

Technical Specifications: GC Analyzer

- Standalone GC for analysis of gas mixtures, H₂, O₂ & CO₂ using 3 channels and appropriate columns.
- The system should be upgradable for 4th channel option
- Independent control for each channel with its separate pneumatics, injector, column and detector
- Micro-machined injector with no moving parts. The automatic gas injection system should be capable of connection to electrochemical cells.
- Software selectable injection volume from 1 to 10 microliters.
- Option for manual injection with gas tight syringe 5 mL capacity
- Injector heating option up to 100°C
- Automated injection system to be coupled with reaction cell and the necessary accessories (tubing, connectors etc.) for connection to be quoted
- Sample inlet should have appropriate filters for removal of moisture and particulate in gas stream
- Time programmable Backflush capability to remove heavier compounds.
- Detection of Gaseous Components Hydrogen, Oxygen and CO₂ in Nitrogen/Air stream at 10 ppm to 1000 ppm concentration level.
- Sample reaction apparatus is maintained at ambient pressure and instrument should have in-built sample pump for sampling.
- Maximum operatable sample inlet pressure at 15psi.
- Carrier gas options for Argon and Helium should be provided
- Detectors: MicroTCD based suitable detectors for above analysis
- Detection range for the given gases: 5 ppm LOD
- Linear Dynamic range of the detector 10⁶ or better
- Repeatability: <0.5% RSD using suitable compound
- Temperature range of column oven to be 30 to 180°C.
- Operation of columns in the above temperature range with temperature stability of ±5% or better
- Columns to consist of Molecular sieve, Porapack U, or equivalent for analytical separation
- Power requirements are 180-250 VAC, 50 Hz
- Licensed instrument software for controlling the GC and automated analysis, Calibration, calculations, estimation and reporting of results
- Gas Cylinder with double stage regulator and Filters to be added for Argon, Helium and Nitrogen gases.
- Warranty: 3 years. (split up to be shown for the additional two years after the free first year warranty)

- The vendor should ensure supply of spare parts and service for the quoted system for at least another 10 years.
- The vendor will be responsible for installation, commissioning of the instrument and training.
- The vendor should have local service engineers.
- The vendor should give a list of at least five users in India with their contact details.
- A compliance statement of the quoted system against each technical specification should be provided.