

Leading Ultra-Precision Systems Advance to Unprecedented Levels

October 1st, 2014 – Moore Nanotechnology Systems, LLC today announced several major advancements to their world class family of Ultra-Precision Diamond Turning, Micro-Grinding, and Micro-Milling systems. From a new exclusive Impact Resistant 10K rpm main work spindle to an expanded release of their Windows based Touch/Swipe *NanoSMART™* HMI, Nanotech's latest innovative technological developments set new industry standards for ultra-precision machine tools.

Swansey, NH – Moore Nanotechnology Systems, LLC, a global supplier of ultra-precision machines and application specific solutions, has launched a new V-Series of optical manufacturing systems. Building upon what had already been their world leading family of 2-5 axis diamond turning machines, Nanotech® has significantly revised this entire product group and propelled them to levels of performance, reliability, and user friendliness previously unavailable.

Nanotech® is no stranger to setting higher industry standards in the field of ultra-precision machines. In fact, their innovative spirit and market firsts go back over 16 years. Most recently, in October 2013, the Nanotech 100UPG^{v1} was introduced as the most technically advanced aspheric grinding platform available. During development of this new platform, great emphasis had been placed on not only making operation easy and intuitive for current and future generations of technicians, but also on creating a control system whose performance surpassed any others on the market. With today's latest news, Nanotech is pleased to announce the transfer of several new technological advancements pioneered during development of the 100UPG^{v1} to a renewed family of 2 - 5 axis ultra-precision diamond machining systems.

These latest advancements include a new exclusive **Impact Resistant Porous Graphite 10,000 RPM** air bearing work spindle, an industry leading **8 picometer** feedback resolution for all linear axes, a single **Compact Utilities Cabinet** that now combines electrical, hydraulic and pneumatic systems all into one space savings unit and Nanotech's new *NanoSMART™* HMI with Delta Tau 64 bit Power PMAC control system. The HMI and middleware source code is completely owned by Nanotech, maximizing the efficiency of adjustments, alterations, and future advancements to the software.

NanoSMART™ is the industry's first touch/swipe gesture interactive display. It features three customizable 22" wide screens on a Windows based controller. The additional screens are accessible by swiping left or right from the main screen, giving the user ample space for displaying any number of available Nanotech operation modules.

These customizable "my pages" offer the option to create & save special page layouts to suit a specific process requirement or an individual's personal tastes. A technician can save the screen layouts for import / export to other machines or for when they come back to the machine at a later time. Just click your specific icon and the custom pages return. This capability is perfect for multi-users of the same machine and operators running more than one system.



The new HMI is coupled with a 64-bit Delta Tau 1GHz Power PMAC Motion Controller with up to 40,000 block lookahead for advanced trajectory calculations. This highly optimized solution provides improved part program edit speeds via embedded custom software for both quick modifications or full edit functions and

an Automated Detection System (ADS) that recognizes and synchronizes optional accessories automatically as they are added or removed from the machine equating to less machine downtime.

The new Impact Resistant Porous Graphite (PG) workspindle is a major step forward in robust high performance air bearing designs. With a radial and axial runout of less than 12.5nm throughout its entire 10K RPM range, this spindle remains the most accurate in the industry and now with the proven added benefit of porous graphite. This PG spindle has been tested for durability by cutting its air line at 1,000 rpm. A new air hose was then connected and the spindle restarted. Metrology measurements showed no change to the performance throughout its speed range. We are aware of no other air bearing spindle on the market that can survive this type of testing.

Watch this YouTube testing video at the following address;
<http://youtu.be/RNh0pRE1KnI>

All these new developments combined offer technicians the simplicity and functionality they've been looking for while at the same time assuring the highest productivity, system reliability and quality they've come to expect from Nanotech.

Moore Nanotechnology Systems, LLC is the leading global supplier of ultra-precision machining systems for single point diamond turning, micro-milling, micro-grinding, and glass press molding. With machine installations in 29 different countries, Nanotech's 2 - 5 axes symmetric and freeform optical machining systems offer the flexibility and reliability to cover R&D or production needs in a broad range of current and emerging markets. All systems can achieve sub-nanometer Ra level surface finishes directly off the machine, most often eliminating the need for secondary post-polishing operations, while at the same time maintain sub-micron form accuracies. There are ultra-precision systems and then there are **Nanotech®** ultra-precision machining solutions.

For more information visit our website: www.nanotechsys.com