous protection by minimizing the ability for contaminants to settle on interior surfaces	C		

	<b>Protected Humidity Reservoir</b>	<p>Directly heated water reservoir should provide stable high relative humidity levels, preventing culture desiccation</p> <p>Should have a condensation free inner chamber, prevents a breeding ground for contaminant</p> <p>Water level sensor indicates when a refill is needed</p>	<p>C</p> <p>C</p> <p>C</p>		
	<b>CO2 concentration range</b>	1 to 20%	C		
	<b>Lighting</b>	LED	C		
	<b>Temperature Range</b>	Ambient +3° to 55°C	C		
	<b>Relative Humidity</b>	90-95% at 37°C	C		
	<b>In situ sensors and probes</b>	<p>Should have dual temperature probes for over temperature protection with operational backup</p> <p>Choice of thermal conductivity (TC) with RH compensation or single beam, dual wavelength infrared (IR) CO<sub>2</sub> sensor</p> <p>O<sub>2</sub> control ranges 1 to 21% (hypoxic)</p>	<p>C</p> <p>C</p> <p>C</p>		
	<b>High temperature disinfection cycle</b>	<p>Overnight cycle simplifies cleaning and eliminates the need for separate autoclaving of parts</p> <p>180°C cycle assures uniform 6-log sterilization on all chamber surfaces</p>	C		
	<b>Intuitive, interactive Touchscreen Control</b>	Bright, door-mounted display for easy accessibility and viewing	C		
	<b>Certifications/Compliance</b>	CE, CSA or EC	C		

	<b>Documentation</b>	Manufacture product catalogues (hardcopies and softcopies) with the requested information	C		
	<b>Power requirement</b>	220-240 VAC, ~50 Hz, should provide a suitable online UPS with the capability of 15 min backup time	C		
	<b>Accessories</b>	Should be provided with Regulators, separate external gas probe (CO2 and O2)	C		
	<b>Warranty</b>	Local Agent should provide a warranty for the instrument from the manufacturer for 3 years or more with 2 years warranty for UPS system, maintenance of the equipment should be conducted every 06 months during the warranty period	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
04	<b>Equipment</b>	<b>Cell Imaging System</b>			
	<b>Make</b>	(Please specify)	C		
	<b>Model and Model year</b>	(Please specify)	C		
	<b>Country of origin</b>	(Please specify)	C		
	<b>Description</b>	Infinity-corrected optical system; RMS threaded objectives with 45 mm parfocal distance			
	<b>Imaging mode</b>	Fluorescence, brightfield, color brightfield, phase contrast	C		
	<b>Imaging methods</b>	Single color, multicolor, time lapse, Z-stacking, movie capture	C		
	<b>Illumination</b>	Adjustable-intensity LED light cubes with integrated hard-coated filter set and >50,000-hour life	C		

	<b>Light cube capacity</b>	4-position chamber, for 4 fluorescence cubes + brightfield	C		
	<b>Following light cubes should include (ex/em)</b>	DAPI (357/447 nm) GFP (470/525 nm) RFP (531/593 nm) Cy5 (628/692 nm)	C C C C		
	<b>Objective capacity</b>	5-position manual turret	C		
	<b>Objectives</b>	Set of objectives with a range of magnifications (20x, 40x, 60x) of high-quality long working distance (LWD) and (20x, 60x and 100x-oil immersion) coverslip-corrected objectives, specify the set of objectives provided. Suitable for Phase contrast, Fluorescence and Brightfield applications	C  C		
	<b>Condenser</b>	60-mm LWD condenser; 4-position turret with a clear aperture and 3 phase annuli	C		
	<b>Focus mechanism</b>	Automated focus with sub-micron (0.150 µm) resolution (single-step accuracy)	C		
	<b>Monochrome camera</b>	High-sensitivity 3.2 MP (2048 x 1536) CMOS sensor with 3.45 µm pixel resolution or higher	C		
	<b>Captured images</b>	16-bit RAW monochrome: TIFF, PNG (12-bit dynamic range) 8-bit color: TIFF, PNG, JPG	C		
	<b>Inserts</b>	Interchangeable inserts accommodate most vessel types and sizes, including slides, multi-well plates, culture flasks, and petri dishes	C		
	<b>Compatibility</b>	Microscope and chamber slides, Hemocytometers, 6-, 12-, 24-, 48-, 96-, and 384-well microplates, 35, 50, 60, and 100 mm petri dishes, T-25, T-75, and T-175 flasks	C		
	<b>Movies and time-lapse</b>	AVI, WMV	C		

	<b>Time span</b>	<b>0.1ms to 10s</b>	<b>C</b>		
	<b>Power supply</b>	Should be able to operate in 240 V Should provide a suitable online UPS with 15 min. backup time	C		
	<b>Stage</b>	X/Y stage			
	<b>Travel range</b>	120 mm x 80 mm with sub-micron resolution Drop-in inserts to receive vessel holders	C		
	<b>Stage mechanism</b>	Mechanical			
	<b>System Computer</b>	<p>Embedded PC with 4 GB RAM, 10 GB SSD storage with <b>Display:</b> 18.5-inch or larger Full HD (1920x1080) display for clear visibility of data and analysis results and with original licensed OS and software</p> <p>OR</p> <p>a desktop computer with</p> <p><b>Processor:</b> Minimum Intel Core i5 11<sup>th</sup> Gen or better <b>RAM:</b> Minimum 8 GB of RAM to support multitasking and efficient software operation.</p> <p><b>Display:</b> 18.5-inch or larger Full HD (1920x1080) display for clear visibility of data and analysis results.</p> <p><b>Connectivity:</b> At least two USB 3.0 ports, one HDMI output for connecting to external monitors or projectors, and a high-speed Ethernet port or Wi-Fi for data transfer.</p> <p><b>Ports and Expansion:</b> At least 1 USB 3.0 or USB-C port, and an HDMI output, for easy connection to external devices and data input.</p> <p><b>Software Compatibility:</b> Software must be pre-installed or able to support the software required to operate the equipment along with original Windows.</p>	C		

		<b>Storage:</b> 250 SSD			
	<b>Software</b>	Stage View for tracking of stage locations; Pin drop and naming tool; Pin find tool; Autofocus; Confluence measurements; Transfection efficiency measurements; Z-stacking with multichannel composite overlay; Batch analysis; Annotation too	C		
	<b>Accessories</b>	16 GB USB 3.0 memory stick	C		
	<b>Cleaning kit</b>	Cleaning kit, including lint-free tissues and cleaning solution sufficient for monthly cleaning, should be provided free of charge during the warranty period. Should provide an undertaking letter by confirming the availability for 10 years	C		
	<b>Output ports</b>	Power; 4 x USB 2.0; 1 x USB 3.0; 1 DisplayPort; 1 RJ45 (Ethernet port)	C		
	<b>Networking capability</b>	Connection through Windows/SMB network via Ethernet cable connection USB 3.0 WiFi dongle	C		
	<b>Power requirement</b>	220-240 VAC, ~50 Hz	C		
	<b>Warranty</b>	Local Agent should provide a warranty of 2 years for the entire system and UPS system, and maintenance of the equipment should be conducted every 06 months during the warranty period	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
06	Equipment	Refrigerated Centrifuge			
	Make	(Please specify)			
	Model and Model year	(Please specify)			
	Country of origin	(Please specify)			
	Application	Designed for cell culture workflows, including harvesting, pelleting, washing, and processing of cells.	C		
	Temperature Control	<p><b>Temperature Range:</b> -10°C to +40°C for sensitive sample preservation.</p> <p><b>Cooling System:</b> Advanced refrigeration technology to maintain stable temperatures during operation.</p>	C		
	Control System	<b>Micro Processor</b>	C		
	Drive system	<b>Direct, brushless induction low profile motor</b>			
	Capacity	<p><b>Rotor Options:</b> A swinging-bucket rotor for multiple tube types (15 mL, 50 mL conical tubes), a fixed-angle rotor for multiple tube types (15 mL, 50 mL conical tubes), a swing bucket rotor for multi-well plates (96, 24, 12 wells)</p> <ul style="list-style-type: none"> <li>• <b>Maximum Capacity:</b> Up to 4 x 400 mL or equivalent adapters for cell culture applications.</li> <li>• Should contain rotor, buckets, biocontainment lids, 50 mL conical adapters (maximum capacity 16x50 mL), 15 mL conical adapter,</li> </ul>	C   C  C		

		(maximum capacity 36 x 15 mL), microplate adapters (maximum capacity 10 standard, 2 deepwell).			
	<b>Speed and Performance</b>	<b>Maximum Speed:</b> 6300 rpm or better  Increments of 50 rpm / 50 x g or better  <b>Acceleration/Deceleration:</b> Rapid start/stop times to minimize cell stress.	C		
	<b>Programmability</b>	User-friendly interface with pre-programmed protocols for cell culture workflows.  <b>Memory:</b> Stores multiple user-defined protocols for repeatable workflows.			
	<b>Display and Interface</b>	Digital display showing speed, RCF, temperature, and run time.  Push button and high contrast LCD interface  Touchscreen control for easy operation and monitoring.			
	<b>Safety Features</b>	<b>Imbalance Detection:</b> Automatically stops operation in case of imbalance.  <b>Lid Locking Mechanism:</b> Ensures safety during high-speed operation.  <b>Temperature Alarm:</b> Alerts users if the internal temperature deviates from set parameters.			

		<p>Should have secure locking system which allows easy push-button installation and exchange of rotors.</p> <p>System should saves time when switching between applications. finger-pinch prevention, crash-proof construction</p> <p>Should have easy access to rotor chamber offers quick cleaning, a healthier working environment and longer unit life.</p>			
	<b>Compliance</b>	EN/UL/IEC 61010-1, EN/UL/IEC 61010-2-020 and 61010-2-101, EN/UL/IEC 61326-1, EN/UL/IEC 61326-2-6, IVD certified	<b>C</b>		
	<b>Noise Level</b>	Operates below 60 dB for a quiet laboratory environment.			
	<b>Dimensions and Weight</b>	<p><b>Compact Design:</b> Fits under laboratory benches or on countertops.</p> <p><b>Approximate Dimensions:</b> ~60 x 40 x 35 cm (HxWxD).</p>			
	<b>Power Requirements</b>	Operates on standard lab power supplies (220–240 V, 50–60 Hz). Should provide an online UPS with a capability of 30 min backup time.	<b>C</b>		
	<b>Warranty</b>	Minimum of 2 years warranty period for the entire system, including UPS. Maintenance of equipment every 06 months for free of charge during the warranty period	<b>C</b>		

Item No	Specification	Requirement	Priority	Bidders Response (Yes/No)	Remarks
16	Equipment	Ductless Fume Hood			
	Make	(Please specify)	C		
	Model and Model year	(Please specify)	C		
	Country of origin	(Please specify)	C		
	Application	<ul style="list-style-type: none"> <li>Designed to protect laboratory personnel and the environment by filtering hazardous fumes, vapours, and particulates.</li> <li>Ideal for handling chemicals, biological samples, and other volatile substances in research and educational laboratories</li> </ul>	C  C		
	Dimensions and Design	<ul style="list-style-type: none"> <li><b>External Dimensions (Approx.):</b> <ul style="list-style-type: none"> <li>Width: 1200mm (4ft)</li> <li>Depth: 700-900 mm</li> <li>Height: 1200 - 1500 mm (workable area)</li> <li>Height with working stand 1800 - 1900 mm</li> </ul> </li> <li><b>Work Area Dimensions:</b> 3 ft or more</li> <li><b>Material:</b> <ul style="list-style-type: none"> <li>Corrosion-resistant powder-coated steel frame.</li> <li>High-strength tempered glass for front panels and sash.</li> </ul> </li> </ul>	C  C C C  C  C C		

		<ul style="list-style-type: none"> <li>○ Work surface made of chemical-resistant phenolic resin or stainless steel.</li> </ul>			
	Filtration System	<ul style="list-style-type: none"> <li>• <b>Type:</b> Multi-stage filtration with activated carbon and HEPA filters.</li> <li>• <b>Efficiency:</b> <ul style="list-style-type: none"> <li>○ HEPA filter: 99.99% efficiency for particles <math>\geq 0.3</math> microns.</li> <li>○ Carbon filter: Absorbs organic and inorganic chemical vapours.</li> </ul> </li> <li>• <b>Filter Replacement:</b> Quick and easy replacement mechanism with visual filter saturation indicators.</li> </ul>	C  C C C		
	Airflow and Containment	<ul style="list-style-type: none"> <li>• <b>Airflow Type:</b> Recirculating airflow system with adjustable airflow speeds.</li> <li>• <b>Face Velocity:</b> 0.3–0.5 m/s (60–100 fpm) at the sash opening for safe containment.</li> <li>• <b>Airflow Alarm:</b> Visual and audible alarms for low or high airflow to ensure safety.</li> </ul>	C C C		
	Sash System	<ul style="list-style-type: none"> <li>• <b>Type:</b> Vertical sash made of shatterproof tempered glass.</li> <li>• <b>Operation:</b> Counterbalanced for smooth, single-hand operation.</li> </ul>	C C C		

		<ul style="list-style-type: none"> <li>• <b>Opening:</b> Adjustable sash height for user flexibility and containment optimization.</li> </ul>			
	Safety Features	<ul style="list-style-type: none"> <li>• <b>Filtration Monitoring:</b> <ul style="list-style-type: none"> <li>◦ Filter saturation indicators (visual and audible alerts).</li> <li>◦ Airflow sensors for consistent containment performance.</li> </ul> </li> <li>• <b>Alarms:</b> <ul style="list-style-type: none"> <li>◦ Low airflow alarm.</li> <li>◦ Filter replacement alarm.</li> <li>◦ Sash height alarm for incorrect usage.</li> </ul> </li> <li>• <b>Lighting:</b> LED lighting for optimal visibility, with low power consumption.</li> </ul>	C C C C C		
	Connectivity and Control	<ul style="list-style-type: none"> <li>• <b>Control System:</b> Touchscreen or digital control panel for airflow adjustment, filter monitoring, and system settings.</li> </ul>	C		
	Power Requirements	<ul style="list-style-type: none"> <li>• <b>Voltage:</b> 220–240 V, 50/60 Hz.</li> <li>• <b>Power Consumption:</b> ~250–500 W, depending on size and fan speed.</li> <li>• <b>Suitable online UPS with the capability of 15 min backup time</b></li> </ul>	C C		
	Noise Level	Operates at ≤55 dB for a quiet laboratory environment.	C		

	Additional Features	<ul style="list-style-type: none"> <li>• <b>Portability:</b> Caster wheels with locks for easy relocation within the laboratory.</li> <li>• <b>Accessories:</b> <ul style="list-style-type: none"> <li>○ Pass-through ports for cables and tubing.</li> <li>○ Storage compartments for small lab tools.</li> </ul> </li> </ul>	C  C  C		
	Standards	Certified to meet international safety standards (e.g., EN 14175, ANSI/ AIHA Z9.5, SEFA 9)	C		
	UPS Requirement	Compatible UPS providing a minimum 15-minute backup			
	Warranty	Minimum 3 years for the fume hood and minimum 2 years for UPS. Maintenance of the equipment should be every 12 months free of charge during the warranty period			

Item No	Specification	Requirement	Priority	Bidder's Response (Yes/ No)	Remarks
17	<b>Equipment</b>	<b>Inverted Microscope with Phase Contrast turret</b>			
	Make	Please specify			
	Model & Model Year	Please specify			
	Country of Origin	Please specify			
	Optical System	Infinity Optical System with High Numerical Aperture Objectives	C		
	Observation Methods	Brightfield, Apodized Phase Contrast or similar, or better, Phase Contrast, Emboss Contrast	C		
	Diascopic Illumination	High-luminance white LED (Eco-illumination) with			

		built-in Fly-eye lens			
	Episcopic Illumination	LED illuminator with built-in Fly-eye lens			
	Camera	5MP or better	C		
	Camera Port	Trinocular with C-mount adapter	C		
	Inclination	45 degrees			
	Pupillary Distance	Adjustable: 50-75 mm			
	Viewing Head	Siedentopf type			
	Camera Port	Attachable	C		
	Eyepiece/Port Ratio	100/0 : 0/100			
	Eyepieces Provided	10X (FN 22), anti-fungus, high-eyepoint	C		
	Focusing Mechanism	Nosepiece up/down movement	C		
	Focusing Stroke (Manual)	Up 7 mm, Down 1.5 mm			
	Condenser	ELWD Condenser (NA 0.3, W.D. 75 mm)			
	Contrast Sliders	Emboss Contrast Sliders (condenser and eyepiece-tube-side)			
	Objectives	10X, 20X, 40X with Emboss Contrast capability - long distance	C		
	Stage	Mechanical stage compatible with all types of micro-test plate, well clamper and stage clip Holder ,C-S-HP35 Petridish Holder 35 mm,C-S-HLP100 Petridish Holder 100 mm,C-S-HT Terasaki Holder for Terasaki plate and ø65 dish,C-S-HS Slide Glass Holder for glass slides, ø54 dish and hemocytometer,C-S-HU Universal Holder for Terasaki plate, glass slide, ø35-65 dish and hemocytometer, C-S-HG Glass Ring Holder, C-S HLS Ring Holder	C		
	Computer	Desktop computer with 18-inch LED monitor, i5 11th gen, 8 GB RAM, 256 GB SSD hard drive, original software and drivers including windows 11, Office and compatible image analysis software and all other necessary software for handling equipment and reporting	C		

	Software	Subscription basis software- not allowed	C		
	Rated Voltage / Electric Current	240VAC ±10%, 50/60 Hz, 0.35 A	C		
	UPS Requirement	Compatible UPS providing a minimum 15-minute backup	C		
	Warranty	Minimum 2 years for the entire system including computer and UPS, Maintenance of the equipment should be every 12 months free of charge during the warranty period	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
18	<b>Refrigerated Microfuge</b>				
	Make	(Please specify)	C		
	Model and Model year	(Please specify)	C		
	Country of origin	(Please specify)	C		
	Usage	It should be compatible with Medical Diagnostic Laboratory use or IVD certificates.	C		
	Temperature control	-10 to + 25	C		
	refrigerant	CFC free refrigerant	C		
	Maximum speed	RCF 25,000 × g or better	C		
	Speed control range	500 or below to 15000 rpm	C		
	Speed control accuracy	± 100 rpm or better	C		
	Run Time	It should have a timer of minimum 99 min	C		
	Acceleration/ deceleration profile	More than 2 stage braked deceleration pulse free acceleration and deceleration, Soft break	C		

		function			
	Body	The centrifuge should be manufactured with quality materials providing broad <b>chemical resistance</b> with exceptional strength for durability and reliability	C		
	Rotor	It should be supplied with Fixed angle rotor compatible with X24 (13x75 mm tubes, blood/ serum tubes) and X24 ( 2 ml microcentrifuge tube	C		
	centrifugation chamber	Stainless Steel centrifugation chamber that can be cleaned easily and quickly will be available	C		
	Power:	200-240 V, AC, 50 Hz, 30 A, single phase	C		
	Controlling keys (for speed)	Instrument should be easily toggled between RCF and RPM	C		
	Standard certification	ISO 13485 certification	C		
	UPS requirement	Separate online UPS with the capability of 15 min backup time			
	Warranty	Minimum 2 years for entire system including UPS system. Maintenance of the equipment should be every 06 months free of charge during the warranty period	C		
	Documentation	User manual and other relevant documentations should be provided  Should mention catalogue number, manufacturer and authorized dealer in the quotation	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
19	<b>Microfuge</b>				
	Make	(Please specify)	C		
	Model and Model year	(Please specify)	C		
	Country of origin	(Please specify)	C		
	Usage	It should be compatible with Medical Diagnostic Laboratory use / IVD certificates	C		
	Maximum speed	RCF 25,000 × g or better	C		
	Speed control range	500 or below to 15000 rpm	C		
	Speed control accuracy	± 100 rpm or better	C		
	Run Time	It should have a timer of minimum 99 min	C		
	Acceleration/ deceleration profile	More than 2 stage braked deceleration pulse free acceleration and deceleration, Soft break function	C		
	Body	The centrifuge should be manufactured with quality materials providing broad <b>chemical resistance</b> with exceptional strength for durability and reliability	C		

	Rotor	It should be supplied with Fixed angle rotor compatible with X24 (13x75 mm tubes, blood/ serum tubes) and X 24 (2 ml microcentrifuge tube)	C		
	centrifugation chamber	Stainless Steel centrifugation chamber that can be cleaned easily and quickly will be available	C		
	Power:	200-240 V, AC, 50 Hz, 30 A, single phase	C		
	Controlling keys (for speed)	Instrument should be easily toggle between RCF and RPM	C		
	Standard certification	ISO 13485 certification	C		
	Warranty	Minimum 2 years for entire system. Maintenance of the equipment should be every 06 months free of charge during the warranty period	C		
	Documentation	User manual and other relevant documentations should be provided  Should mention catalogue number, manufacturer and authorized dealer in the quotation	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
20	<b>Vortex Mixture</b>				
	Make	(Please specify)	C		

	Model and Model year	(Please specify)	C		
	Country of origin	(Please specify)	C		
	Usage	It should be compatible with Medical Diagnostic Laboratory use (Manufacturer confirmation letter confirming the suitability of equipment for Medical Diagnostic Laboratory use, is required)	C		
	Speed	1000 rpm in continuous mode 2800 rpm in touch mode	C		
	Orbit	Around 4 mm	C		
	Action type	Touch and continuous	C		
	Accessories Included	-1 rubber cup  - Plate adapter with rubber disc  Plain adapter foam <ul style="list-style-type: none"> <li>• Foam with 96X0.2 well</li> <li>• Foam with 60X0.5 well</li> <li>• Foam with 12mm well</li> </ul> Foam with different well	C C C C C C C		
	Max. Load	500g or better	C		
	Power:	200-240 V, AC, 50 Hz, 30 A, single phase	C		

	Standard certification	ISO 13485 certification	C		
	Warranty	Minimum 1 year of warranty period for the entire system, Maintenance of the equipment should be every 12 months free of charge during the warranty period	C		
	Documentation	User manual and other relevant documentations should be provided Should mention catalogue number, manufacturer and authorized dealer in the quotation	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
35	<b>Conventional PCR Machine</b>				
	Make	(Please specify)	C		
	Model and Model year	(Please specify)	C		
	Country of origin	(Please specify)	C		
	Usage	It should be compatible with Medical Diagnostic Laboratory use (with a confirmation through ISO 13485 certification) / IVD certificates (EU IVD 2017/746).	C		
	Dimensions	Around Height: 25cm, Width: 25 cm, Depth: 50 cm	C		
	Display:	6.5 in. VGA 32k color with touch screen	C		
	Heat block	96 wells	C		
	Peak Block Ramp Rate:	6°C/sec or better	C		
	Reaction Volume Range:	10-100 µl	C		
	Sample Ramp Rate:	around 3.5 °C/sec	C		

	Temperature Range (Metric):	4.0-99.9 °C	C		
	Temperature gradient	6 zones block with a range of 25°C	C		
	Capacity:	96 x 0.2 ml tubes, 1 x 96-well plate	C		
	Format:	0.2 ml tubes, 96-well plate	C		
	Temperature Accuracy:	< 0.25°C (35°C to 99.9°C)	C		
	Temperature Uniformity	< 0.5 °C (20 sec after reaching 95 °C)	C		
	Memory:	USB and On-board	C		
	Power Supply	Should be operated with mains power supply 240V; 50Hz	C		
	UPS requirement	Online UPS with the capability of 3 hours backup time	C		
	Standard certification	ISO 13485 certification / IVD certificates (EU IVD 2017/746)	C		
	Warranty	Warranty for entire system for minimum of 5 years and minimum of 2 years for the UPS Periodical maintenance should be every 06 months free of charge during the warranty period.	C C		
	Other	Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.	C		
	Documentation	User manual and other relevant documentations should be provided  Should mention catalogue number, manufacturer and authorized dealer in the quotation	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
36	<b>Real time PCR</b>				
	Make	(please specify)	C		
	Model	(please specify)	C		
	Country of origin	(please specify)	C		
	General Use	It should be compatible with Medical Diagnostic Laboratory use (ISO 13485) / IVD certificates (EU IVD 2017/746)	C		
	Design	Peltier based 96-Well Real Time PCR with 6 Target Multiplexing capabilities	C		
		Should have mass reduced sample block to allow heating and cooling at a fast controlled rate.			
	Scan mode	Should have fast scan mode in which the Scanning can be completed fast and a Typical Gene Expression experiment can be done in 40-60 minutes.	C		
	Temperature gradient	System should have Gradient Block with 6 zones.	C		
	Filters / Detector	6 decoupled filters, CMOS camera	C		
	Excitation –Emission range:	450- 680 / 500nm -730nm	C		
	software	System should have an integrated software for secondary and tertiary data analysis which is capable to import and analyze data from any real time PCR platform	C		
	HRM analysis	Should supplied with separate software license for HRM analysis	C		
	Florescent dyes	Should be capable of Detecting FAM/SYBR Green, VIC/JOE/HEX/TET, ABY/ NED/TAMRA/Cy3, JUN, ROX/Texas Red, Cy5/LIZ, Cy5.5 Dynamic range of 10 orders.	C		

	Temperature accuracy	Temperature range 0– 100 °C with accuracy of $\pm 0.2$ °C and uniformity of $\pm 0.4$ °C within 10 sec of arrival at 90 °C	C		
	Laptop Computer requirements	Microsoft™ Windows™ 11 Processor: Intel™ Core™ i5 11 <sup>th</sup> gen or Better CPU @2.6 GHz, 512 GB SSD ,16 GB RAM Installed memory: 16 GB	C		
	Power requirement	Operation on standard laboratory power 220 - 230 V, 50Hz, Should supplied with online UPS with a capability of backup time of 3 hours	C		
	warranty	The unit shall warrant for a period of not less than 3 years for the entire system and 2 year warranty for UPS system. Maintenance of the equipment should be every 6-month free of charge during the Warranty period	C		
	standard Certification	ISO 13485 certification and EU IVD 2017/746	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes/No)	Remarks
37	<b>Gel documentation system</b>				
	Make	please specify	C		
	Model	please specify	C		
	Country of origin	please specify	C		
	General Usage	It should be compatible with Medical Diagnostic Laboratory use Should submit relevant proof documents for medical diagnostic laboratory with quotation.	C C		

	Camera & Optics	<p>Scientific grade camera</p> <ul style="list-style-type: none"> <li>• 10 megapixels or better resolution, which can be extendable later</li> <li>• Passive cooling</li> <li>• 16-bit – more than 60000 grey levels</li> <li>• USB connection</li> <li>• Motorized zoom lens with feedback</li> <li>• Field of view: 25x20cm</li> </ul>	C		
	Hardware	<p>Smart Darkroom technology:</p> <ul style="list-style-type: none"> <li>• Software control of the lighting</li> <li>• White light led panels with automatic intensity adjustment</li> <li>• UV cut-off filter and filter wheel with 7 or better positions</li> <li>• Slide-out PadBox with automatic recognition of the Application Pad inserted</li> </ul> <p>Steel and stainless steel darkroom for long lasting robustness.</p> <p>Wide access door with UV safety shut-off</p>	C		
	Laptop	<p><b>Processor:</b> Minimum Intel Core i5 11<sup>th</sup> Gen or better <b>RAM:</b> Minimum 8 GB of RAM to support multitasking and efficient software operation.</p> <p><b>Display:</b> 14-inch or larger Full HD (1920x1080) display for clear visibility of data and analysis results.</p> <p><b>Connectivity:</b> At least two USB 3.0 ports, one HDMI output for connecting to external monitors or projectors, and a high-speed Ethernet port or Wi-Fi for data transfer.</p> <p><b>Battery Life:</b> Minimum 8 hours of battery life for portability during laboratory</p> <p><b>Ports and Expansion:</b> At least 1 USB 3.0 or USB-C port, and an HDMI output, for easy connection to external devices and data input.</p> <p><b>Software Compatibility:</b> Original software must be pre-installed or able to support the software required to gel the documentation system (Including original Windows 11 pro</p>			

		software)			
	Software	Free software for image acquisition with full GLP compliance. Molecular weight calculation, band Quantification, colony counting, distance calculation, text annotation and image enhancement included.	C		
	Applications	DNA and RNA gels and fluorescence stain imaging: <ul style="list-style-type: none"> <li>• Ethidium bromide, Sybr-Safe, Sybr-Green, Gel-Red, Gel-Green, Sybr-Gold, GFP, Pro-Q Emerald, Sypro ruby, FITC, DAPI</li> <li>• Colorimetric stained protein gels, X-Ray film, autorads, SSCP gels, colony dish and flask imaging and other EPI white light applications</li> <li>• Coomassie blue, Silver stain, Ponceau S Red, Copper stain...</li> </ul> Sky-Pad or Blue light conversion screen for DNA/RNA detection (avoid «nicking» DNA): <ul style="list-style-type: none"> <li>• Sybr Safe, Sybr Green, eGFP</li> </ul>	C		
	Power Supply	Should be operated with mains power supply 240V; 50Hz	C		
	Warranty	Minimum 3 year of warranty period for the entire system, Maintenance of the equipment should be every 6 months free of charge during the warranty period	C		

	Other	<p>Should have a good after sales service. Please attach details of after sales service personnel, their qualification, and address of after sales division etc.</p> <p>Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.</p> <p>A letter of authorization is required from the manufacturer.</p>	C		
	Brand name	Brand name should be embedded on the equipment as a permanent mark	C		
	Documentation	<p>User manual and other relevant documentations should be provided</p> <p>Should mention catalogue number, manufacturer and authorized dealer in the quotation</p>	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
39	<b>Equipment</b>	<b>Individually ventilated caging system</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of origin	Please specify	C		

IVC Rack Specifications	<b>Rack Material:</b> Stainless steel (304/316); corrosion resistant.	C		
	<b>Airflow Control:</b> 50–100 <b>Air Changes/Hour (ACH)</b> (adjustable), unidirectional flow (top-to-bottom preferred)	C		
	<b>Filtration:</b> Double HEPA (H14, 99.995% @ 0.3 µm) + UV sterilization (optional)	C		
	Both supply & exhaust air streams are HEPA filtered	C		
	<b>Pressure Monitoring:</b> Real-time sensors (±5 Pa accuracy) with alarms for leaks/filter breaches.	C		
	<b>Noise Level:</b> ≤55 dB inside cages.	C		
	<b>Capacity:</b> 60 cages (mouse)	C		
	<b>Unit diameter:</b> ~1300 x 500 x 1800mm (LxWxH) <b>do not exceed</b>	C		
	Cage holding rails fitted with visual docking indicators to ensure proper fitting of cage	C		
	Racks are fitted with common rail	C		
	Press fit air supply and exhaust valve	C		
Cage Specifications	<b>Material:</b> Autoclavable (≥135°C) polysulfone or polyphenylsulfone, chemically resistant.	C		
	<b>Sealing Mechanism:</b> Airtight gasket (silicone or equivalent) with latch-free operation.	C		

		<b>Filter Integrity:</b> HEPA/ULPA filters ( $\geq 99.97\%$ VFE @ $0.3\ \mu\text{m}$ ); 72-hour off-rack survivability	C		
		<b>Lid Design:</b>  1. Ergonomic access (one-handed operation), full visibility for health checks.  2. Locks enabling quick locking and unlocking at the same time giving safe locking	C		
		<b>Bedding Containment:</b> Deep-well design to minimize aerosolization during handling	C		
		S.S 304 grill without any sharp edges	C		
		Cage diameter: <b>Please mention</b>	C		
	<b>Compliance</b>	BSL-2 ready, ISO 9001/14001, CE	C		
	<b>Display</b>	Touch screen display at eye level.  Display has standby screen or night mode to avoid disturbance to animals	C		
	<b>Validation &amp; Certification</b>	Filter Integrity   DOP/PAO testing Containment   Tracer gas testing Leakage Microbial Clearance   Biological indicators	C		
	<b>Biosafety Monitoring &amp; Alarms</b>	Password protected system ensuring restricted access  Continuous monitoring of Temperature, RH% and provision to set limits	C		

		<b>Remote Monitoring:</b> Mobile messaging system for error logs enabling user to take immediate action to protect animals			
	<b>Other</b>	<b>Power Backup:</b> Minimum 2-hour UPS.  Card holder fitting on the edge gives visibility of the animal inside the cage.  External self-centering autoclavable water bottles with <b>silicone gasket around the neck</b> , preventing any leakage  Unit is fitted with castor wheels with brakes	C		
	<b>Power Requirements</b>	Should be compatible with standard electrical outlets in laboratory settings in Sri Lanka	C		
	<b>Warranty</b>	Comprehensive warranty for the entire system for a minimum of 5 years  Periodical maintenance must be conducted every 06 months free of charge during the comprehensive warranty period.	C		
	<b>Brand name</b>	Brand name should be embedded on the equipment as a permanent mark	C		
	<b>Documentation</b>	User manual and other relevant documentation should be provided  The user reference list should be attached	C		

		Should mention catalogue number, manufacturer and authorized dealer in the quotation			
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Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
40	<b>Equipment</b>	<b>Individually ventilated caging system</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of origin	Please specify	C		
	IVC Rack Specifications	<b>Rack Material:</b> Stainless steel (304/316); corrosion resistant.	C		
		<b>Airflow Control:</b> 50-100 Air Changes/Hour (ACH) (adjustable), unidirectional flow (top-to-bottom preferred)	C		
		<b>Filtration:</b> Double HEPA (H14, 99.995% @ 0.3 µm) + UV sterilization (optional)	C		
		Both supply & exhaust air streams are HEPA filtered	C		
		<b>Pressure Monitoring:</b> Real-time sensors (±5 Pa accuracy) with alarms for leaks/filter breaches.	C		
		<b>Noise Level:</b> ≤55 dB inside cages.	C		
		<b>Capacity:</b> 40 cages (mouse)	C		

		<b>Unit diameter:</b> ~1300 x 500 x 1800mm (LxWxH) <b>do not exceed</b>	C		
		Cage holding rails fitted with visual docking indicators to ensure proper fitting of cage	C		
		Racks are fitted with common rail	C		
		Press fit air supply and exhaust valve	C		
	<b>Cage Specifications</b>	<b>Material:</b> Autoclavable ( $\geq 135^{\circ}\text{C}$ ) polysulfone or polyphenylsulfone, chemically resistant.	C		
		<b>Sealing Mechanism:</b> Airtight gasket (silicone or equivalent) with latch-free operation.	C		
		<b>Filter Integrity:</b> HEPA/ULPA filters ( $\geq 99.97\%$ VFE @ $0.3\text{ }\mu\text{m}$ ); 72-hour off-rack survivability	C		
		<b>Lid Design:</b>  1. Ergonomic access (one-handed operation), full visibility for health checks.  2. Locks enabling quick locking and unlocking at the same time giving safe locking	C		
		<b>Bedding Containment:</b> Deep-well design to minimize aerosolization during handling	C		
		S.S 304 grill without any sharp edges	C		
		Cage diameter: <b>Please mention</b>	C		
	<b>Compliance</b>	BSL-2 ready, ISO 9001/14001, CE	C		
	<b>Display</b>	Touch screen display at eye level.	C		

		Display has standby screen or night mode to avoid disturbance to animals			
	<b>Validation &amp; Certification</b>	Filter Integrity   DOP/PAO testing   Containment Leakage            Tracer gas testing Microbial Clearance    Biological indicators	C		
	<b>Biosafety Monitoring &amp; Alarms</b>	Password protected system ensuring restricted access  Continuous monitoring of Temperature, RH% and provision to set limits  <b>Remote Monitoring:</b> Mobile messaging system for error logs enabling user to take immediate action to protect animals	C		
	<b>Other</b>	<b>Power Backup:</b> Minimum 2-hour UPS.  Card holder fitting on the edge gives visibility of the animal inside the cage.  External self-centering autoclavable water bottles with <b>silicone gasket around the neck</b> , preventing any leakage  Unit is fitted with castor wheels with brakes	C		
	<b>Power Requirements</b>	Should be compatible with standard electrical outlets in laboratory settings in Sri Lanka	C		
	<b>Warranty</b>	Comprehensive warranty for the entire system for a minimum of 5 years	C		

		Periodical maintenance must be conducted every 06 months free of charge during the comprehensive warranty period.			
	<b>Brand name</b>	Brand name should be embedded on the equipment as a permanent mark	C		
	<b>Documentation</b>	User manual and other relevant documentation should be provided  The user reference list should be attached  Should mention catalogue number, manufacturer and authorized dealer in the quotation	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
<b>41</b>	<b>Equipment</b>	<b>Biosafety Cabinet - BSL 2 (Class II, Type A2)</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of origin	Please specify	C		
	General	It should be compatible with mammalian cell culture (Primary and immortalized). BSLII should ensure a controlled and safe environment for working with cell lines, cultures, and potentially hazardous materials. This specific type of cabinet is designed to provide both operator protection and environmental safety in the context of cell culture activities. Should have other relevant standard accessories.	C		
	Grade	Research	C		
	Power requirement	220-240 VAC, ~50 Hz	C		
	Filter	ULPA (Ultra Low Penetration Air) or better system for animal cell culture 99.999%@0.1-0.3µm	C		
	Control system	Digital display with easy mode operation should have	C		

		audible and visual alarms Should display all safety information on one screen Selectable fast operation			
	Airflow	Stable, despite building voltage fluctuations & filter loading	C		
	Cabinet	Stainless steel side walls, negative pressure system	C		
	Size <b>(Internal)</b>	3 ft	C		
	Other requirements	Transparent Front Door, Auto switch on/off for U.V. Germicidal tube & fluorescent light Comfortable lighting and legroom Intuitive and easy-to-use microprocessor controller Stable and self-compensating airflow Compatible UPS is required (Warranty 2 years for ups)	C		
	Documentation	1. Manufacture product catalogues with the requested information	C		
	Standards	Should have to have applicable international (EN 12469 and NSF 49) standard certificates, CE compliance, relevant ISO certificates <b>ensuring protection against biosafety level 2 agents</b>	C		
	Warranty	Comprehensive warranty for minimum of 3 years or more better Periodical maintenance should be conducted every 03 months free of charge during comprehensive warranty period.	C		

Item No	Specification	Requirement	Priority	Bidder's Response (Yes/No)	Remark
46	<b>Equipment</b>	<b>Combined Refrigerator and Freezer</b>			
	Brand	(Specify)			
	Model	(Specify)			
	Make	(Specify)			
	Color	(Specify)			
	Refrigerator Type	3 or above 3 doors, Inverter Refrigerator	<b>C</b>		
	Special features	Refrigerator, freezer convertible should be available (at			

		least one compartment should be convertible)			
	Inverter / Non Inverter	Inverter- digital inverter or above	C		
	Capacity for refrigerator (temperature range should be within +2°C to +8°C)	Maximum 60% or below of the total capacity	C		
	Capacity for freezer (temperature range should be within -10°C to -20°C)	Minimum 40% or above of the total capacity	C		
	Total capacity (Internal)	Within the range of 650 L – 700 L	C		
	Digital Display	Temperature should be displayed digitally			
	Refrigerator Gas Type	(Specify) Ecofriendly, should be approved by the Sri Lankan government	C		
	Storage Features	With adjustable shelves			
	Door Open Alarm	Specify			
	Temperature Control panel	Should be able			
	Power requirement	Operation on standard laboratory power 220 - 230 V, 50Hz, Should supplied with online UPS with a capability of backup time of 15 minutes			
	Dimensions	(Specify)			
	Weight	(Specify)			
	Warranty for the Refrigerator	A comprehensive warranty for the refrigerator is a minimum of 2 years Periodical maintenance should be conducted every 06 months free of charge during the comprehensive warranty period.			
	Warranty for Compressor	15 Years or more			

Item No	Specification	Requirement	Priority	Bidders' Response (Yes / No)	Remarks
48	Equipment	CO <sub>2</sub> Cylinder			
	General	Quality metal materials should match the standards in Sri Lanka			
	Grade	Research	C		

	Warranty and support	should provide a warranty for accessories from supplier for 2 years or more	C		
	Accessories	Regulator, hose (2 m), and hose clips	C		
	Volume	jumbo cylinder	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
55	Equipment	Incubator			
	Make	(Please specify)			
	Model and Model year	(Please specify)			
	Country of origin	(Please specify)			
	General	Inner bladder of mirror stainless steel, four corners rounded, easy for cleaning, space between shelves adjustable. Microcomputer-based smart controller, temperature control of high prevision and reliability, protection against excessive temperature, sensor failure, creepage, over-current, etc., sound & light alarming, timing function. Forced hot air circulation design to ensure temperature uniformity in the operating chamber. Silicon rubber sealing and double- layer observation window, making observation easy.	C C C C C		
	Power requirement	220-240 VAC, ~50 Hz	C		
	Energy consumption	Approx. 1000 W			
	Stackable	Yes	C		
	Chamber Volume	120 L or better	C		
	Temperature Range Ambient	+5°C to 80°C	C		
	Temperature Stability	±0.2°C or better	C		
	Display Resolution	0.1	C		
	Uniformity at 37°C	+/-0.8	C		

	Heated to 37°C	30min	C		
	Test Hole	Yes, Ø5mm	C		
	Max # of Shelves	10	C		
	# of Shelves	2	C		
	Max. Load per Shelf	20Kg	C		
	Internal Dimension (WxHxD)	520×530×465(mm) (Approx)	C		
	External Dimension (WxHxD)	785×750×735(mm) (Approx)	C		
	Timer	1~999-min/h or continuous	C		
	Certification	EN 12469, ISO 9001	C		
	Documentation	Manufacture product catalogues with the requested information	C		
	Standards	Should have to have applicable international standard certificates - EN 12469/ ISO 9001	C		
	Warranty	should provide a warranty for the entire equipment for 2 years or more Maintenance of the equipment should be carried out every 06 months free of charge during the warranty period	C C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
61	Equipment	Freezer -20°C			
	Make	(Please specify)			
	Model and Model year	(Please specify)			
	Country of origin	(Please specify)			
	General	Refrigerant- R600a or equivalent (Environmental	C		

		friendly)			
	<b>Power requirement</b>	220-240 VAC, ~50 Hz	C		
	Power Consumption	<b>120W</b>	C		
	Capacity	270L (Net) or better	C		
	Compressor	Non-Inverter	C		
	Number Of Doors	One	C		
	Technology	Direct Cooling	C		
	Door Type / Finish -	Hard top	C		
	Interior Inner,	Number Of Door Compartments- One	C		
	Door Lock	Yes	C		
	Temperature	-18°C or better	C		
	Body Type	Pre-painted steel,			
	Outer Body Type	Powder coated finish			
	Condenser Type-	Inside	C		
	<b>Documentation</b>	Manufacture product catalogues with the requested information Manufacture authorization for the bidder to represent them Bidder should have an excellent after sales facility with trained technicians and parts available locally to carry out any service/ repair immediately Local Agent should submit a letter from the manufacturer confirming spare parts availability for 5 years.	C C C		
	<b>Standards</b>	Should have to have applicable international standard certificates			
	<b>Warranty</b>	Local Agent should provide a warranty for the instrument from the manufacturer for 2 years or more.			

Item No	Specification	Requirement	Priority	Bidder's Response (Yes / No)	Remarks
63	Equipment	Class II- A1 Biosafety Cabinet – BSL II			<b>The item was removed from the tender</b>

Item No	Specification	Requirement	Priority	Bidder's Response (Yes / No)	Remarks
64	Equipment	Vertical Autoclave			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country Of Manufacture	Please specify	C		
	Permissible relative humidity	0.8			
	Permissible ambient temperature	5 – 40 °C			
	Capacity	<b>200 L</b>	C		
	Chamber Volume	Approx. 500×1000 mm			
	Working sterilization pressure	0.22MPa	C		
	Max Safety Pressure	0.23Mpa			
	Sterilization Temperature Range	105 to 134°C	C		
	Heat average	≤±1°C	C		
	Accuracy of temperature display	0.1°C	C		
	Power input	230 V - 50/60 Hz.	C		
	Power Consumption	Approx. 6 kW			

	Display	LCD of working status, touch-type key	C		
	Timer Range	0-99min or 0-99hours 59min	C		
	Overall Dimension	Approx. 650x650x1700mm			
	Door	Door safety interlock: The door cannot be opened until there is no pressure in the chamber and power for heating cannot be switched on until the door is firmly closed	C		
	Safety Features	<ul style="list-style-type: none"> <li>• Over-temperature, Over current protector and over-pressure auto-protection</li> <li>• Automatic air and steam discharge after sterilization</li> <li>• Auto discharge the cool air and stem discharge automatically after sterilization</li> <li>• Automatic shutdown with beep reminder after sterilization</li> <li>• Water level detection with program stops if below limit and Water outlet valve</li> <li>• Self-inflating type seal</li> </ul>	C		
	Construction	Fully stainless steel (304) structure, Handwheel type of quick-open door structure or single lever lock type	C		
	Accessories	Four stainless steel sterilization baskets - size should be compatible with the equipment	C		
	Warranty and Support	Comprehensive warranty for the entire system for a minimum of 2 years or better Periodical maintenance should be conducted every 06 months free of charge during comprehensive warranty period	C		
	Documentation	User manuals and other relevant documentation should be provided	C		
	Standards	ISO 9001 and CE certificate	C		

Item No	Specification	Requirement	Priority	Bidder's Response	Remarks
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				(Yes / No)	
<b>65</b>	<b>Equipment</b>	<b>Orbital shaker</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of Manufacture	Please specify	C		
	Platform	Platform with clamps for 12x100ml conical flask and Platform with clamps for 6x250ml conical flask	C		
	Platform dimension	Approx. 270×230mm			
	Speed range	50 -350rpm	C		
	Shaking motion	Orbital	C		
	Time range	1min~99h59min	C		
	Operation Type	Continuous /timed operation	C		
	Time display	Error Code Display LED	C		
	Speed display	Error Code Display LED	C		
	Orbit	10 mm	C		
	Permissible ambient temperature	5° - 40°C			
	Permissible relative humidity	0.8			
	Motor Type	DC Motor (Brushless)	C		
	Power input	230 V - 50/60 Hz.	C		
	Power	50 W			
	Max.load capacity	2.5kg- 3.0kg			
	External Dimension (WxDxH)	Approx. 250×300×100mm			
	Protective class	IP 21	C		
	Alarm	Beep alarm when operation ends	C		
	Warranty	Comprehensive warranty for the entire system for a minimum of 2 years or better Periodical maintenance should be conducted every 06 months free of charge during comprehensive warranty period	C		
	Documentation	User manuals and other relevant documentation should be	C		

		provided			
	Standards	ISO 9001 and CE certificate	C		

Item No	Specification	Requirement	Priority	Bidder's Response (Yes / No)	Remarks
<b>66</b>	<b>Equipment</b>	<b>Thermal Cycler</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of Manufacture	Please specify	C		
	Grade	<b>Research grade</b>	C		
	Reaction volume	0-100µL	C		
	Max sample throughput	96 reactions	C		
	Temperature range	4 °C -100°C	C		
	Temperature accuracy	≤±0.5°C	C		
	Temperature uniformity	<0.5°C	C		
	Gradient capability	Yes	C		
	Gradient range	30 – 100 °C	C		
	Gradient block	12 row	C		
	Temperature different range	1- 25 °C	C		
	Heating and cooling method	Peltier	C		
	Lid	Heats up to 105 °C	C		
	Sample capacity	96 x 0.2 ml tubes, 1 x 96-well plate or 0.2 ml tube strips	C		
	Thermo block	Alloy block	C		
	Port	1 USB A	C		
	Display	LCD display and touch screen	C		
	Permissible relative humidity	0.8			

	Power input	230 V - 50/60 Hz.	C		
	Permissible ambient temperature	5° - 40°C			
	Memory	Minimum up to 500 protocols; unlimited with USB flash drive expansion	C		
	Noise output	Idling: <50dBA	C		
		Operation: <60dBA	C		
	Maximum ramp rate, °C/sec	≤ 4 °C/sec	C		
	Average ramp rate, °C/sec	≤ 2.5 °C/sec	C		
	Onboard software	Yes	C		
	Instant incubation	Yes	C		
	Dimensions(WxDxH)	Approx. 260mmx400mmx260mm			
	Weight	≤15 kg			
	Warranty	Comprehensive warranty for a minimum of 3 years or better for the entire PCR system and 02 years for UPS system Periodical maintenance should be provided every 06 months free of charge during comprehensive warranty period.	C		
	Documentation	User manuals and other relevant documentation should be provided	C		
	Standards	ISO 9001 and CE certificate	C		
	Power Backup Requirements	The online UPS should be able to provide backup power for the equipment for a minimum of 120 minutes.	C		

Item No	Specification	Requirement	Priority	Bidder's Response (Yes / No)	Remarks
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<b>67</b>	<b>Equipment</b>	<b>Real Time PCR machine</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of Manufacture	Please specify	C		
	Grade	<b>Research grade</b>	C		
	Fluorescence Channels	5	C		
	Dye Compatibility	Should be capable of detecting FAM, SYBR Green I , SYTO 9, Eva Green, LC Green, HEX, VIC, TET, JOE ,ROX, Texas Red, Cy5, and Quasar 705	C		
	Excitation	Filtered LED	C		
	Excitation range	450-730nm	C		
	Detector	LED - filter Photodiodes (PDs), top scanning	C		
	Detection Range	510-730nm	C		
	Sensitivity	1 copy	C		
	Dynamic Range	1-10 <sup>10</sup> Copies	C		
	Fluorescence Dynamic Range	Adjustable	C		
	Light Source	High-brightness, excitation from the top, long life and maintenance-free LED light source	C		
	Reaction volume	0-100µL	C		
	Max sample throughput	96 reactions	C		
	Temperature range	0/4 °C –100°C	C		
	Temperature accuracy	≤±0.2°C	C		
	Temperature uniformity	<0.5°C	C		
	Gradient capability	Yes	C		
	Gradient range	30 – 100 °C	C		
	Gradient block	12 row	C		
	Temperature different range	1- 25 °C	C		
	Maximum ramp rate, °C/sec	≤ 5 °C/sec	C		
	Average ramp rate, °C/sec	≤ 3 °C/sec	C		
	Heating and cooling method	Peltier	C		

	Lid	Heats up to 105 °C	C		
	Display	LCD display and touch screen	C		
	Permissible relative humidity	0.8	C		
	Power input	230 V - 50/60 Hz.	C		
	Permissible ambient temperature	5° - 40°C	C		
	Sample capacity	96 x 0.2 ml tubes, 1 x 96-well plate or 0.2 ml tube strips	C		
	Thermo block	Alloy block	C		
	Laptop for Real-Time PCR Machine	<p><b>Processor:</b> Minimum Intel Core i5 11<sup>th</sup> Gen or better</p> <p><b>RAM:</b> Minimum 8 GB of RAM to support multitasking and efficient software operation.</p> <p><b>Display:</b> 14-inch or larger Full HD (1920x1080) display for clear visibility of data and analysis results.</p> <p><b>Connectivity:</b> At least two USB 3.0 ports, one HDMI output for connecting to external monitors or projectors, and a high-speed Ethernet port or Wi-Fi for data transfer.</p> <p><b>Battery Life:</b> Minimum 8 hours of battery life for portability during laboratory</p> <p><b>Ports and Expansion:</b> At least 1 USB 3.0 or USB-C port, and an HDMI output, for easy connection to external devices and data input.</p> <p><b>Software Compatibility:</b> Software must be pre-installed or able to support the software required to operate the real-time PCR machine along with original Windows.</p>	C		
	Warranty	<p>Comprehensive warranty for a minimum of 3 years or better for the entire PCR system and for laptop and UPS system for a minimum of 2 years</p> <p>Periodical maintenance should be provided every 06 months free of charge during comprehensive warranty period.</p>	C		
	Documentation	User manuals and other relevant documentation should be provided	C		
	Standards	ISO 9001 and CE certificate	C		
	Power Backup Requirements	The online UPS should be able to provide backup power for the equipment for a minimum of 02 hours.	C		

Item No	Specification	Requirement	Priority	Bidder's Response (Yes / No)	Remarks
69	Equipment	Horizontal Gel Electrophoresis and Power Supply Unit – 08 wells			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of Manufacture	Please specify	C		
	Gel casting tray	4 gel casting trays (two trays each: 7 x 10 cm and 7 x 7 cm); UV transparent; tapeless gel casting; 2 Rubber gates; Loading strips	C		
	Unit	Dimensions: Approx. : 9 x 20 x 9 cm			
	The gel box	Side tabs and pressure pads for easy, safe lid removal; Lid fits in only one direction; Protective electrode cassettes; should be moulded for leakproof performance and durability; corrosion-resistant platinum electrodes	C		
	Buffer volume	≤ 300 mL			
	Supplied combs	4 (8 tooth) combs; two combs each: 1 mm thickness and 1.5 mm thickness; Combs with adjustable well depth; Max. samples: 32/64	C		
	Power input	220 V - 230 V; 50/60 Hz.	C		
	Power supply unit				
	Output voltage range/ Increments	5-300V/1V	C		
	Output current range/Increments	4-500mA/1mA	C		
	Operating constant modes	voltage or current	C		
	Timer	1-999 minutes or continuous	C		
	No. of outlet terminals	Minimum 2 pairs			
	Dimensions (W x D x H)	≤ 20 x 25 x 10 cm			
	Characteristics	Power supply should be raised with the integral folding feet			
	Warranty	Comprehensive warranty for the entire system for a minimum of 2 years or better.	C		

		Periodical maintenance should be conducted every 01 year free of charge during comprehensive warranty period.			
	Documentation	User manuals and other relevant documentation should be provided.	C		
	Standards	ISO 9001 and CE certificate	C		
<b>Item No</b>	<b>Specification</b>	<b>Requirement</b>	<b>Priority</b>	<b>Bidder's Response (Yes / No)</b>	<b>Remarks</b>
<b>70</b>	<b>Equipment</b>	<b>Horizontal Gel Electrophoresis and Power Supply Unit - 16 wells</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of Manufacture	Please specify	C		
	Gel casting tray	2 gel casting trays (15 x 10 cm); UV transparent; tapeless gel casting; 2 Rubber gates; Loading strips	C		
	Unit	Dimensions: Approx. 18 x 27 x 10 cm			
	The gel box	Side tabs and pressure pads for easy, safe lid removal; Lid fits in only one direction; Protective electrode cassettes; should be molded for leakproof performance and durability; corrosion resistant platinum electrodes	C		
	Buffer volume	Approx. 500 ml			
	Supplied combs	2 (16 tooth) and 2 (20 tooth/28 tooth); 1.5 mm thick; Combs with adjustable well depth; Max. samples: 32	C		
	Power input	220 V- 230 V - 50/60 Hz.	C		
	<b>Power supply unit</b>				
	Output voltage range/Increments	5-300V/1V	C		
	Output current range/ Increments	4-500mA/1mA	C		
	Operating constant modes	voltage or current	C		
	Timer	1-999 minutes or continuous	C		
	No. of outlet terminals	Minimum 4 pairs			

	Dimensions (W x D x H)	≤ 20 x 25 x 10 cm			
	Characteristics	Power supply should be raised with the integral folding feet			
	Warranty	Comprehensive warranty for the entire system for a minimum of 2 years or better Periodical maintenance should be conducted every 01 year free of charge during comprehensive warranty period	C		
	Documentation	User manuals and other relevant documentation should be provided	C		
	Standards	ISO 9001 and CE certificate	C		

Item No	Specification	Requirement	Priority	Bidder's Response (Yes / No)	Remarks
<b>71</b>	<b>Equipment</b>	<b>PCR Cabinet</b>			
	Make	Please specify	C		
	Model & Model Year	Please specify	C		
	Country of Manufacture	Please specify	C		
	Work Surface Height	≥750 mm	C		
	Max Opening	Motorized; 300 – 320 mm	C		
	Pre-filter	Polyester fiber, washable	C		
	HEPA Filter	99.999% efficiency at 0.3μm	C		
	Noise	≤65dB	C		
	Airflow Velocity	0.3-0.5m/s, speed adjustable	C		
	Material	Main Body: Cold-rolled steel with anti-bacterial powder coating Work Table: 304 stainless steel	C		
	Front & Side Windows	5mm toughened glass, anti-UV; Motorized	C		
	Shelf with IV bar	Stainless steel, 500x150x50mm	C		
	Caster	Universal caster with levelling feet	C		
	Illumination Lamp	<10 W x 2	C		

	Illumination	≥800 lx	C		
	Waterproof Socket	Two, total load≤500W	C		
	UV lamp	20 W	C		
	Power consumption	<500 W	C		
	Power input	230 V - 50/60 Hz.	C		
	Standard Accessory	UV lamp, Fluorescent lamp, Waterproof sockets x2, Shelf with IV bar, Base stand	C		
	External Size (WxDxH)	Approx. 800x700x1800mm			
	Internal Size (WxDxH)	Approx. 700x600x500mm			
	Power backup	Suitable online UPS with the capability of 15 min backup time			
	Warranty	Comprehensive warranty for the entire unit including the UPS for a minimum of 2 years Periodical maintenance (every 06 months) free of charge during comprehensive warranty period.	C		
	Documentation	User manuals and other relevant documentation should be provided User reference list should be attached Should mention catalogue number, manufacturer and authorized dealer in the quotation	C		
	Standards	ISO 9001 and CE certificate	C		

Item No	Specification	Requirement	Priority	Bidders Response (Yes / No)	Remarks
82	Equipment	<b>Vacuum Filtration Apparatus</b>			
	<b>Make</b>	(Please specify)			
	<b>Model and Model year</b>	(Please specify)			
	<b>Country of origin</b>	(Please specify)			
	General Overview	Function: Used for separating solid-liquid mixtures under reduced pressure to enhance filtration efficiency.			

		Applications: Suitable for laboratory filtration of suspensions, crystallization processes, microbiological analysis, and chemical synthesis.			
	Material:	Borosilicate glass, stainless steel, and PTFE components for chemical resistance and durability.	C		
	Applications	Suitable for laboratory filtration of suspensions, crystallization processes, microbiological analysis, and chemical synthesis.	C		
	Buchner Funnel	<p>Made from porcelain or better.</p> <p>Available in diameters: ~ 90 mm (custom sizes available).</p> <p>Features a perforated plate for even distribution of filter paper.</p> <p>Comes with a standard ground glass joint for secure sealing.</p> <p>Resistant to acids and solvents.</p> <p>Available with fixed or removable filter plates.</p>	C C C C C C		
	Filtration Flask (Vacuum Flask)	<p>Constructed from thick-walled borosilicate glass for vacuum applications.</p> <p>Capacity: 1000 mL,</p> <p>Designed with a standard ground glass joint or reinforced hose connection.</p> <p>Includes a sidearm made of glass or metal with a hose barb for secure vacuum tubing connection.</p> <p>Resistant to high vacuum pressures.</p> <p>Graduation markings for volume measurement.</p>	C  C C  C  C C		

	Rubber Stopper	<p>Made from high-quality rubber or silicone.</p> <p>Available in various sizes to fit Buchner funnel and filtration flask (custom fit available).</p> <p>Pre-drilled hole for smooth airflow.</p> <p>Chemically resistant and durable.</p>	<p>C</p> <p>C</p> <p>C</p> <p>C</p>		
	Vacuum Pump	<p>Electric diaphragm pump</p> <p>Power rating: 220V, 50/60 Hz</p> <p>Capable of achieving a maximum vacuum of -0.1 MPa or better.</p> <p>Offers a flow rate of 5-20 L/ min or suitable</p> <p>Oil-free and maintenance-free options available.</p> <p>Equipped with a built-in pressure gauge for vacuum control.</p>	<p>C</p> <p>C</p> <p>C</p> <p>C</p> <p>C</p> <p>C</p>		
	Vacuum Tubing	<p>Manufactured from flexible and durable silicone or rubber.</p> <p>Inner diameter compatible with vacuum flask and pump</p> <p>Standard tubing length is 1.5 m,</p> <p>Resistant to vacuum collapse and designed for high durability</p>	<p>C</p> <p>C</p> <p>C</p> <p>C</p>		
	Performance Specifications	<p>Provides fast filtration with vacuum-assisted pressure.</p> <p>Capable of achieving a maximum vacuum of -0.1 MPa</p> <p>Glass components can withstand temperatures up to 500°C.</p>	<p>C</p> <p>C</p> <p>C</p> <p>C</p> <p>C</p>		

		Highly resistant to acids, bases, and organic solvents. Leak-proof ground glass joints and hose connections ensure a secure seal.			
	Safety Considerations	The vacuum flask is designed with thick-walled glass to prevent implosions under vacuum. The apparatus is chemically resistant and compatible with most organic solvents and acids. Secure connections, including clamps and seals, prevent leaks. A pressure gauge for controlled vacuum operation.	C  C  C C		
	Packaging and Shipping	Glass components are securely padded for protection during transport. Vacuum pumps are vacuum sealed for safety.	C  C		
	Warranty and Maintenance	Comes with a warranty of minimum 2 years for the whole unit Vacuum tubing and seals should be periodically (every 06 months free of charge during the warranty period) inspected for wear. Pump components may need lubrication if required.	C C		
	Documentation	Manufacture product catalogues with the requested information	C		
	Standards	ISO 9001 and CE certificate	C		

### **3. Instructions to Bidders**

- The bidder's submission must acknowledge this amendment, which will be considered a part of the Bidding Document.
- As mentioned above, bidders must base their offers on the updated specifications.
- Unless otherwise specified, all other terms and conditions of the original Bidding Document are still in effect.