



केन्द्रीय औषधीय एवं सगंध पौधा संस्थान, लखनऊ
CENTRAL INSTITUTE OF MEDICINAL & AROMATIC PLANTS
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)

(Council of Scientific & Industrial Research)

पोस्ट आफिस- सीमैप, लखनऊ
P.O. CIMAP Campus, Lucknow-226015

Date: 27.12.2016

Corrigendum

In continuation of our tender for procurement of HPLC PDA System, Gas Chromatographs & Scanning Electron Microscope dated 06.12.2016 and consequent upon the pre bid meetings held on 19.12.2016 & 21.12.2016, the competent authority has approved some modifications in the technical specifications of the tender. The last Date of submission of bids is extended till 16.01.2016, 2.00 PM. The Technical Bid for the above tenders will be opened on 16.01.16, 2.30 PM. For details please visit CIMAP website www.cimap.res.in.

The rest of the terms and conditions of the tender document remains unchanged.

Stores & Purchase Officer



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शुद्धिपत्र

एचपीएलसी पीडीए सिस्टम्स, गैस क्रोमेटोग्राफ एवं स्कैनिंग इलेक्ट्रान माइक्रोस्कोप के क्रय हेतु जारी निविदा दिनांक 06.12.2016 के क्रम में दिनांक 19.12.2016 एवं 21.12.2016 को आयोजित पूर्व बोली बैठक के संदर्भ में सक्षम प्राधिकारी ने तकनीकी विशिष्टताओं में कतिपय संशोधन अनुमोदित किया है। बिड जमा करने की अंतिम तिथि 16.01.16 अपराह्न 2.00 बजे तक होगी। तकनीकी बिड दिनांक 16.01.16 को अपराह्न 2.30 बजे खोली जाएगी। संबंधित विस्तृत विवरण सीमैप की वेबसाइट www.cimap.res.in पर उपलब्ध है।

निविदा की शेष नियम और शर्तें यथावत रहेंगीं।

भंडार एवं क्रय अधिकारी

Specs after Pre-bid

GAS CHROMATOGRAPH SYSTEM

(For –CSIR-CIMAP Lucknow)

Software controlled Gas Chromatograph with the following technical specifications

1. COLUMN OVEN

- i. Oven should accommodate two capillary columns.
- ii. Temperature range: Ambient (+10) to 450° C with user selectable facility
- iii. Columns overheat protection and column temperature precision of 1°C or less.
- iv. Ramp rate: 1 to 45°C/ min.
- v. Cool down time: 400°C to 50 °C in less than 5 min.
- vi. Temperature programming facility: Minimum 7 oven ramp and rates adjustable in 0.1°C to 50 ° C per minute or more.

2. CARRIER GAS PNEUMATICS

- i. Programmable Electronic control with single point control via software.
- ii. Facility to compensate for variations in ambient temperature and pressure for maximum stability.
- iii. Direct setting of split flow rates and ratios. Pneumatic program rates 0.1-100.0 psi/min.

3. INJECTORS

Two numbers with following specifications

- i. Separate injectors for each column: temperature and time programmable Split/Split less capillary injector with electronic programmable/automatic flow control.
- ii. Temperature should be 400° C or more. Electronic pressure/ flow control and digital temperature read out.
- iii. Pressure range 0-100 psi
Electronic flow control should be configurable through software: programmed flow, programmed pressure, programmed velocity or constant flow

4. AUTO INJECTOR/SAMPLER

- i. Electronically controlled auto injector to accommodate at least 100 vials. (1or 2 ml capacity) with wide range of injection facility through GC software.
- ii. Sample Tray should be removable and stackable. Sampler tray position should be away from main GC to minimize exposure to heat.
- iii. Min injection volume should be 0.1µl
- iv. Facility for pre wash with minimum 4 solvents and waste collection
- v. Area reproducibility should be <0.5 % RSD and injection volume linearity should show R² 0.999 correlation.

5. DETECTORS

(Running of two detectors simultaneously at the same oven programming): Facility for data acquisition from three detectors. The connectivity of the third detector should be based on preferably switch over facility. Temperature and gases used in detectors must be controlled by soft ware.

a. Electron Capture Detector / Micro Electron Capture Detector

Source: Ni⁶³ Source

Temperature Range: 100 to 380 ° C or more

Linearity: >10⁴ or better

Data Acquisition rate: upto 50 Hz.

b. Nitrogen Phosphorous Detector

Maximum operating Temperature: 350 ° C or more

Minimum detectable quantity: ≤ 0.1 pg N/s, ≤ 0.04 P/s

Linear dynamic range for Nitrogen & Phosphorous: >10⁴

c. Flame Ionisation Detector (FID)

FID of high sensitivity auto-ranging,

Temperature range upto 450°C in steps of 1°C.

Linear dynamic range of >10⁶ or better.

Must be able to set data rate up to 300 Hz or better.

Have the capability for FID ignition through software electronic pneumatic control of make-up

Note:

- i. Three sets of standard mix for each detector's performance check should be supplied
- ii. System should be supplied with capillary column starter kit and installation kit.
- iii. Safety and regulatory clarification as per international regulations.
- iv. Gas cylinders for H₂, N₂, Zero Air with stainless steel diaphragm regulators and Gas purifier for oxygen, moisture and hydrocarbon (One number each) from the instrument manufacturer or reputed International company (viz. Supelco, etc.) along with the necessary tubing's of SS should also be supplied.
- v. Installation kit for above configuration must be quoted. All above requirements must be given with supporting literature.

6. DATA COMMUNICATION :

- i. Software for instrument control and data acquisition should be should be latest, genuine and original with 21 CFR compliance.
- ii. It should be latest, compatible and latest Window operating licensed version compatible with the software. It should have intelligent interface between GC system and computer.
- iii. Original CD of the software (licensed) should also be provided.

7. COMPUTER SYSTEM

Branded computer with i5 or higher CPU, at least 8 GB RAM, 1TB HDD, DVD RW, 21" TFT monitor and latest window compatible with the GC controlling software along with Heavy Duty B/W Laser Printer with duplex

printing option and scanning facility.

8. ACCESSORIES

Please quote relevant Part Numbers to be provided by GC Manufacturer (No local component is acceptable) in addition to the items supplied with main unit.

- i. GC column with composition 5% Phenyl 95% dimethylpolysiloxane (equivalent to DB-5/HP-5 /BPX-5) (30mx0.25mm, 0.25 μ m) – Two
- ii. GC column with composition 35% Phenyl 65% dimethyl polysiloxane (equivalent to DB-35/HP-35/ BPX-5) (30mx0.25mm, 0.25 μ m) – Two
- iii. GC column with composition Polyethylene glycol (equivalent to BP-20DB Wax/BP-20/Rt-wax) 30mx0.25mm, 0.25 μ m) – One
- iv. SEPTA for High Temperature with Teflon coating: 100Nos.
- v. Copper tubing 1/8" : 40 feet long
- vi. Nozzle Extractor tool : 02 nos
- vii. Liner quartz : 20 nos
- viii. Graphite Ferrules: 100 nos
- ix. Auto sampler syringes for normal injector:10 nos
- x. Cutter for Capillary column: 05 nos.
- xi. Auto sampler viols with Teflon liner septa and screw caps -500 nos
- xii. Syringe 5 microlitre: 10 nos
- xiii. Syringe 1microlitre: 4 nos
- xiv. Column nut 2/PK
- xv. Tool, wrench 1/4 inch to 5/16 inch
- xvi. 1/8 Nut And Ferrule Set Brass 20 nos

9. NECESSARY LOCAL ITEMS/ HARDWARE

- i. Electronic gas flow meter
- ii. Pocket-clip screwdriver, Allen key, Spanner
- iii. On-line UPS of 5KVA capacity or as per requirement with 60 minutes battery backup at full load (Preferably of UPS/Numeric or any standard brand (Price should be quoted separately in Rupees)

10. HEAD SPACE AUTO SAMPLER

- i. With transfer line/direct injection technique
- ii. With at least 10 vials capacity or more.
- iii. Entire system heating to 200°C or better in increments of 1°C
- iv. Vial temperature 50°C – 200°C or better.
- v. Overlapped Thermos tating (Vials) - 01
- vi. Transfer Line temperature 50°C – 200°C or better
- vii. Operated through GC Software
- iii. Includes all standard accessories like interface cable, reducing union, HSS Vials 22 ml with 20 mm round top,
- ix. Crimps Caps, Silicon Rubber/Teflon face septa, Hand Crimper, De-capper etc

11. OTHER TERMS AND CONDITIONS

- i. Upgradation: The GC should be upgradable (at site) to mass detector and thermal desorption unit.
- ii. Warranty: Standard warranty of one year. Four years additional comprehensive maintenance contact (CMC)/ warranty with rates quoted on annual basis. Also quote the list of consumable items, which are not

covered under CMC

- iii. Supplier should be quote their latest models of the GC system and it should be available for demonstration if required. The quotation should include essential spare part for operation maintenance of at least two years.
- iv. Quotations may be submitted along with original specific catalogue and brochures in support of the GC specification A compliance chart should be enclosed for all specifications.
- v. User list of the quoted system should be provided.
- vi. Service and operation manuals should be provided
- vii. Installation & Calibration (qualifications-IQ, OQ and PQ) as per GLP norms with Standard Test Mix should be demonstrated at user end.
- viii. Training: Proper operational, routine maintenance and familiarization with soft ware training should be provided onsite with provision of continuous updating. Visit of Application expert is required before completing the installation.

NOTE: SUPPLIER SHOULD QUOTE THEIR LATEST MODELS OF THE GC SYSTEMS

Specs after Pre-bid

GAS CHROMATOGRAPH SYSTEM

(For- CRC Pantnagar)

Specification of Gas Chromatograph

1. COLUMN OVEN:

- Oven should be able to accommodate two capillary columns.
- Oven temperature range 10 °C above ambient to 450 °C.
- Maximum programmed temperature ramps rates: 120°C/ min or more with 0.1°C increment.
- Number of temperature- programmed ramps: min 8 ramps with 9 isothermal hold.
- Temperature set point resolution 1°C or less.
- Cool down rate: 450 °C to 50 °C in 4.0 min or less.

2. INJECTORS: Split/Split less Capillary Injector with Electronic Flow Control

- Maximum temperature: 400 °C.
- Electronic Flow Control (EFC/PPC/DPC).
- Pressure range: 0-100 psi.
- Gas saver mode.
- Electronic flow control should be configurable through software: Programmed flow,
- Programmed pressure, Programmed velocity or constant flow.

3. DETECTOR: Flame Ionization Detector (FID): Temperature upto 450 °C with 1°C resolution; Linearity >106; Facility for Flame out warning; Electronic flow control

4. Provision for two additional detectors including Mass Detector.

5. Auto sampler: Fully software controlled auto sampler, top mounted (preferential); Provision for slow/normal/fast injection; Should have facility for > 100 samples; Facility for pre wash and waste collection; Reproducibility < 0.5% RSD. Auto sampler vial (2 mL) with septa: 500 Nos.

6. SOFTWARE: Computer controlled GC Licensed software; Latest software for complete control of the instrument and accessories with original CD; Should be able to capture data, data analysis and results in different formats.

7. Computer:

Branded computer (HP/DELL) with i5 or higher CPU, at least 8 GB RAM, 1TB HDD, DVD RW, 21 inch Monitor, and Windows 7 or higher, Laser Printer.

8. ACCESSORIES:

Hydrogen, Nitrogen and Zero Air (47-ltr. capacity) Gas Cylinders with stainless steel diaphragm regulators Gas Cylinders with stainless steel diaphragm regulators and Gas purification panels for H₂, N₂ and Zero air along with necessary SS tubing.

9. COLUMNS: Non- Polar (5% diphenyl capillary column, 30 m x 0.25 mm): 01 Nos.

Polar Wax column (30 m x 0.25 mm): 01 Nos.

10. Syringe: For manual injections; 0.5µL capacity: 02 Nos.

11. UPS: 5-7 KVA (Numeric/Emerson/APC) UPS should be quoted as optional item with half an hour backup for complete system.

12. Warranty: Standard warranty of one year. Four years additional comprehensive maintenance contact (CMC)/ warranty with rates quoted on annual basis. Also quote the list of consumable items, which are not covered under CMC

13. Software for RI calculator (Optional)

Note: Supplier should quote their latest models of the GC system.