



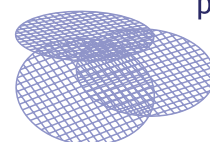
partnering for process control



NovaScan[®] 3090Next IM

Next-Generation HVM Integrated Metrology Platform
and APC Enabler

- APC Enabler for 90nm – 32nm technology nodes
- Fastest metrology platform for increased sampling, meeting next polisher generation requirements
- Industry-leading fleet (tool-to-tool) matching, requiring no additional calibration
- High availability, minimizing process tool unscheduled downtime
- Together with NovaMARS[™] provides advanced 2D/3D and in-die modeling & measurement
- Offers widest range of metrology solutions for Etch, Lithography, CMP and CVD
- Integrates with a wide range of process tools from different manufacturers



passion
innovation
performance

Advanced Integrated Metrology with Unprecedented Capabilities

The NovaScan 3090Next IM, based on Nova's production-proven NovaScan series, is an advanced, next-generation metrology platform, handling an extensive range of Dielectric CMP, Copper CMP, Lithography, Etch, OCD and Shape Profiling, CVD and EPI applications. Implementing polarized normal incidence spectroscopic scatterometry with extended UV and IR spectral ranges – the NovaScan 3090Next IM brings unprecedented capabilities to the metrology market.

The platform enables wafer-to-wafer, and within-wafer Advanced Process Control (APC) and Closed Loop Control. Real-time wafer measurement enables data to be used for feed-forward and feed-backward, allowing accurate adjustment of all subsequent wafers. Featuring high throughput - 100% pre and post process step measurement (200 WPH each), and superior fleet (tool-to-tool) matching requiring no additional calibration - NovaScan 3090Next IM offers high reliability and availability. In tandem with NovaMARS, fab engineers are provided with the automation and flexibility necessary to develop in-fab 2D/3D and in-die applications. NovaScan 3090Next IM is the best APC enabler for existing and future technology nodes.

Thin-Film (CMP) Applications

Metrology	
Oxide / Si	Oxide – TEOS, BPSG, Thermal Oxide, etc.
STI	Oxide / SiN / pad Oxide / Si Oxide / Si SiN / pad Oxide / Si
PMD	Oxide / Silicide / Polysilicon
	Oxide / Si or Silicide – TiSi, Wsi, CoSi, NiSi, etc.
ILD	Oxide / TiN / Ti / Al
Poly	Poly / gateOx / Si
DARC	Capabilities for both PMD and ILD applications
SOI	Si / Oxide / Si Oxide / Si / Oxide / Si
Cu	Oxide / SiN or SiC / Ta / TaN / Cu or Si, Metal Line Thickness, Erosion (up to 80% metal density) measurements
W	Oxide / SiN / Si

Patterning Applications

Metrology		
	Photolithography	Etch
STI	PhotoResist grating on STI stack (SiN / Oxide / Si)	STI trench (SiN / Oxide / Si)
Poly	PhotoResist grating on poly stack (Silicide / Poly / gox / Si)	Poly lines, spacers
Gate Mask Opening (GMO)	PhotoResist grating on poly stack (SiN / Silicide / Poly / gox / Si)	Partial etch (SiN grating / Silicide or Metal / Poly / gox / Si) Final etch: Silicide or Metal grating / Poly / gox / Si
Dual Damascene	PhotoResist grating on Low-k	Depth measurement, side wall angle and CD