

VAISHAL PATLIPUTRA DUGDH UTPADAK SAHKARI SANGH LIMITED

**PATNA DAIRY PROJECT**

Feeder Balancing Dairy Complex, Phulwarisharif, Patna-801505

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PDP: PUR: FBD 6218

DATE- 06.12.2024

Dear Sir,

We are interested in purchasing of the following items. In case you can supply the same, you may send your quotation in sealed cover addressed to the Managing Director address given above superscribing on the top of the envelop quotation for item **Gas Chromatography System** to as to reach as on or before **20.12.2024**.

All rates must be F.O.R FBD dairy on door delivery basis.

S.No.	Item	Specification	Quantity
1	Gas Chromatography (Technical Specification) enclosed		1 nos.

Thanking You

Yours faithfully

  
Manager(MM)

## Technical Specifications

### Gas Chromatography for Milk, Cream & Ghee adulteration

1. The equipment should be used for the analysis of milk, cream & direct ghee samples, for fat adulteration.
2. The instrument should be based on ISO 17678, IDF 202 method for the determination of Milk Fat purity in milk, cream & Ghee samples on Triglycerides & Fatty acids profiling (FAME).
3. Instrument should be included with the **Capillary column for Triglycerides & FAME** along with the startup kits & required spares.
4. Instrument should be included with **Automatic liquid sampler with a min of 15 positions** along with its started kits.
5. Volume capacity of column oven should be approx 14 Liters.
6. Temperature: 5°C above the ambient to 450°C.
7. Ramp Rate: 1°C to 70 °C per minute.
8. No. of Ramps: 10 with storage of 20 methods.
9. Cooling Rate: 250°C to 50°C within approx. 4 minutes at 25°C room.
10. Temperature Accuracy: 1°C of set value from 50° to 450°c
8. Detector: High sensitivity **Flame Ionization Detector (FID)** with auto flame ignition, Temperature range settable up to 400°C. in the step of 1 °C. Dynamic range 10<sup>7</sup>.
11. Minimum Detection Level equivalent 1.5pg C/sec of Dodecane.
12. Have the facility of approx 5 Independent heated zones up to 450°C for individual control of injector, detector & oven.
13. Software: Dual Channel Clarity.
14. Must required **Automated software for S value calculations**.
15. Instrument should have the facility to automatically display, print, export & start other program after completion of measurement.
16. It can Display & prints selected results from all the simultaneously displayed chromatograms.
17. Injection System should be One Split/split-less (capillary column) injector.
18. Should have the facility of Septum Purge Feature.
19. PNEUMATICS: (Electronic programmable pressure controller) for Carrier gas, Hydrogen, Air and Make-up gas.
20. Pressure switch should be provided to cut heating of oven, injector, detectors heater power in the event of carrier gas flow depletion.
21. The Constant flow or Constant Pressure facility should be upto 0 to 500 kPa (0 to 70 psi).
22. Should have the key facility for setting of the parameters, status LED indications including oven ramp status , event control relay output, Logic inputs and outputs.
23. Instrument Display: 80 Characters (20 X 4 lines) LCD.
24. Power: 230V Ac ± 10V Ac
  
25. Required suitable PC, Printer, UPS, Gas Cylinders, Gas purification & Regulators will be in the scope of user.
26. For Sample preparation from Milk & cream (Centrifuge, Centrifuge tube, Hot plate, Filter paper, Sodium Sulphate, n-Hexane (AR Grade), micro-pipette) should be available at lab.

