



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
**MATERIALS MANAGEMENT DIVISION**  
**Powai, Mumbai 400076**

**For PR No.1000015855 (RFx No.6100000456)**  
**Revised Technical specification for Gas Chromatography System**

Gas chromatography System for analysis of liquid samples

**GC OVEN**

Temperature range : above ambient to 450°C with user selectable.  
Ramp rate : Maximum achievable temperature ramp rate: 250 °C/min  
Oven : Direct Heating to column with Guard chip to trap high boilers  
Oven Cool Down : 450 to 50 Deg C in 4.0 minutes or better  
Ramps : Atleast 9 ramps and 10 programming steps

**PNEUMATICS**

Programmable Electronic control for injectors with single point control via software. Automatic leak testing and three ramp pressure program.

**INJECTOR**

**Split/Splitless Injector– 01 No.**  
Maximum temperature: 400 Deg C or better  
Electronic Flow Control (EFC)

**DETECTORS :**

**FID DETECTOR - 01**

Detection limit < 1.5 pg c/s or better  
Data acquisition speed up to 400 Hz or better  
Dynamic Range > 10<sup>7</sup>

System should have capability of locking/adjusting the retention time so that same retention time can be produced system to system and method should be electronically transferred.

**COLUMNS:**

1. DB-1, 20m, 0.18 mm, 0.40um or equivalent
2. Cyclosil-B30% Heptakis (2,3-di-O-methyl-6-O-t-butyl dimethylsilyl)-b-cyclodextrin in DB-1701 (ID 0.25 mm, Length 30m) or equivalent

**LIQUID AUTO SAMPLER:**

Liquid autosampler should have capacity of Minimum 15 Vials. It should inject from 0.1ul to 50.0ul with variable speed & varying syringe sizes & must be operate from software It should have a reproducibility of <0.5% RSD.

**OPTIONAL LOCAL ITEMS:-**

**ACCESSORIES**

Necessary Gas Cylinders (2 nos.) for Nitrogen, Hydrogen, Zero Air, double stage SS Regulators, Gas Purification System for all gases.

Latest Branded PC and Colour Laser Printer, 10 KVA online UPS with 120 min. backup, suitable cooling system.