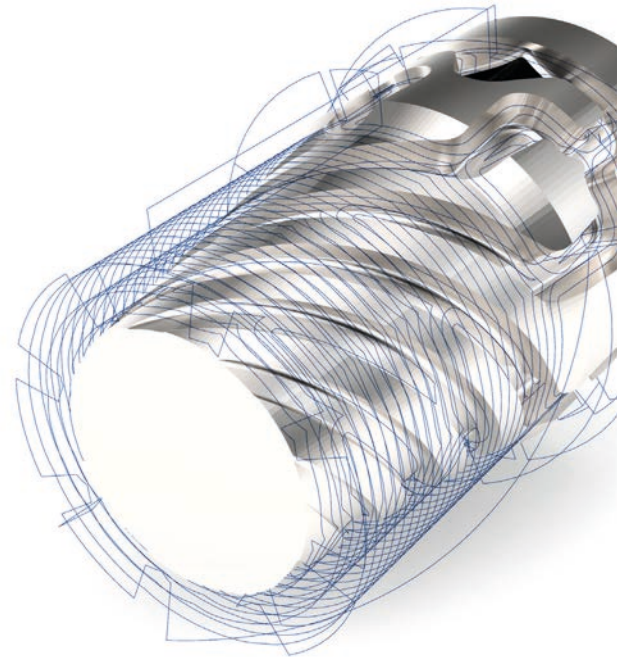




4-Axis Component

State-of-the-art CAM technology boosts the efficiency of complex 5-axis machining centers. In many cases it makes sense to use only 4 axes of a machine tool, and some machine tools only offer 4-axis capabilities. This is why ModuleWorks constantly develops new and optimized 4-axis features.

4-axis rotary machining is commonly used to manufacture oil field and automotive components such as crankshafts, camshafts and drill heads. ModuleWorks provides a set of customized roughing and finishing toolpaths tailored to meet the needs of these applications.



4-Axis Finishing

Key Benefits

- State-of-the-art technology
- Verified in practical tests
- Higher efficiency on workpiece geometries allows 4-axis machining
- Optimized components expand the possibilities of conventional programming solutions and use the full potential of the machine tool
- The stiffness of 4-axis tools offers greater robustness, especially for roughing processes



Rotary Hollow Part

General Features

- The 4-axis modules enable continuous machining with different roughing and finishing strategies. The 4-axis package includes automated applications and generic cycles that are specially optimized for 4-axis machining
- The latest toolpath generation technology has great potential to optimize the efficiency of multitasking machines
- Parallel computation for fast calculation times

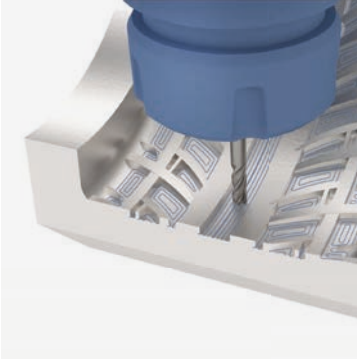


Rotary Laser Cutting

Machining Highlights

- Can be used on horizontal machining centers
- Users of conventional mill-turn machines could be converted to CAM system users
- Toolpath on arbitrary meshes
- 4-axis SWARF operations

Fact Sheet: 4-Axis Component

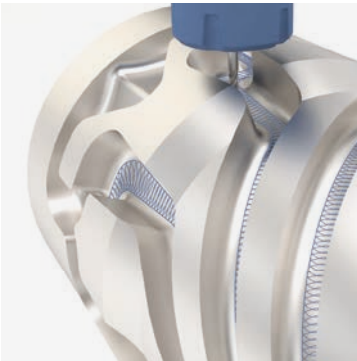


Tire Machining

Surface

The toolpath cycles are easy-to-use applications with minimum user input, automatic tool axis control and collision avoidance.

With the additional possibility to limit machining to 4 axes, parts that have been especially designed for 4-axis machining can be machined without having to make complicated settings to control the tool axis.



Rotary Machining

Rotary Machining

Thanks to a new slicing technology and the combination with 3-axis cycles, we have succeeded in developing a mesh-based roughing and finishing cycle that enables full-fledged rotary machining in just a few steps.

- Support for patterns that pass through 360° enables rotary machining to be used for extruders and screw type parts.
- Manufacture of oil field and automotive components such as crankshafts, camshafts and drill heads
- Tool types - ballmill, endmill, bullnose
- Input - mesh geometry



Port Machining

Port 4-Axis

Port machining can also be performed on 4-axis machines, for example on a horizontal machining center. Even for full 5-axis machines, the 4-axis output can increase performance by reducing the amount of tilting.

- Auto spine detection
- Adaptive pattern
- Auto collision avoidance
- Output of top, bottom or both toolpaths

For information on other CAD/CAM components, including 3-axis- and 5-axis toolpaths, visit:

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