



Rapid Damage-Free Precision Surface Engineering

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FOR IMMEDIATE RELEASE
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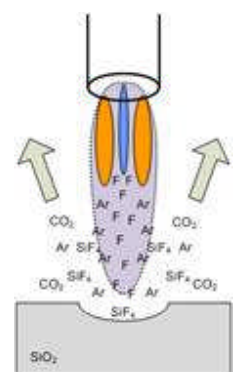
RAPT Industries Launches EOS Family of Optic Figuring Tools for Sale to Industry

Fremont, CA - June 20, 2008 - RAPT Industries, Inc. announced today its introduction of the EOS family of optical figuring tools with the EOS 500-5, a five-axis optic figuring tool for optics up to 500 mm in diameter. RAPT will leverage its proprietary RAP™ etching process developed over the past decade in delivering a tool to rapidly and accurately figure optics with no subsurface damage.

Reactive Atom Plasma (RAP™) Process

RAPT Industries grew from the invention of the RAP™ process, developed for use in the National Ignition Facility (NIF) program. Built to investigate the fundamentals of fusion technology, NIF has 192 high energy laser beamlines, all needing a family of large scale optics with little subsurface damage (SSD), a major contributing factor to energy losses in laser experiments. Sub-surface damage is a necessary result of traditional mechanical polishing processes; as material is removed, the force exerted on the optics causes cracks below the top layer of the optic. These cracks tend to absorb energy, creating hot spots that cause the optics to fail.

The RAP™ process was developed as a completely chemical process, with no normal force exerted on the material, eliminating a primary source of SSD. An argon plasma transports free radicals (normally fluorine) to chemically etch the surface. The chemical precursors are matched to the substrate being processed to ensure the byproducts are volatile. This results in material being removed in a sub-aperture, deterministic manner, enabling highly precise figuring of optics without SSD.



The RAP™ Process



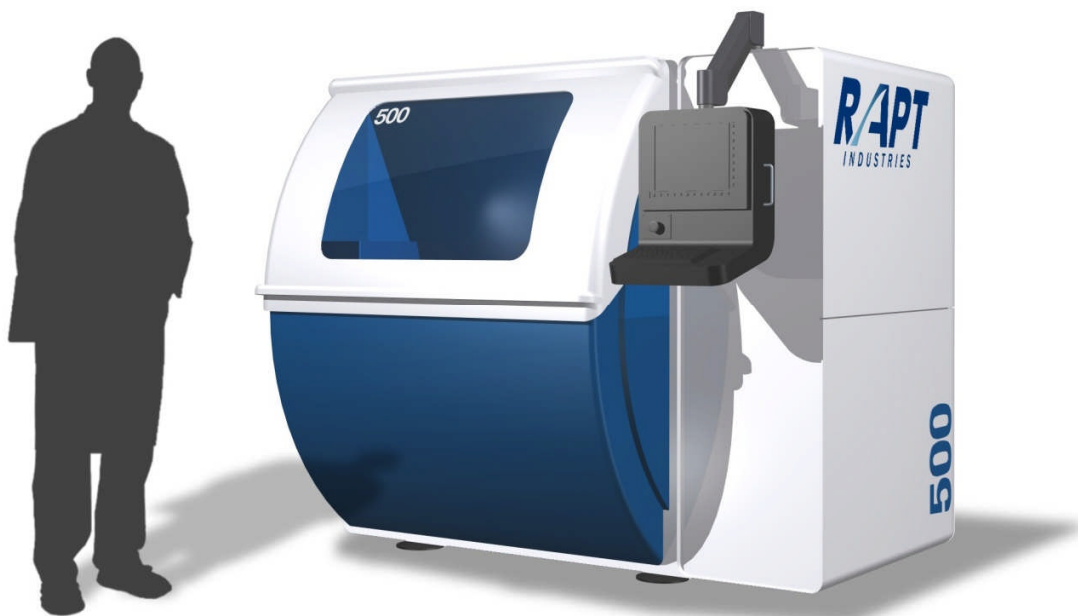
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RAPT has designed the RAP plasma head to be light and nimble, allowing it to be built in a variety of configurations. The Gaussian shape of the plasma leads to a number of design benefits, including a reduction in mid-spatial frequency error often observed in sub-aperture polishing tools. The active chemistry also etches glasses, fused silica, ULE™ and Zerodur™ rapidly, reducing processing times between grinding and final polishing steps. The process is also run at atmospheric pressure, in contrast with the vacuum required for ion beam figuring.

Commercial Optical Figuring

The benefits of the RAP process – no sub-surface damage, rapid figuring, and flexible and nimble tool – are particularly valuable to high energy and light-weighted optics, where sub-surface stresses can lead to damage and failure. To serve the optics industry, RAPT will offer the EOS family of standard optic tools, in several sizes and configurations. The first to be offered will be the EOS 500-5, a compact, 5-axis tool intended for figuring optical glasses, ULE, Zerodur, fused silica, and silicon.



EOS 500-5



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The 5-axis CNC tool will enable to production of fast optics, up to f/0.3, with a clear aperture of 500 mm. The EOS control software accepts data from standard metrology platforms to calculate the tool path and optimal dwell time to achieve rapid convergence to the target figure. The machine's compact design will simplify its insertion onto the floor of an optics manufacturing shop.

EOS will become a valuable tool for the production of high-precision optics. RAPT Industries is now accepting inquiries for EOS figuring tools for delivery in December 2008, as well as its HELIOS platform of meter-class custom figuring tools for sub-meter optics. Please contact Roman Salij, rsalij@raptindustries.com or Pradeep Subrahmanyam, pbs@raptindustries.com for further information.

ABOUT RAPT INDUSTRIES

RAPT Industries, Inc. was founded in 2001 to commercialize the Reactive Atom Plasma (RAP™) process, invented at the Lawrence Livermore National Labs as a means to obtaining damage-free optics for the National Ignition Facility (NIF). RAPT Industries has pioneered the development and implementation of highly precise plasma-based tools for precision surface engineering. We use our proprietary RAP™ process for precision damage-free shaping of optical and semiconductor materials, selective material removal, and material deposition. We are applying our patented technology in select areas of optics and semiconductor device manufacturing, where rapid damage-free material removal or chemical modification of surfaces improves yields and performance. www.raptindustries.com