



SemiConductor Applications

Low Footprint, High Precision Mass Spectrometer System

ReacTorr-S

From ESS Ltd

The ReacTorr-S from ESS represents the very latest in technology for a range of Semiconductor Process monitoring applications, including:

- Vacuum Monitoring
- CVD
- Baseline RGA
- Outgassing of Wafer
- Ion Implant
- Etch
- Transfer Chamber monitoring
- Pump-down profile monitoring
- Leak Testing
- Process Gas Purity

ReacTorr-S is unique in that it offers true monitoring throughout the entire process stage. A special automated inlet valve is regulated by means of direct feedback control; the inlet valve adjusts automatically irrespective of the process pressure, maintaining a constant pressure in the Mass Spectrometer system at all times. With its very small footprint, ReacTorr-S is a highly cost effective solution in clean rooms.

At the heart of the instrument is a very sensitive Quadrupole Mass Spectrometer, which is equipped with an enhanced enclosed ion source, giving ppb detection levels coupled with superb stability and fast response time. The design of the system is further underpinned by ESS legendary reliability.

The compact design means that the system can be mounted directly onto the process tool so true monitoring conditions are met, and a powerful, easy to use software suite operates and controls the system. The software package has been specifically designed for process tool applications, and allows the user individually selectable operating modes for a particular process application. ReacTorr-S will save time and money and significantly enhance the integrity of your process application.



ESS Ltd

GeneSys House | Denton Drive | Northwich | Cheshire | CW9 7LU UK

Tel: +44 (0)1606 49400 | Fax: +44 (0)1606 330937

Email: sales@essco.com

Web: www.essco.com



ReacTorr-S

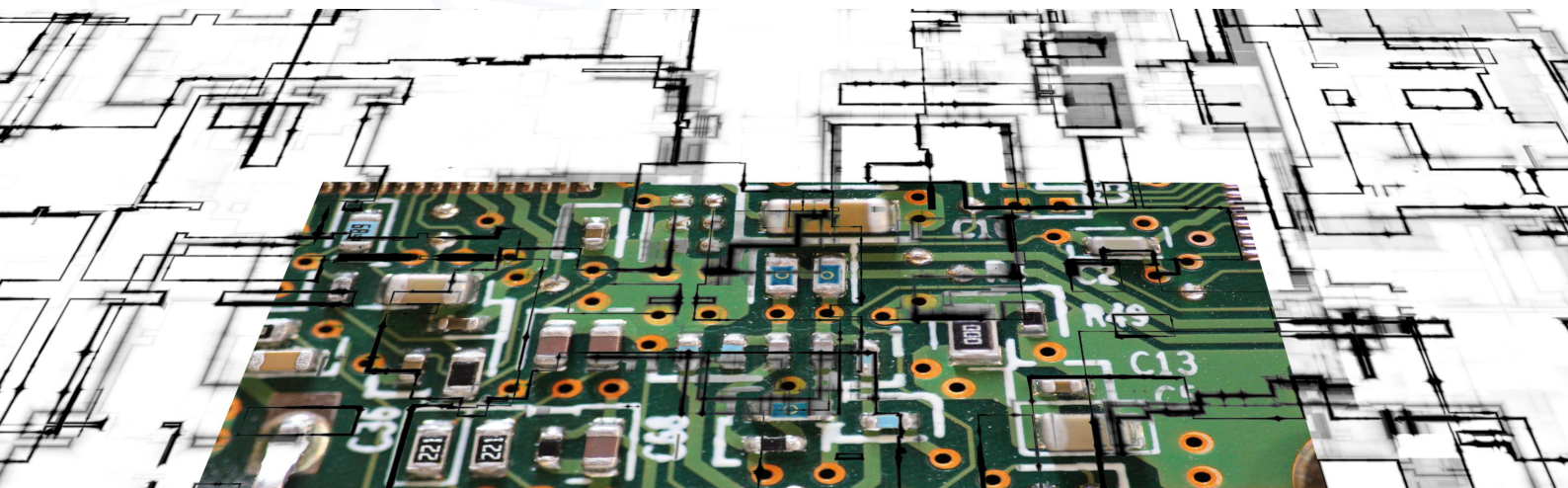
Some of the capabilities are highlighted here:

Real Leaks - by tracking the ratio of N₂ to O₂ during the pump-down phase, it is quick to establish if a leak is real or virtual. In the event of a real leak, the system will alert the operator to enter a dedicated leak detect mode to locate the source of the leak.

Material Outgassing - establish better quality control by monitoring outgassing characteristics and creating a 'profile' for that process tool.

- **Bakeout outgassing profiling**
- **Statistical Process Control**
- **Yield Improvement**

ReacTorr-S can be used on single chamber installation and cluster tools alike. Full control of the vacuum system is from the control PC, which connects to the analyser electronics by means of an Ethernet cable (wireless operation optional), and the simple to use software allows for operation from simple baseline RGA studies up to full statistical process control.



ESS Ltd

GeneSys House | Denton Drive | Northwich | Cheshire | CW9 7LU UK

Tel: +44 (0)1606 49400 | Fax: +44 (0)1606 330937

Email: sales@essco.com

Web: www.essco.com