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Tender ID :		2019_CSIR_37510_1	
Tender Ref No :		3053/251019/1467/EQPT	
Tender Title :		Supply of Automatic Liquid Handling System for NGS Platform	
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Corrigendum Document Details					
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1	Corrigendum on Amendment to Technical Specifications and Requirements	Automatic Liquid Handling System for NGS Platform Corrigendum on Amendment to Technical Specifications and requirements of Chapter 4 of Original tender document on the subject	23-Dec-2019 07:35 PM	3053AmendmetOfSpecificationsOfAutomaticLiquidHandlingafterPBCon19.12.19.pdf	186.54

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सीएसआईआर-कोशिकीय एवं आणविक जीवविज्ञान केन्द्र
CSIR-CENTRE FOR CELLULAR & MOLECULAR BIOLOGY

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)

(COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH)

उप्पल रोड, हैदराबाद/Uppal Road, Hyderabad – 500 007

(तेलंगाना/TELANGANA) भारत/India

Tender ID No. 2019_CSIR_37510_1

CCMB Ref. No. 3053/251019/1467/EQPT

Date: 23.12.2019

Sub.- Amendment to original Tendered Technical Specifications for procurement of “Automatic Liquid Handling System for NGS Platform” – reg.

With reference to Pre-Bid Conference (PBC) held on 19.12.2019 to finalise the tendered specifications, all bidders are requested to take a NOTE of the CHANGES in the tendered specifications at REVISED CHAPTER- 4 placed below. Accordingly, tendered specifications of “Automatic Liquid Handling System for NGS Platform” mentioned under CHAPTER- 4 in the original Tender Document gets completely substituted by REVISED CHAPTER- 4 placed below (Page 2-6) and bidders in their own interest are advised to carefully go through changes before submitting their e-bid.

There is no change in other Terms and Conditions of the original Tender Document.

Bidders are advised to submit their e-bids as per original schedule given in the Tender Document on the subject which is also reproduced below for information-

BID submission Start Date & Time	24.12.2019 (17.00 Hrs onward)
BID submission End Date & Time	08.01.2020 (upto 14.00 Hrs)
Date & Time for opening of Bids	09.01.2020 (upto 14.30 Hrs)

Note: Prescribed BID SECURITY /EMD in original giving CCMB Tender Reference and CPPP Tender ID Reference must reach this office on or before BID Submission End Date & Time i.e. 08.01.2020 (upto 14.00 Hrs) at the address given in Tendered Document, as also reproduced below: –

“Stores & Purchase Officer, CCMB, Habsiguda, Uppal Road, Hyderabad-500007, India”.

Sd/-

(Dharmendra Kumar)

Stores & Purchase Officer

AUTOMATED LIQUID HANDLING SYSTEM FOR NGS LIBRARY PREPARATION as per below Specifications:

SPECIFICATION FOR AUTOMATED LIQUID HANDLING SYSTEM		
SNo.	SPECS /FEATURES	REQUIREMENT
1	Application Capability	<p>System should be capable of performing NGS library preparation using kits available with multiple NGS vendors.</p> <p>Automation system to support pipetting-intensive NGS library preparation protocol into a ready-to-run procedure with minimal user-interventions</p>
2	Required Protocols *NGS supporting qualified library preparation methods from multiple vendors	Whole genome sequencing, Whole exome sequencing, Transcriptome sequencing, DNA flex for enrichment & Target Exome capture.
3	Deck positions	System should have 25 or more positions with a stacker or equivalent on the workstation. System must support on-deck and peripheral device integrations to increase capacity for micro plate and tip box storage and add functionality such as heating, cooling, stirring, washing, and Plate barcode reading.
4	Channel	<p>Required 96-channel pipetting head with a range of 1µl to 200µl or more 96 well format , 1µl to 1000µl, 8- channel format automatic dispenser tool changeover.</p> <p>Multichannel head must support working with individual tips, columns, rows, and patterns to increase flexibility for applications such as tube to plate transfer, addition of control reagents, and Serial dilution.</p>
5	Aspirating/Dispensing Capability	<p>The System should be capable of performing special dispensing patterns such as multiple aspiration from a well or tube during sample dispensing and also row wise (horizontal) or Column wise (vertical) loading of plates or racks.</p> <p>The instrument must have an automatic system to prevent droplets when aspirating-dispensing solvents and/or alcohols.</p>
6	Pipetting accuracy	<p>System should have high pipetting accuracy/cv of 1 % accuracy or less than 5% CV.</p> <p>1µl to 1000µl - 1% accuracy subject to appropriate usage.</p>
7	Thermal cycler	System must have an on deck compact PCR to be integrated to support NGS workflows
8	Sample Temp Control	<p>System should have the facility to accommodate cooling device(Peltier) for temperature sensitive reagents range:3-8°C</p> <p>Required 96 well format and microfuge tube format (0.5 µl to 2ml)</p>
9	96 well-Thermo Modular Blocks	Provision for one or more thermo modular blocks for holding 96 well plates with temperature range of 10-90°C including vortexing/pipette mixing (incubation)
10	Tips	Pipetting tips must be provided in individual tip boxes that separate tips in individual compartments to reduce contamination

		<p>risk.</p> <p>Essentially tip boxes must be colour coded and colours resembled in instrument software to reduce user error when loading the system</p> <p>The certificate to be enclosed for Pipetting tips free of DNase, RNase, DNA (human and mouse).</p> <p>Pre-sterile tips must be sterilized with ethylene oxide to avoid use of electron beam irradiation</p>
11	Capability for stacking plates	System should have capability for stacking 6 or more plates and accommodate 10 or more tip boxes to perform lengthy protocols
12	Throughput	System should take 96 samples, however also should allow user to setup runs even for less sample numbers.
13	Exchanging of pipetting tools	<p>Automatic exchange of 4 or more pipetting tools and gripper Instrument should automatically decide which tools to use for fastest run time.</p> <p>System must be equipped with an integrated gripper for efficient transportation of microplates, microplate lids, and tip boxes.</p> <p>Gripper must be able to rotate 360° for microplate reorientation or for accessing integrated devices with different microplate nest orientations.</p>
14	Microplates Formats	<p>Should accommodate upto 6 or more nos 96 well Microplate formats and should comply with SBS Microplate Specifications.</p> <p>System should be able to hold 96 well auto sampler plate of other makes of NGS protocols.</p>
15	Real time Monitoring	System should have visual indication of errors. Easy sample monitoring and sample tracking should be walk away.
16	Waste box	Should contain a place for waste box with waste bag container.
17	Full traceability of samples	The system should be able to read barcodes on plates and tubes during loading. A complete report should be provided at every run.
18	Sensor for liquid detection, Rack/Plate detection	Instrument should have sensors for recognition of tip trays, count tips, tube racks & liquid levels in the source. The instrument should be capable of handling liquids of variable quality as per their physical parameters.
19	Protective hood	Work Area to be covered with a protective HEPA hood to avoid potential carry over contamination. Certification and validation of standard HEPA filter.
20	System operation	The system should run independently or with external computer and should have separate provision for Data transfer
21	Operation protection :	Through use of password / PIN ID no for each user.
22	Calibration and Validation :	Standard calibration and validation methods are to be included along with the offer.

23	ADD on Features	The system should have flexibility to upgrade to 384 probe pipetting head in the future.
24	Standards to be provided	Grippers with holders of required quantity Thermal block 96 96 block Thermal Cycler Universal Racks for different library tubes of vendors Reservoir Rack 96- Magnet Adapter Liquid Waste Tub of required capacity
25	Accessories	All standard accessories for NGS application should be supplied along with the system.
26	Consumables	The system should be supplied with NGS specific <u>tips</u> and <u>consumables for 400 samples (as per the protocols)</u> . Filter tips ranging from 1-50ul-20-300ul, 200ul-1ml- 400 samples LoBind PCR Plate 96 semi-skirted- 400 samples waste bags-400 Samples Reservoir- 400 Samples Plate sealers/covers- Samples required plastic ware-consumables for NGS runs Demo run/Validation RUN consumables are also to be included along with the instrument offer.
27	System operating temperature range	Ambient temperature +/- 5 C
28	Power	Entire system along with accessories should work on 230 V, 1Φ 50HZ. Power.

GENERAL FEATURE		
1	System Control	PC controlled or standalone
2	Software feature	<p>(a) Programming software with intuitive easy to use and rapid method design.</p> <p>(b) System must provide an interface that supports operators with instructions for system setup, selection of desired protocol, monitoring of runs in progress, and performing basic system tasks.</p> <p>(c) Software must provide visual method authoring interface with drag & drop functionality as well as the ability to copy and paste method items, transfer steps, or method sections.</p> <p>(d) Software must offer a set of pre-configured basic pipetting operations such as plate transfer, plate replication, combining plates, and serial dilution. Standard method steps must be user configurable for method items and pipetting actions. Software</p>

should present plain text summary of settings for pipetting operations.

(e)Software must aide method authoring with real time step-by-step validation. This includes checking for logical errors, assisting error resolution with plain text instructions, and providing an estimated time to completion for the entire methods.

(f)Software must allow full control over 3D motion path of tips in wells when moving, dispensing, or aspirating. User must be able to define complex pipetting patterns such as X-pattern for aspirating content of a flat bottom microplate.

(g) Software supports using sample data such as sample ID, volume, concentrations and hit-picking.

(h) Flexibility for system upgrading.

(i)Customizable reports, calibration routines, system logging, early Maintenance feedback and diagnostic feature.

(j) Easy importing and exporting of data including work list and run report.

(k) Software must support liquid level tracking to calculate volume changes and well or tube fill heights from initial volumes based on pipetting steps.

(l) A built in service software feature to monitor the instrument performance and can advise the user when maintenance is required.

(J) System must be operating under Windows 10 latest licensed operating system.

TERMS AND CONDITIONS

IMPORTANT CLAUSES:

1. **Software:** Full licensed latest software with the upgrade for 3 years to be included in the offer.
2. **Warranty:** Comprehensive on-site warranty for 3 years from date of installation.
3. **Manuals:** Detailed service manual and complete circuit diagrams, engineering and diagnostic details for the entire system to be provided. Commitment to this clause to be made by the principals in the offer.
4. **Technical Literature:** Detailed original literature clearly indicating the technical specification of the tender to be attached with the offer. Tender which merely indicating compliance with the compliance statement will be disqualified.
5. **Computers:** The computers offered along with the system should be the latest models compatible with the application software and suitable for the NGS Library preparation. Required interface cards, cables etc. to be included along with storage devices and DVD writers The PC configuration offered should be specified and should include a three years comprehensive onsite warranty.
6. **Standard Accessories:** All standard accessories that would be supplied with the system should be clearly mentioned in the offer.
7. **Installation:** Systems installation and integration, verification of performance and training of operators be done by well trained engineers and application specialists from the manufacturer at CCMB. All applications related to NGS application should be verified with our test samples.
8. **Service Support:** Local service support should be provided within TWO days from a service call during and after warranty period.
9. **User Training:** User training to be given at CCMB periodically whenever necessary after Installation.
10. **Availability of Spares:** Please indicate the year in which the Model was introduced in the market and confirm whether the spares and consumables for the system would be available for a minimum period of 10 years.
11. **List of Users:** List of users of the offered model in India along with names of contact person, addresses, telephone numbers and email ID's to be enclosed separately.
12. **Demonstration:** Demonstration of identical models as the one(s) offered to be given on request at other customer site.
13. **Technical presentation:** Technical presentations on the systems offered are to be made on the request from CCMB.
14. **Pre-Installation Requirements:** Pre-Installation Requirements to be provided immediately on receipt of confirmed order.

Selection of the system would be based on the response to all the above points apart from the proven technical specifications and features, support, service and suitability to CCMB's requirements. Please therefore respond to all the points.

NOTE: Bidders may also note that in case of any discrepancy pertaining to requirement of Training, Warranty and tendered Technical Specifications mentioned in any other part of Tender Document on the subject, requirement on Training, Warranty and Technical Specifications specifically indicated in this REVISED CHAPTER - 4 shall prevail.