ADVANCED™
VACUUM
A Plasma-Therm Company

Vision 410 PECVD

INNOVATION ◆ EXCELLENCE ◆ PARTNERSHIP

ENABLING SUSTAINABLE SUCCESS

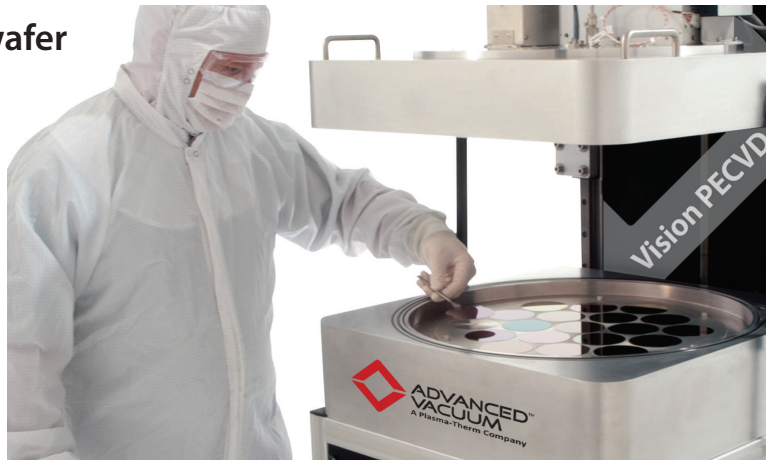
Advanced-Vacuum.com

Vision 410 PECVD – A Cost Effective Manufacturing Solution with High Reliability and Built-in Endpoint System

Multiple films can be deposited with excellent uniformity, film thickness, composition and stress control.

Maximized Productivity (lowest cost per wafer

- Fast deposition rate
- Large batch sizes
- Low cost of ownership
- High degree of process control
- Flexible batch or single wafer processing on 406 mm electrode
- Films of SiO_2, Si_3N_4 or SiO_xN, SiC, a-Si
- Low Stress SiO_2
- Index-adjusted SiO_xN



Vision 410 Plasma Enhanced Chemical Vapor Deposition (PECVD)

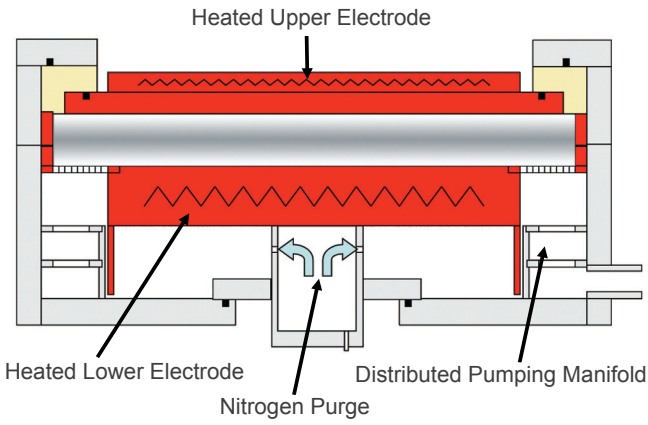
Vision 410 with control system and EndpontWorks® computers

Superior Film Quality with Isothermal Heated Wall Technology

- Ideal for low automation manufacturing
- Small footprint minimizes cleanroom costs (<1.0 m^2)
- Easy handling of non-standard substrates and carriers is ideal for R&D and special projects
- Reliable system performance using best of breed components

High Quality Films with Isothermal Plasma Process Reactor

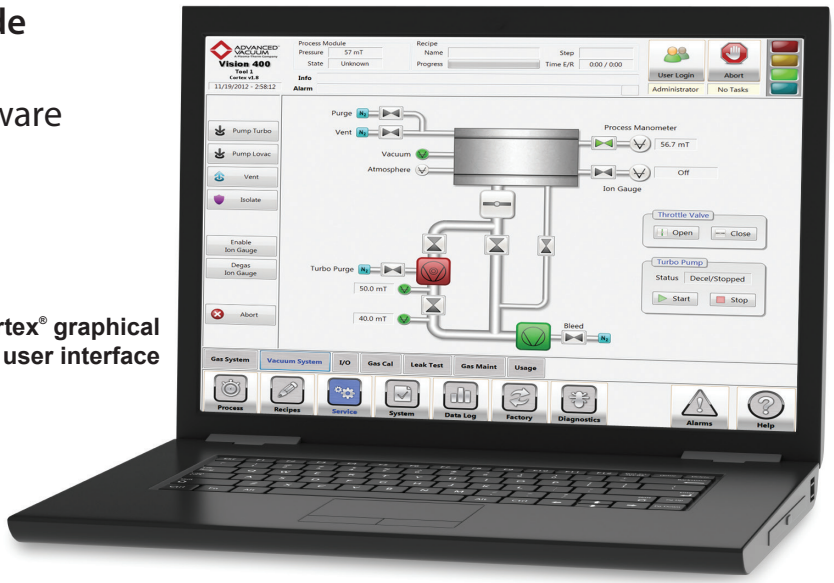
- Low maintenance
  - Shorter clean cycles with small plasma volume
- Low particulates with better film adhesion to chamber walls and showerhead
  - Cleaner internal chamber components using nitrogen purge
- Enhanced uniformity with distributed gas injection and pumping manifold



Cross section of isothermal plasma process reactor

Flexible Configuration Addresses a Wide Variety of Applications

- User-friendly, Windows-based Cortex® Software
- Strong data logging capability
- Maintenance I/O screen and maintenance
- Multiple user access levels
- Alarm history
- Integration with our proprietary endpoint software, EndpointWorks®

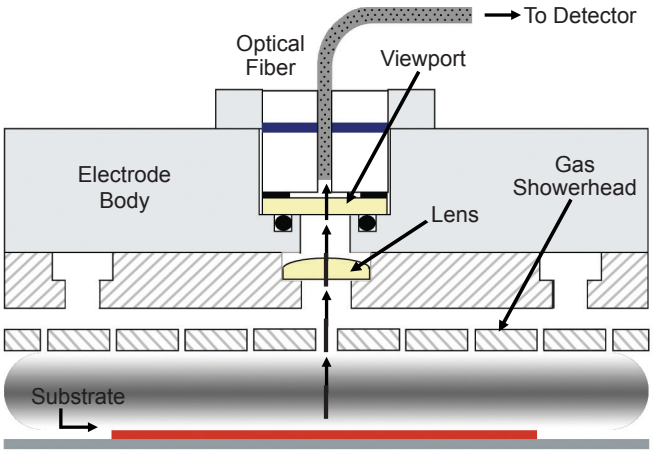


Cortex® graphical user interface

EndpointWorks® graphical user interface

Process Control of Target Film Thickness

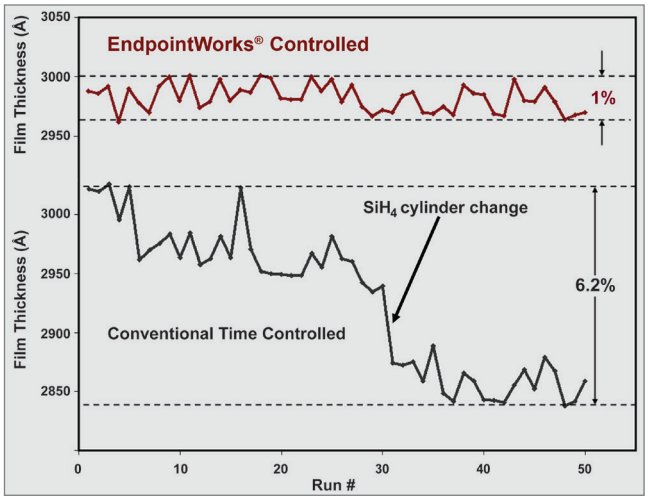
- Optical Emission Interferometry endpoint (OEI)
- Film thickness reproducibility demonstrated to compensate variability of production environment
- Data shows film thickness consistency even with source gas cylinder change



Cross section of OEI on PECVD chamber

Advanced Process Control Ensures Quality Results Using Plasma-Therm's Unique EndpointWorks®

- Real time deposition rate monitoring (OEI)
  - ± 1% repeatability with real time thickness monitor
- Highly uniform within wafer and wafer-to-wafer films
  - ± 2.5% film thickness uniformity within wafer
  - ± 2.5% film thickness uniformity wafer-to-wafer
- Optimized in-situ plasma clean processes (OES)



Run-to-run repeatability

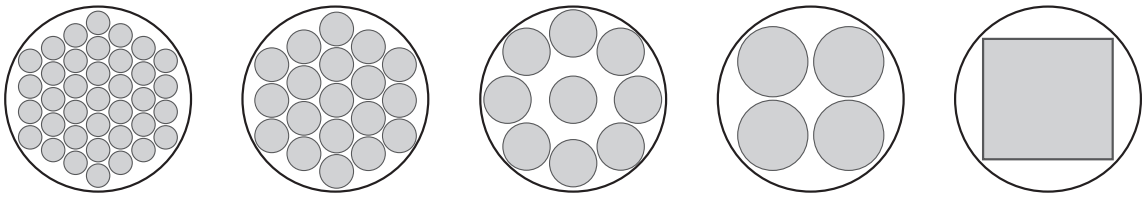
Patented Endpoint System

- No alignment needed
- No laser to adjust
- Higher resolution of thin-films than laser
- Dual purpose: Optical Emission Interferometry (OEI) and Optical Emission Spectroscopy (OES)

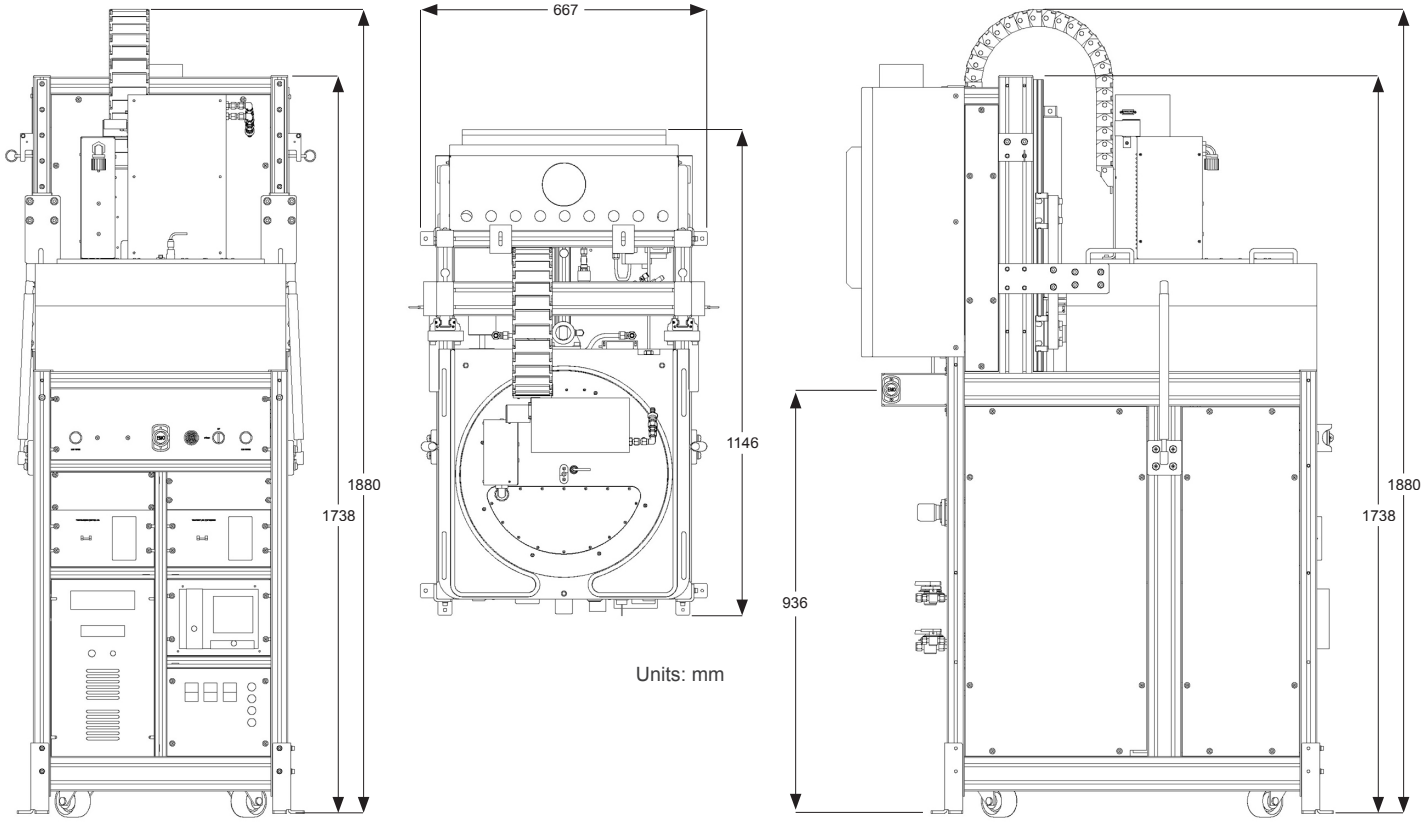
Vision 410 PECVD Specifications

Electrode Size		16" (406 mm) diameter
Electrode Temperature		80°C to 350°C
Upper Electrode RF Package		Dual range 60/600W, 13.56 MHz (optional 1,200W, 13.56 MHz)
Loading		Manual
Pumping		10,000 l/min Dry Backing Pump
Gas Lines		Up to 8 channels (6 channels included)
Control System		Cortex® on Windows™ 7
Endpoint Detection (optional)		Optical Emission Interferometry (OEI) / Optical Emission Spectroscopy (OES)
Power Requirements		380-415 V, 50 Hz
		200-230 V, 50/60 Hz
Dimensions	Height	188.0 cm
	Depth	114.6 cm
	Width	66.7 cm
Certifications		CE, SEMI-2, S8
Factory Communications		SECS/GEM

Flexible Substrate Loading Configurations



37 x 2"/50mm | 19 x 3"/75mm | 9 x 4"/100mm | 4 x 6"/150mm | Ø 16" platen for custom sizes



Units: mm

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ADVANCED VACUUM™
A Plasma-Therm Company

Järngatan 12, 234 35 Lomma, SWEDEN
ph: +46 40534070 fax: +46 40411318
information@advanced-vacuum.se