

Export Inspection Agency -Kolkata

Annexure

Detailed Specification for Lab Equipments

1. Gas Chromatograph.

- Operating temperature(column)- ambient to 450°C.
- Central control of all Heated zones.
- Column oven to accommodate 2 columns .
- Max Temperature ramp rate 115°C.
- Temperature programmable oven- minimum 20 ramps per programme.
- Rapid column oven cool down-450 to 50°C in less than 4.5 minutes .
- Full Electronic Pneumatic/ Flow Control for all inlets and detectors.
- Inlet modules – Pressure sensor Accuracy $\leq \pm 2\%$ full scale .
- Flow sensor accuracy $\leq \pm 5\%$ full scale .
- Minimum 16 channels for inlets ,detectors, gases .
- Pressure setting range of 0- 95 PSI in increments of 0.001 PSI .
- Flow sensor for controls and storage of split ratio.
- Inlet capable of taking a flow of 200mL/min of nitrogen and 1250 mL/minute with Hydrogen .
- Multiple methods with protected memory up to 50.
- Capable to use capillary columns from 50 microns and above and packed columns(Capillary Columns for OC& OP pesticide analysis to be provided).
- Auto injector/ sampler with not less than 50 samples injection tray , with good area reproducibility provided with syringe size from 1 μ l to 100 μ l.
- Syringes sizes 10 and 25 μ l be provided .
- System shall support two inlets, three detectors, four detector signals.
- Capable to upgrade with purge and trap system and head space sampling system
- Capillary s/sl inlet
- Should have very good area reproducibility and injection volume linearity
- Good retention time repeatability
- Minimum Required Accessories to run the GC including spares .

Soft ware:

- Multitasking operation system based on Microsoft Windows NT/ Windows XP Professional
- LAN/ ether net interface capable of instrument control, data acquisition, data analysis, library search and quantification,
- Retention time locking facility and run time diagnostics.
- Preprogrammed Leak tests.
- Appropriate computer system with printer to run the GC to be provided

Detectors:

ECD(Electron Capture detector)-

- Micro electron capture detector with electronic flow control
- Max temperature 400°C

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- MDL of less than 7 fg/s Lindane,
- With best dynamic range,
- Data acquisition rate up to 50 Hz

NPD (Nitrogen – Phosphorus Detectors),

- With electronic flow control
- Max operating Temperature 400°C
- MDL – less than 0.4 pg/s – N and less than 0.2 pg P/s for S with azobenzene/ malathion/ octadecane mixture
- With best dynamic range.
- Data acquisition rate up to 200 Hz

2. Nitrogen Air Generators:

- Oil free air compressor with cooling system to produce ultra high purity(UHP) Nitrogen by removing oxygen and other impurities,
- Pure air purifier with cooling coil micron filters, filters to remove moisture, dust.
- Automatic air dryer with efficient desiccant to remove moisture to very very low level
- Capacity : Nitrogen 200ml/ minute at 5kg/cm² and Zero Air 1500 ml/m at 5Kg/cm²+, suitable for hassle free operation of GC.

NOTE:1. Shall be provided with the essential accessories for the instruments.

2.Capable of upgrading to MS system

3. Spares for at least two years

Optional Item: Head space sampler for flavour analysis