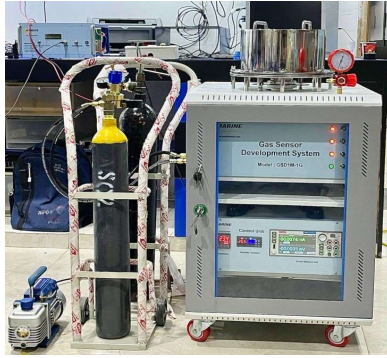


# GAS SENSOR DEVELOPMENT SYSTEM

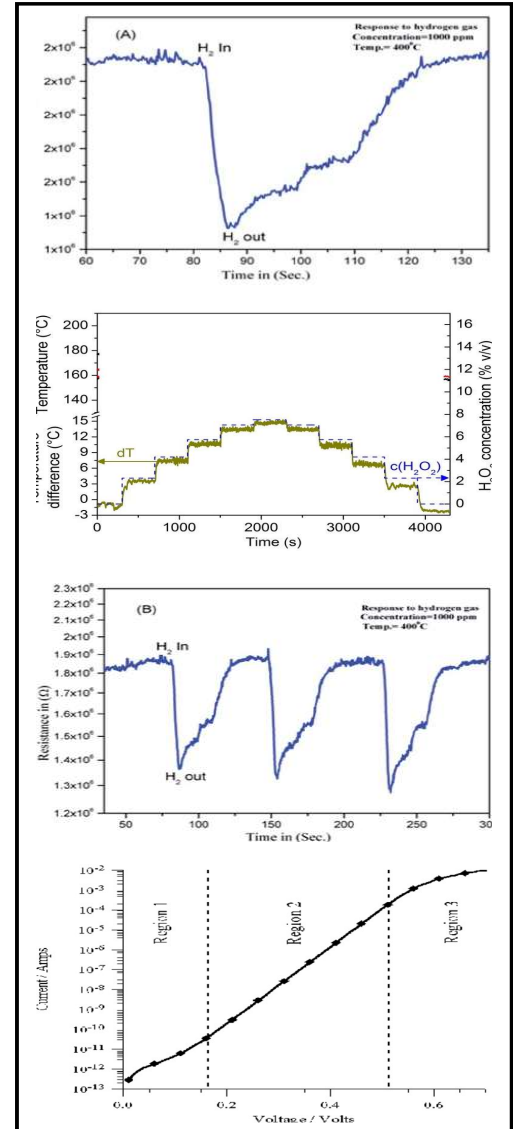


## ABOUT THE SYSTEM

## MODEL: GSD1M-1G

The Gas Sensor Development system is designed and developed by our company and has recognition worldwide. The model is most advanced in its specifications and can undertake various tests defined below. The system measures change in DC resistance in presence of **controlled gas/ vapour**. The new system is digital and has PC USB interface. Total operations are performed by highly advanced **Gas Sensor test software**. Following are the main highlights of the system.

- Gas Chamber: **Air Tight/ Vacuum**.
- Gas Purging: Controlled via **MFC 0 – 200 sccm** with **0.1 sccm** accuracy.
- Gas Mixing: **In predefined PPM** in separate cylinder/ chamber.
- Flow Rate: **Automatic in ppm level**.
- Temperature Variation: **RT – 573K**
- Measurement: **Four probe**.
- Response: **Charge resistance dielectric parameter**.
- Sample: **Film/ Wafer/ Pellet**.



## TESTS PERFORMED

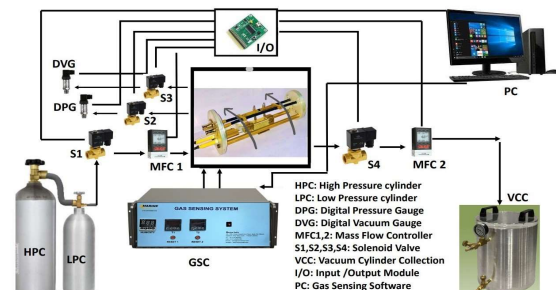
Change in DC resistance in presence of controlled Gas/ Vapour:

- ✚ Room temperature
- ✚ Temperature variation
- ✚ Gas concentration

## SOFTWARE FEATURES

User can control the following features below using Automatic Gas Sensor Software.

- ✚ Current vs Voltage/Resistance over desired temperature range.
- ✚ Set the desired vacuum level or purge air flow.
- ✚ User can set MFC to desired flow rate and select the desired combination of gas.
- ✚ Open/ Close Solenoid valves.
- ✚ The temperature control stage will control the ramp rate set point and other PID functions.
- ✚ Communicate with Keithley electrometer to set current or voltage and read vice versa.



# GAS SENSOR DEVELOPMENT SYSTEM

**TECHNICAL SPECIFICATION**

**MODEL: GSD1M-1G**

|                                    |  |
|------------------------------------|--|
| <b>Gas Sensor Main Unit</b>        | <b>GSD1M-1G</b>                              |
| Sample Holder Chamber Construction | SS304  |
| Sample Holder Chamber Volume       | 1-5 Litre                                    |
| Inlet                              | 2 – 5 Gases                                  |
| Outlet                             | 2 Ports                                      |
| Sample Connectors                  | BNC  |
| UV Purging                         | Quartz Window                                |
| Inlet/ Outlet Control              | Solenoid                                     |
| Sample Type                        | Pellet/ Wafer/ Film                          |
| Sample Dimension                   | 10 – 50 mm                                   |
| Thickness                          | [0.1mm to 1mm(bulk)] - [10µm to 100µm(Film)] |
| Gas Mixing Chamber Construction    | SS304  |
| Gas Mixing Chamber Volume          | 1-5 Litre                                    |
| Chamber Shape                      | Cylindrical/ Horizontally Mounted            |
| Control Purging                    | MFC  |
| <b>MFC 0 – 200SCCM</b>             | <b>Specifications</b>                        |
| Accuracy                           | 0.6%   |
| Linear range                       | 0.01-100% of full scale.                     |
| Multi-gas calibration              | COMPOSERTM gas Composition firmware.         |
| Interface                          | RS232 USB                                    |
| <b>Source Measure Unit</b>         | <b>2450</b>                                  |
| Voltage Range                      | 20 mV – 200 V                                |
| Resolution                         | 500nV  |
| Current Range                      | ± 10nA to ±1A                                |
| Resolution                         | 500fA  |
| Basic Accuracy                     | 0.012%/                                      |
| DC Resistance Range                | 0.1mΩ – 20GΩ                                 |
| <b>Temperature Stage</b>           | <b>Specifications</b>                        |
| Temperature range                  | RT – 573°K                                   |
| Ramp Rate                          | 1°K – 10°K                                   |
| Resolution/ Accuracy               | 0.1°K/1°K                                    |
| Type                               | Low Noise DC Heating                         |
| Supply                             | 110/220V 50Hz/60Hz                           |
| <b>Mounting</b>                    | <b>Specifications</b>                        |
| Mounting Trolley                   | (LXBXH) 3X1.5X2.5 Ft                         |
| Construction                       | SS304  |
| <b>Vacuum Pump/ Air Pump</b>       | <b>Specifications</b>                        |
| Flow Rate                          | 3.5FCM                                       |

(For optional items separate brochure is available)

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