INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai 400076

Technical Specification :

Portable High Pressure HydrogenGas Generator

A portable high pressure hydrogen generator based on electrolysis of water with following specifications:

1. Compact size (desktop)
2. Compatible with various Flow and Batch Reactors.
3. It should be a standalone equipment without any additional external compressor
4. The Hydrogen Gas Flow Rate should be adjustable and controlled from 100 mL to 1000 mL/min.
5. The Gas Pressure should be Adjustable and controlled from 1 bar to 100bar
6. The Purity of the Gas should be minimum 99.99 %.
7. It Should detect and monitor the consumption of Hydrogen gas when connector to a reactor.
8. The system should have touch Screen to display the Set and Actual Values of Pressure and Flow rates, water level, the flow rate of hydrogen leaving the system, Output and internal pressure, H2 feed volume, Temperature of the internal water system.
9. It should be capable of providing the amount of hydrogen consumed since the reactor reached set pressure.
10. It should be capable of indicating how much hydrogen is reacted or when the hydrogenation reaction is completed.
11. Graphical means to show the hydrogen consumption- pressure and flow rate
12. System should stop when no hydrogen consumption is detected.
13. The data should be exportable with USB and RS232 port.
14. Should have separate protocol for Batch reactors, Flow reactor and for Balloon filling.
15. The system Should have in built Hydrogen leak detector.
16. The system should have in built water leak detector
17. The system should have audible and visual alarms.
18. The System Should be supplied with 1 year warranty.