



See us in San Francisco for  
**SPIE. PHOTONICS WEST**  
 Feb. 16<sup>th</sup>-18<sup>th</sup>, Booth 1941  
 Let's discuss your application!



*Demonstrating Son-X Ultrasonic Machining of Hardened Steel Molds*

- ◆ 0.01nm Programming Resolution!
- ◆ 8 picometer Feedback Resolution!
- ◆ Porous Graphite Air Bearing Spindle!

## Ask Nanotech . . .

### Why do all Nanotech machines feature a Box-Way style slide design as opposed to a Dovetail?

In all precision machine slide designs, one of the most significant criteria for performance is slide stiffness. Let's assume we apply a vertical load to a slide, such as adding mass to the spindle or a rotary B-axis. With our Box-Way design, slide stiffness remains constant due to parallel bearings top and bottom that capture this vertical load while having no influence on the horizontal bearings. With Dovetail style designs, however, the horizontal stiffness is dependent upon oil bearing pads which are angled. If a vertical load forces the slide downward, it will increase this bearing gap by  $\Delta h$  resulting in reduced horizontal stiffness (see below).

