

Central Glass & Ceramic Research Institute  
KOLKATA (WEST BENGAL) INDIA

CORRIGENDUM

REFERENCE NO. :- P/NC/119/NC/SO (SB)/GTE/21-22

DATE: 03/02/2022

NAME OF EQUIPMENT: GAS CHROMATOGRAPHY


NOTE: BID TO BE SUBMITTED IN "SINGLE STAGE TWO ENVELOPE SYSTEM (TWO BID SYSTEM)" MANUALLY IN SEALED COVER IN THE TENDER-BOX OF THE LAB-TWO SEPARATE ENVELOPES (1) TECHNO-COMMERCIAL (UN-PRICED) BID AND (2) COMMERCIAL /PRICE-BOTH THE ENVELOPES SHOULD BE KEPT IN ONE ANOTHER ENVELOPE BY THE VENDOR.

CONSEQUENT TO THE PRE-BID MEETING HELD ON 31/01/2022, THE REVISED SPECIFICATION IS GIVEN BELOW:-

Sl. no.	<b>Technical Specification of Gas Chromatograph with accessories for the analysis of permanent gases</b>	
1	Base Unit	Microprocessor controlled, PC based Gas Chromatograph for the analysis of the permanent gases (H <sub>2</sub> , CH <sub>4</sub> , CO, CO <sub>2</sub> , N <sub>2</sub> and O <sub>2</sub> in a gas mixture) in a single injection in combination of one FID's and one TCD with column switching, Automatic Gas Sampling Valve facility to be installed in a heated valve oven.
A	Oven	<ul style="list-style-type: none"> <li>• Capacity: Minimum 10 liters or more to accommodate minimum two injectors and two detectors simultaneously for having better flexibility to configure the system as required in future.</li> <li>• Temperature range: Ambient temperature <math>\geq + 4^{\circ}\text{C}</math> to <math>\geq 400^{\circ}\text{C}</math></li> <li>• Cooling Time: <math>&lt; 6</math> minutes, <math>400^{\circ}\text{C}</math> to <math>50^{\circ}\text{C}</math></li> <li>• Oven Heating Rate <math>\geq 50^{\circ}\text{C}/\text{min}</math></li> </ul>
	Performance Specifications	<ul style="list-style-type: none"> <li>• Typical Retention Time Repeatability: 0.008 min or lower</li> <li>• Typical Peak Area Repeatability: <math>&lt; 2\%</math> RSD</li> </ul>
B	Pneumatic system	<ul style="list-style-type: none"> <li>• Pneumatic system should consist of advanced electronic pressure control</li> </ul>
2.	Injection Ports-	Packed/ Capillary/Appropriate set of inlets
3	Detector	<p style="text-align: center;"><b><u>Thermal Conductivity Detector – Qty 1 No</u></b></p> <ul style="list-style-type: none"> <li>• MDL: <math>&lt; 800</math> pg/ml</li> <li>• Linear Dynamic Range: <math>\geq 10^4</math></li> <li>• Maximum Temperature: <math>350^{\circ}\text{C}</math> or more</li> </ul> <p style="text-align: center;"><b><u>Flame Ionization Detector – Qty 1 No</u></b></p> <ul style="list-style-type: none"> <li>• Flameout detection</li> <li>• MDL: <math>&lt; 3</math> pg C /Sec for Dodecane or tridecane hydrocarbon</li> <li>• Linear Dynamic Range: <math>\geq 10^7</math></li> <li>• Maximum Temperature: <math>450^{\circ}\text{C}</math></li> </ul>
4	Additional box for valves & heater enclosure	<ul style="list-style-type: none"> <li>• Integrated/ additional box/ heated valve oven for valves &amp; heater enclosure for valves to mount Automatic heated 10 port inject &amp; backflush valve</li> <li>• Automatic heated 6 port columns switching valve/ 4 port Switching/Bypass Valve/ appropriate set of valves</li> <li>• <b><u>Methanizer</u></b> - To convert low level of CO and CO<sub>2</sub> into CH<sub>4</sub></li> </ul>
5.	Columns	<ul style="list-style-type: none"> <li>• Packed Porapak/HSQ/Packed Molecular Sieve/suitable set of columns for permanent gas analysis (H<sub>2</sub>, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub> and O<sub>2</sub> in a gas mixture) and demonstration during installation with test chromatogram.</li> </ul>
6	Software	<ul style="list-style-type: none"> <li>• Suitable Chromatography Management Software for data acquisition</li> </ul>
7	Pre-Requisites	<ul style="list-style-type: none"> <li>• True On-line 6 KVA UPS with 30 minutes battery backup (Reputed Make)</li> </ul>

		<ul style="list-style-type: none"> <li>• Double Stage SS Diaphragm Regulator for Hydrogen Gas -1 set</li> <li>• Double Stage SS Diaphragm Regulator for Argon Gas -1 set</li> <li>• Double Stage SS Diaphragm Regulator for Zero Air Gas - 1 set</li> <li>• Gas purification panel for all gases- 1 unit</li> <li>• Tedler Bag - Qty 2</li> </ul>
8	Essential Accessories for installation	<ul style="list-style-type: none"> <li>• Essential accessories/ start up kit to be supplied by the vendor for complete installation</li> <li>• Gas Tight Syringe 1 mL- Qty 1</li> </ul>
9	Computer	<p><b>Computer Configuration:</b></p> <ul style="list-style-type: none"> <li>• Software compatible PC, Intel Core i5 with Genuine Windows®10</li> <li>• Memory 6 GB</li> <li>• Hard Disk Drive 500 GB</li> <li>• 19" wide screen LED</li> <li>• Laser Printer</li> </ul>
10	Calibration Gas standard	<ul style="list-style-type: none"> <li>• Calibration Standard-Calibration Standard must be supplied. Calibration Standard CH<sub>4</sub>, H<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>, CO, CO<sub>2</sub> in balance Argon 0.5 ltrs WC in suitable composition – Qty 1</li> </ul>
11	Other requirements.	<p><u>Other requirements.</u></p> <ul style="list-style-type: none"> <li>• The technical bid should be complete with all relevant technical specification and company printed literature has to be provided to substantiate major specification of the quoted equipment.</li> <li>• The bidders will have to provide the details of Indian Customers with whom the quoted model of Gas Chromatograph or substantially equivalent models have been supplied over last five years mentioning the Customers contact address, phone, email etc.</li> <li>• For all pre-requisites, PC and Printer, calibration standard and Startup Kit mentioned in the specification are under scope of supply for successful installation and bidder has to submit declaration and the details should be mentioned in the offer.</li> <li>• Vendors should provide extensive training at CGCRI for 3 working days for 4-persons after installation and commissioning.</li> </ul>
12	Warranty-	<ul style="list-style-type: none"> <li>• One year</li> </ul>

All other Tender terms and conditions remain unchanged.

  
 (A.K.Pandey)  
 Stores & Purchase Officer

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