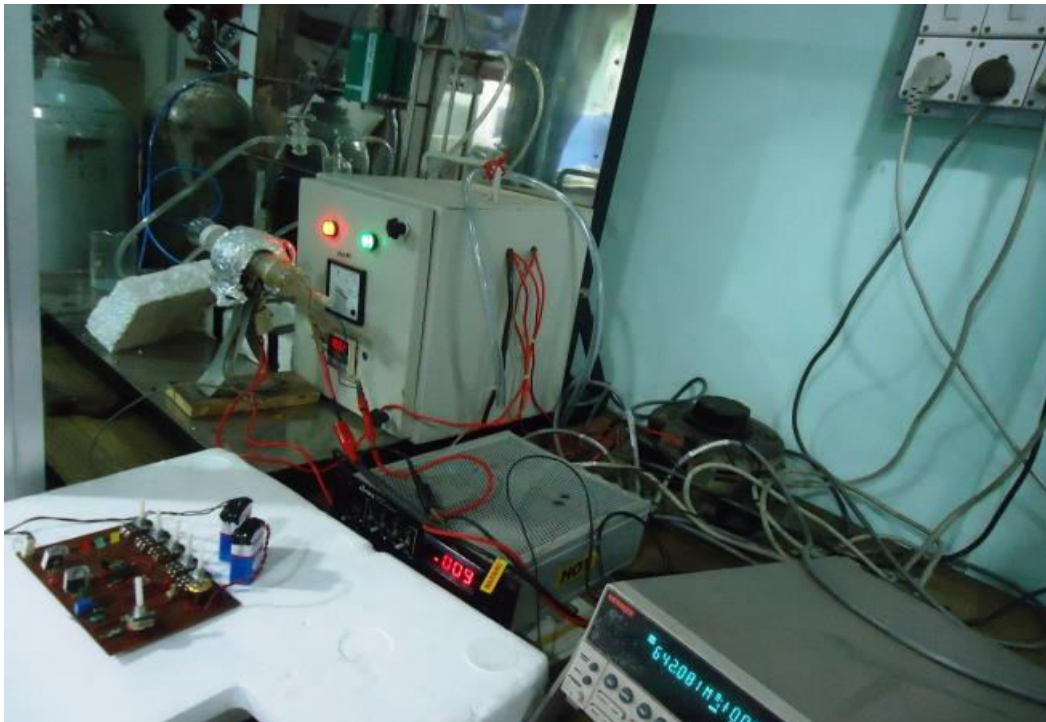


ULTRASONIC VIBRATION

1. CLEAN BENCH / 2. ELECTRON BEAM (EBEAM)

Equipment Picture :



GAS & VAPOR SENSOR MEASUREMENT SET UP



EBEAM UNIT

Description of the facility :

Gas & vapor sensor measurement set up:

The unit is used to characterize the sensing behaviour of the fabricated sensor device. For sensor characterization, the device is placed in a cylindrical glass chamber heated to the desired temperature by a proportional-integral-derivative temperature controller with $\pm 1^\circ\text{C}$ accuracy. The desired concentrations of test vapor (acetone) is diluted with dry synthetic air (controlled by Mass Flow Controller (MKS, USA)) and flowed into the test chamber to achieve desired ppm level. A computer controlled Keithley 6487 picoammeter/programmable voltage source is used to measure the resistance/current in presence and in absence of test vapor .

Ebeam :

The instrument is used to deposit the metal electrode contact on the sensor device. Mainly Pd, Au and Ti were deposited. The maximum vacuum pressure of 10^{-6} torr it can maintain for metal deposition.