



## INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

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### Technical Specifications for TLC interfaced mass spectrometer

**Mass detector Should be used for the below applications:**

Should be used as a Stand-Alone Independent Compact Mass Spectrometer by using Direct Injection Mode

Reaction Monitoring for compound identification and conformity via Direct Injection of crude reaction mixtures

Should have capabilities to interface to Automated TLC interface module for direct mass analysis of TLC spots ( TLC-MS)

Rapid pump down which allows availability for the system run samples just 30 minutes after being moved

Should have connection of up to 16 digital and analog I/O to optimize the instrument for any Chemistry workflow.

The mass spec should be able to fit in a fume hood

Enclosed and N2-purged source and closed electronics for safety

**Technical Specifications:**

System should be supplied with ESI (Electron Spray Ionization) – source

**Polarity** : Positive & negative ion switching in single analysis should be possible

**Mass Range** must be at least from  $m/z$  10 to 1,200 or better

**Acquisition Speed** : 10,000  $m/z$  units / sec or better (compatible with any Flash Chromatography and UPLC / HPLC).

**Accuracy** :  $\pm 0.1$   $m/z$  units over entire acquisition range or better

**Stability** :  $\pm 0.1$   $m/z$  units over 12 Hour period - 18 deg C - 24 deg C Operating temperature or better

**Polarity Switching Speed** - 50 ms or better

**Analyzer:** Single Quadrupole analyzer

Nitrogen gas consumption should be less than 10L/min

**System should be supplied with TLC interface module**

A device which can provide a simple, automated means of obtaining mass spectra directly from TLC plates which should combine with MS for quick identification of products in complex mixtures without additional sample preparation

**Warranty** : Three years from the date of successful installation/commissioning of equipment