Deposition Technology Datasheet

Spectroptix

SPECTROPTIX OPERATING PLATFORM

Deptec's Spectroptix utilizes EVOS as our operating platform. This means the RPS unit is fully interfaceable with most other operating platforms.

DEPTEC TECHNICAL CENTRE

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EMAIL: info@deptec.com
WEBSITE: deptec.com

OPENING HOURS

Monday – Friday
8:30am – 5pm

Deptec's Spectroptix® is a Remote Plasma Spectrometer (RPS) that works on the principle of creating an independent background plasma inside a vacuum chamber, then determines the species of the gas from analyzing the light spectrum omitted from the plasma. This allows the user to determine what materials are present in their vacuum chamber.

Advantages

- Optical Endpoint Detector Replacement for Novellus, Applied Materials and LAM Research Equipment
- Replace single and dual wavelength endpoint detectors with faster multi wavelength optimised detectors. Over 5000 older generation detectors still in use in the field
- Closed Loop Control of Gases for Reactive PVD Processes
- Chamber Analysis
- Replace RGA for vacuum chamber gaseous composition analysis. Faster response, easier to interpret through software customisation
- Remote plasma option for remote analysis and easy integration. Customised high pressure plasma source allows higher operating pressures than standard RGA Systems

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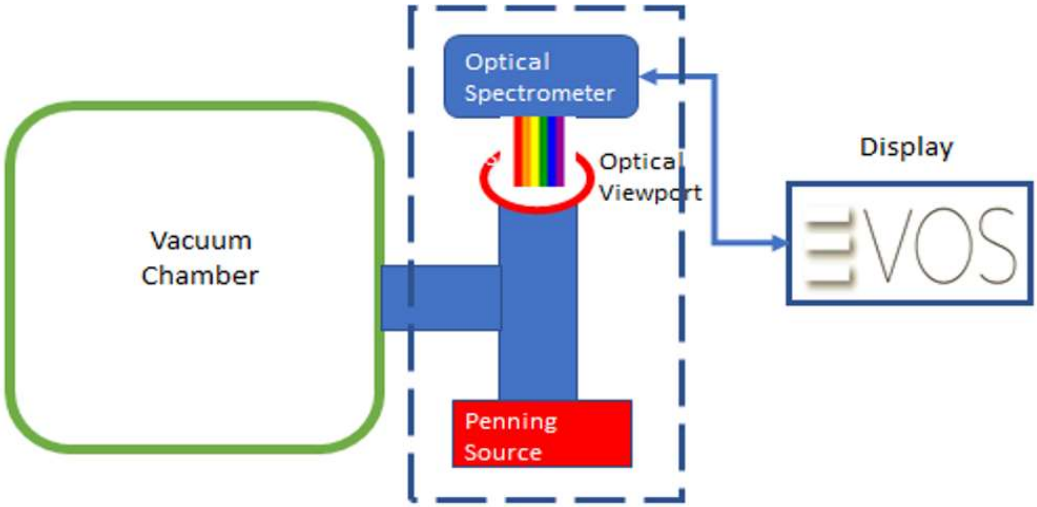
Spectroptix Design



Some blurb on the design…….

Spectroptix Vs RGA

Spectroptix	RGA
Spectroptix has a no thin filament, only the sturdy element in the Penning source.	The RGA head uses sensitive filaments that are easily damaged and causes downtime when it needs changed
The optical Spectrometer operates at the speed of light, 10 msec scan rate	RGA operates typically at several seconds response
Operates 100 mT to 10-8 Torr	Operates <10-4 Torr
Direct chamber monitoring – no need for differential pumping unless atmospheric sampling	Higher than 10-4 mbar pressure needs differential pumping – loss of sensitivity
The Penning Source handles volatiles in the vacuum chamber	Continued exposure to volatiles will cause RGA head to fail
Spectroptix can be used for gas monitoring, leak detection, pump-down monitoring, water tracker, end-point detection, closed loop control	RGA primarily used for gas ID and leak detection, not many other functions possible
Spectroptix analytical is separated from vacuum and corrosive/toxic gasses by the viewport	The active RGA head is inside the vacuum chamber with all the media, hard to clean in-situ and easily contaminated
Cost typically <$4,000	Cost typically >$10,000

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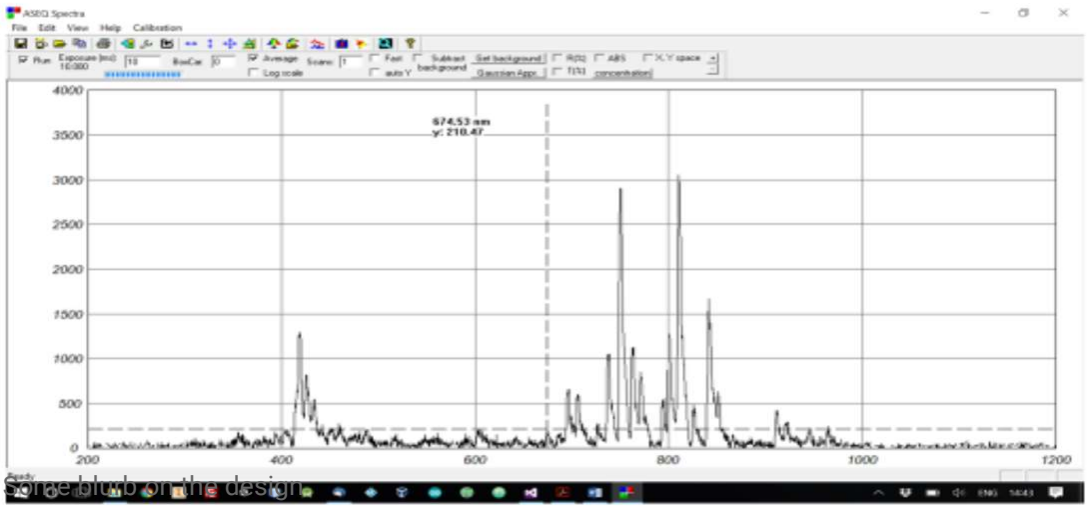
Spectroptix EVOS Screenshots

Spectra Scan 200sccm Argon Flow - 2.85KW Plasma



Some blurb on the design

Spectra Scan 100sccm Argon Flow - 2.85KW Niobium Plasma

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Specifications

Pressure Operating Range	100 mTorr to 1x10-8 Torr
Input Voltage	Up to 24v
Output Voltage	Up to 3kV
Spectral Range	200nm to 1200nm
Serial Output	RS232, RS485, USB
Vacuum Connection	KF25, CF25 as standard. Custom options available
Display Options	Tablet, Laptop, tool integration
Control Software	EVOS

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