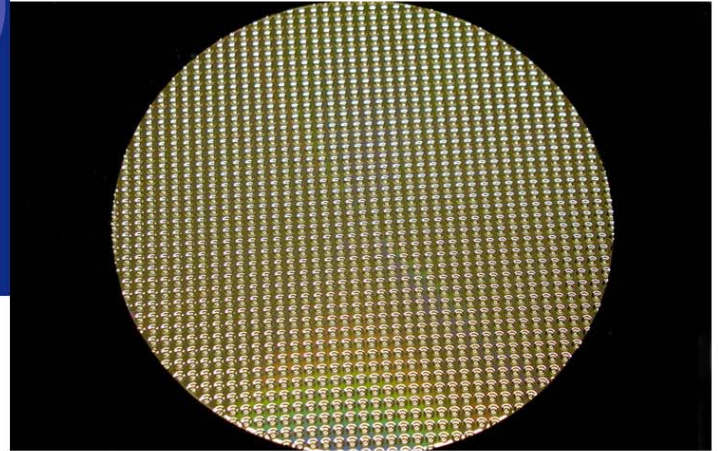


FTS



FAST TOOL SERVO Rapid Machining System

The Fast Tool Servo systems allow for the diamond turning and machining of surface structures such as:
Micro-prisms - Torics - Off-axis aspheres - Lens array formations.



Overview

Sinusoidal Acceleration:

Three models

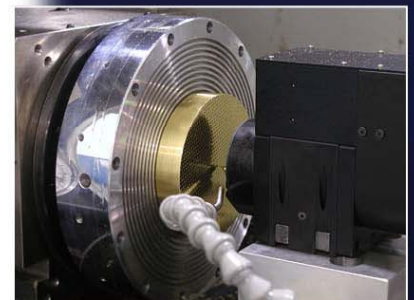
FTS™ 70 70 micron travel - 700 Hz bandwidth • **300g peak acceleration**

FTS™ 500 500 micron travel - 1000 Hz bandwidth • **30g peak acceleration**

- For small excursions only. Power limitations restrict the operational frequency for large excursions.

Both systems include:

- Capacitance gage position feedback
- C-program or grayscale bitmap imaging for tool path generation of desired surfaces



Design Features

The Fast Tool Servo (*FTS*) system is adaptable to our Nanoform® machines. These *FTS* systems enable the diamond turning of surface structures such as micro-prisms, torics, off-axis aspheres, and various lens array formations at either **70** or **500** microns of stroke.

The tool path software uses a C-program or bitmap image to describe the desired part topography. An external PC with DSP(digital signal processor) uses high resolution angular feedback on the work spindle and the linear position feedback of the machine translational slide to "real-time" calculate the axial position of the tool.

The Precitech *FTS* systems are designed to produce very high dynamic movement during the turning process with low mechanical noise. The *FTS 70* includes a high stiffness flexure type tool holder. The *FTS 500* utilizes air bearing guides.

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