

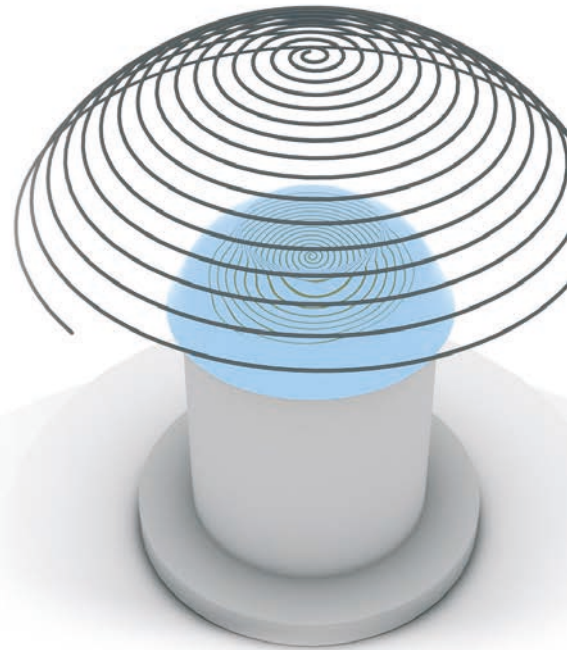


ModuleWorks

Get There Faster.

Optics Component

Industry-proven CAD/CAM software components with generic surface-based cycles providing maximum programming flexibility for the vast diversity of parts up to part-specific tailored applications for maximum automation and safety.



Grinding Process

Key Benefits

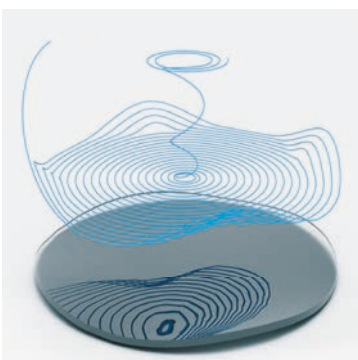
- State-of-the-art technology
- Proven in ultra precision industry applications
- Easy to use user-interface
- Customer-tailored and cost effective implementation



3D Contouring

General Features

- Ultra precision spiral toolpath calculation for 2D and 3D optics machining of lenses, molding tools, lens arrays
- Optical machining patterns based on NURBS, analytical formulas or point clouds
- Micro adaption of toolpaths by measured grid (point cloud)
- Support of grinding and diamond turning
- Slow tool / fast tool kinematics
- Ultra precision zig-zag pattern for fly-cutting of optical parts
- Support of grinding patterns for roughing, drilling, chamfering, slotting, contouring

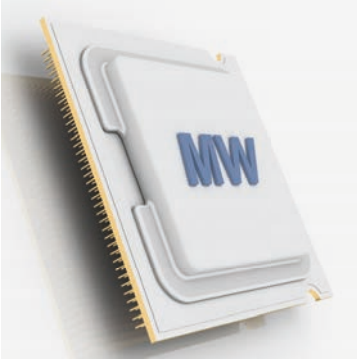


Spiral Finishing

Optics Toolpaths

- 3D spiral pattern optimized for high accuracy on turning type machine tools
- 3D zig-zag pattern for fly-cutting
- Multi-surface and lens array support
- 5-/5+1 axis support for diffractive optics
- Toolpath micro adaption by measured point grid (point cloud)
- Multiple approach & retract options for smooth spin on/off

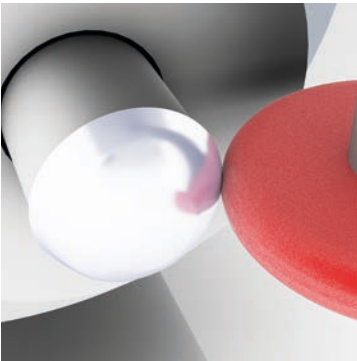
Fact Sheet: Optics Component



Multi-threading Toolpath Calculation

Optimum Performance

- Multi-threading highest precision 64-bit algorithms, ultra fast calculation of machine adopted toolpaths
- Leading edge 3D technologies for machining of optical parts
- Unified approach for all type of optical parts
- Conventional CAM technologies and optics toolpaths can be combined to machine the part



Machining Simulation

Machine Simulation and Material Removal Simulation

- Simulation of multiple axis setups (spindles) and heads
- Secure machining of complex parts
- High-speed visualization of big toolpaths
- Verification of toolpath quality before production

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9940 Y-72.500000 Z-19.78884
9919 Y-72.500000 Z-19.83606
9891 Y-72.500000 Z-19.88510
9864 Y-72.500000 Z-19.93394
9836 Y-72.500000 Z-19.98256
9809 Y-72.500000 Z-20.03097
9782 Y-72.500000 Z-20.07915
9754 Y-72.500000 Z-20.12709
9727 Y-72.500000 Z-20.17478
9700 Y-72.500000 Z-20.22227
9672 Y-72.500000 Z-20.26940
9645 Y-72.500000 Z-20.31631
9618 Y-72.500000 Z-20.36293
9590 Y-72.500000 Z-20.40927
9563 Y-72.500000 Z-20.45531
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Posted Toolpath

Machine Specific Post-Processing

- Toolpath calculation is done in 3D neutral space
- The ModuleWorks post processor framework supplies you with machine-optimized output
- Highly accurate, high-speed post-processing of multi million toolpath points
- Flexible post-processing with Python scripting
- Support for fast-tool servo (FTS)

For information on other components, 3-, 4-, 5-axis conventional machining, Rhino based machining plugin, 2D curve based machining visit:

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