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OPTOFORM®

Sterling
ULTRA PRECISION

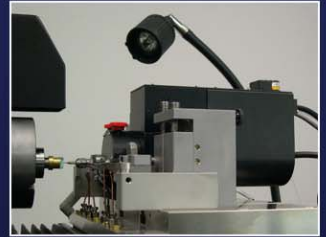


Overview

Advanced compact 2-axis, linear motor, continuous path, ultra-precision, computer controlled contouring machine designed for polish free high speed lathing of spherical, multi-curve, or aspherical contact lenses and intraocular lenses as well as non-ferrous metal molds. In addition, user defined edge configurations can be specified, incorporated into the lens/mold design and directly machined.

Product Technical Data

System/Control	Description
Configuration	Two-axis contouring machine, inverted "T" configuration
Control System	On-board computer, PMAC servo control of linear motors, nanometer position feedback, with ergonomic menu type interface on a flat panel high quality color touch
Base	Natural granite supported on a welded steel frame
Vibration Isolation	Passive 3-point pneumatic vibration isolation system
Machine capability	
	Spherical, Aspherical
	Non-rotationally symmetric with FTS-1000 or Variform™ attachment
Machine Slides	X-axis and Z-Axis
Type	Preloaded hydrostatic oil bearing design
Travel	X-axis 190mm (7.5"), Z-axis 100mm (4")
Speed	0.001-3000mm/min (120"/min)
Drive System	Linear AC Synchronous motor
Workholding Spindle	High Speed Heavy Duty Spindle
Type	Air bearing
Speed Range	100RPM / 15,000 RPM
Acc/Dec Time	Less than 5 seconds
Stiffness	Axial Stiffness 105 N/μm, Radial Stiffness 35 N/μm
Swing Capacity	25mm (1") with Collets 50mm (2") with vacuum chuck
Workpiece Chucking	Air actuated collet mechanism or vacuum chucking (optional)
Machine Requirements	
Power	208 or 230VAC, 1 phase 50/60 Hz, 3.0 Kva
Air	6 SCFM@90PSIG, 3 l/s @ 6 bar
Floor Space	1300mm x 1050mm (51" x 41")



Design Features

- High speed lathing of spherical, multi-curve, aspherical, and non-rotationally symmetric contact lenses and intraocular lenses.
- #1 Choice of mold tool (insert) manufacturers (non-ferrous metals)
- Form accuracy of less than 0.3 μm and Surface Finish of 4-6nm Ra.
- Built on a natural granite base, and utilizes a 3-point pneumatic vibration isolation system.
- User defined edge configurations including asymmetric edge can be specified, incorporated into the lens/mold design and directly machined.
- Air Slides provide stiff 190mm (X-axis) and 100mm (Z-axis) of travel with linear motor technology
- The positioning sensing resolution is 8.6 nanometers on both slides (10 nm in the control software)
- Ergonomic "ease of use" controls accessed from high-quality color touch screen.
- Comes standard with separate dual tool holders, front surface probe, and can hold up to 6 diamond tools
- Task light and vacuum chip extraction

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