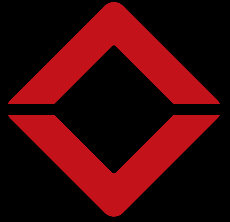


Vision 420 RIE

INNOVATION ◆ EXCELLENCE ◆ PARTNERSHIP

ENABLING SUSTAINABLE SUCCESS

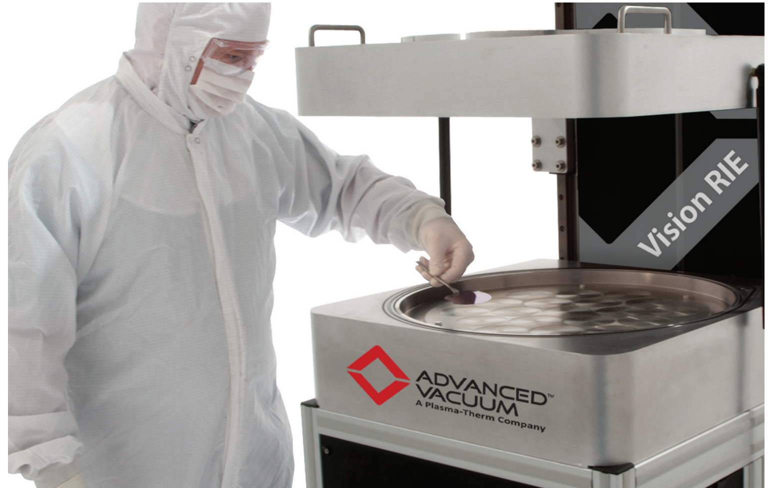
Advanced-Vacuum.com

Vision 420 RIE – Highly Reliable and Cost Effective Solution for Both R&D and Manufacturing with Optional Endpoint System

Robust technologies of the Vision 420 RIE provide etching capabilities for a wide range of materials with a large electrode format.

Vision 420 RIE is a new complimentary platform and serves full production and R&D facilities in diverse markets:

- LEDs
- MEMS
- Nanotechnology
- Photonics
- Wireless
- R&D
- Failure Analysis

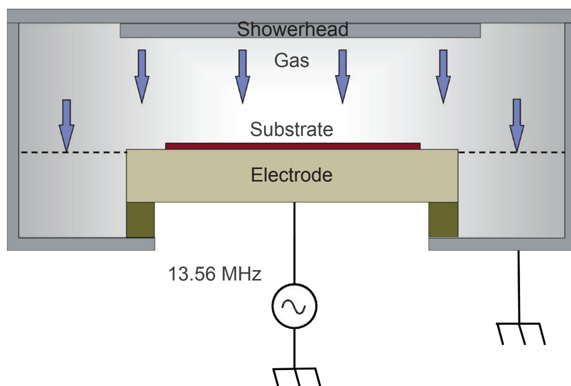


Vision 420 Reactive Ion Etching (RIE)

Vision 420 with control system and EndpontWorks® computers

Advanced Vacuum's process technologies and know-how are condensed into a compact package for premium results

- Excellent uniformity
- Small footprint minimizes cleanroom costs (<1m2)
- Easy handling of batch loading, non-standard/fragile
- substrates, carriers and pieces up to 16" diameter
- Reliable system based on field proven proprietary technology
- Robust, intuitive layout for easy processing, data-logging, service and direct maintenance

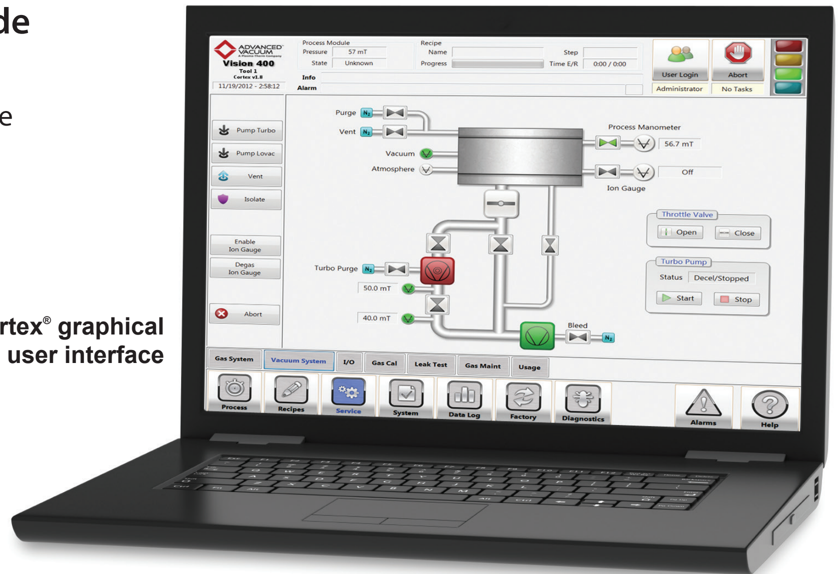


Enhanced Performance with Distributed Gas Injection and Pumping Manifold

- Robust, intuitive layout for easy access
- Minimized maintenance intervals
  - Shorter clean cycles with small plasma volume
  - Low particulates
- Features magnetically levitated turbo pump
- Innovative showerhead design for highly uniform gas delivery
- Outstanding ease of service and maintenance
- Quick removal of chamber components for cleaning or swap

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®



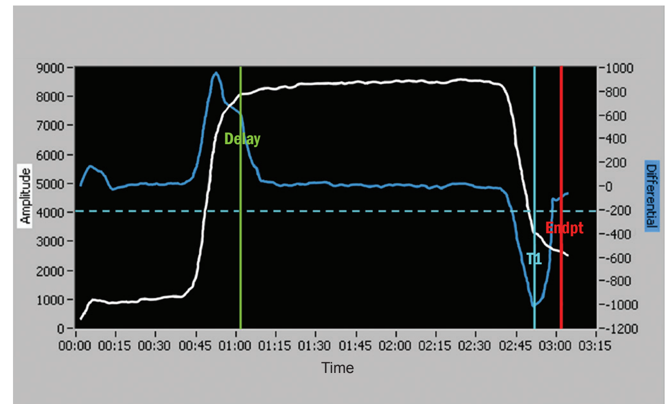
Cortex® graphical user interface

EndpointWorks® graphical user interface

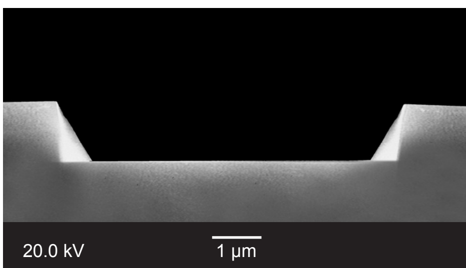
Advanced Process Control Ensures Quality Results Using Plasma-Therm's Unique EndpointWorks®

- Excellent reproducibility with real time etch endpoint for multi-layer structures
  - Optical Emission Spectroscopy (OES) detection of endpoint for multi-layer structures
  - Additional system parameters available for process endpoint recognition
- Capable of fully data logging of endpoint history
- Improved productivity without unnecessary over-etch

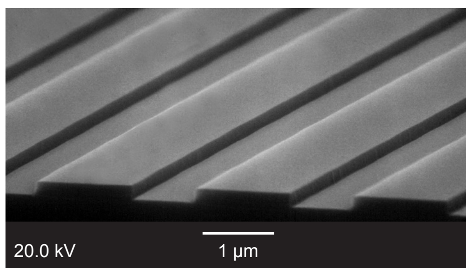
Proven Manual Load Systems with a Worldwide Installed Base



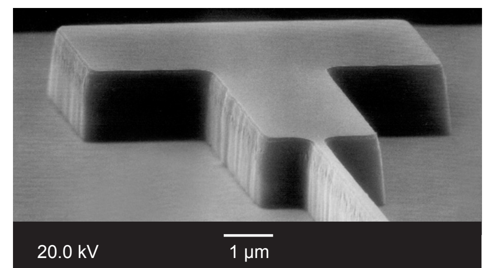
EndpointWorks® typical display for etch endpoint



Quartz



Silicon Nitride

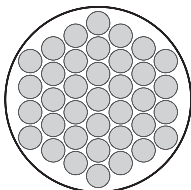


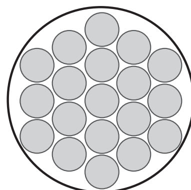
Deep Oxide

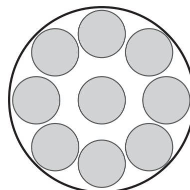
Vision 420 RIE Specifications

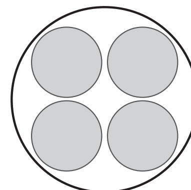
Electrode Size		16” (406 mm) diameter
Electrode Temperature		20-25°C (via liquid to liquid heat exchanger)
RF Electrode Bias		Dual range 600W, 13.56 MHz (optional 1,000W, 13.56 MHz)
Loading		Manual
Rough Vacuum		1,600 l/min Dry Backing Pump (optional 2,600 l/min)
High Vacuum Pumping		300 l/s Edwards (magnetically levitated) turbo
Gas Lines		Up to 8 channels (4 channels included)
Control System		Cortex® on Windows™ 7
Endpoint Detection		Optional - 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

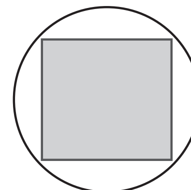
Flexible Substrate Loading Configurations

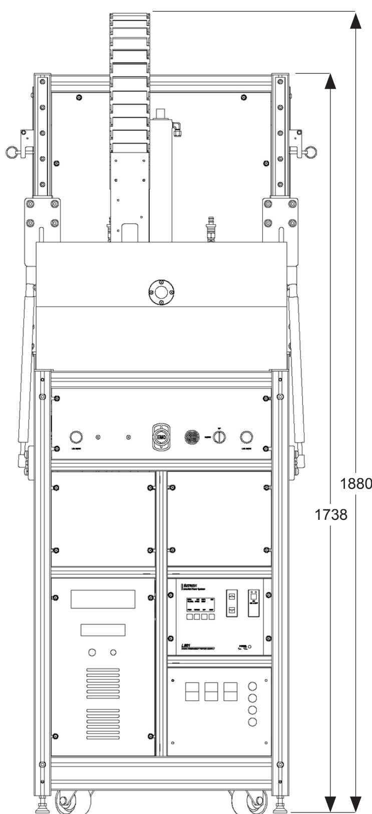

37 x 2"/50mm

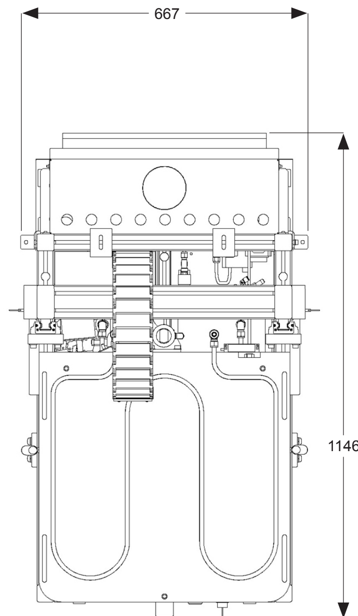

19 x 3"/75mm


9 x 4"/100mm

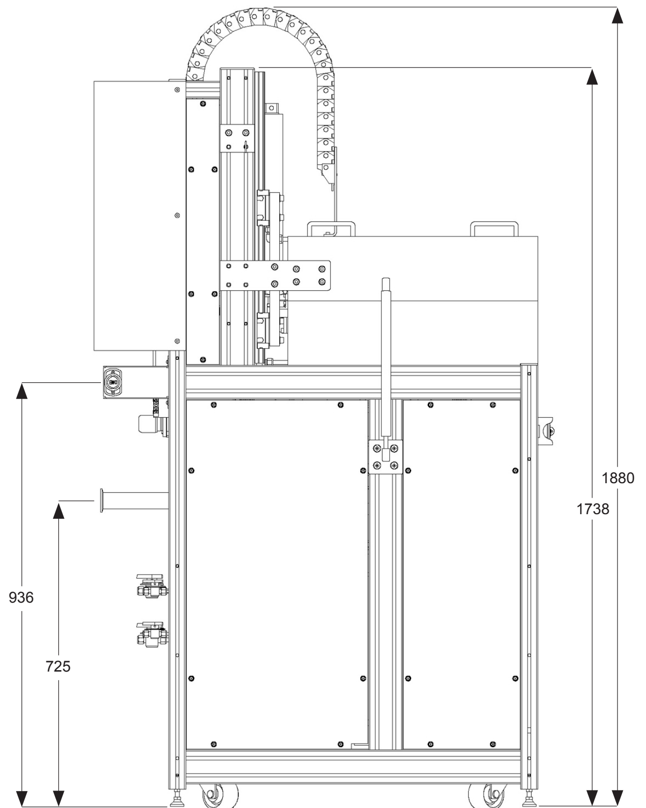

4 x 6"/150mm


Ø 16" platen for custom sizes





Units: mm



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