Turning and Milling with ShopTurn

The technology package for the shopfloor

Graphical programming

- Extremely short programming time for single parts and small series
- Operator-friendly implementation of technological production steps in ShopTurn machining plans without DIN/ISO know-how
- Clear display of all technological information in machining steps
- Input without documentation thanks to dynamic help displays
- Avoidance of invalid inputs through dynamic online graphics

DIN/ISO programming

- Shortest machining time for large series and special applications
- Complete flexibility thanks to high-performance DIN/ISO programming for a maximum number of machining options
- Wide range of standard cycles for machining and measuring tasks

Simulation

- Maximum process reliability thanks to simulation with real tool data
- Optimum display of the workpiece in high-resolution 3D graphics
- Uniform simulation for graphic programs, DIN/ISO programs as well as programs generated externally by CAM systems

Machine setup

- Extremely short setup times thanks to operator prompting for determining workpiece zero points and tool lengths
- Simple management of tools through clear display of geometry and turret loading in a single table

Overview • August 2005

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SHOP TURN

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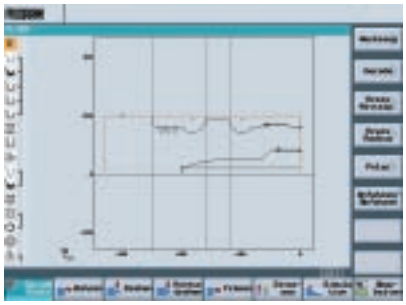
Essential features at a glance

Graphical programming

Transparent, clearly structured programming in machining steps
Programming without DIN/ISO know-how
Easily understandable symbols for characterizing the machining steps
Linking of contours with stock removal cycles
Linking of drilling and milling operations with position patterns
Simple modification, insertion and deletion of machining steps
Significant reduction in programming time compared to the DIN/ISO programming

- Dynamic broken-line graphics for to-scale representation of the workpiece
- Dynamic auxiliary graphics as input support for cycle parameters



Dynamic broken-line graphics

Contour programming

- High-performance contour calculator for the creation of turning and milling contours
- Automatic calculation of partially defined geometry elements
- Automatic calculation of grinding stock allowances
- Import of DXF files possible via optional CAD reader

Machining cycles

Stock removal cycle

- Stock removal of freely definable contours
- Axis and contour roughing and finishing in parallel
- Automatic detection of residual material
- Stock removal cycle for plunge-cutting and plunge-turning of freely definable contours
- Freely definable blank contour
- Grooving/undercut cycles
- Grooving cycle for arbitrary trapezoidal grooves
- Undercut cycle for arbitrary thread and DIN thread undercut Form E, Form F

Threading cycles

- Face, longitudinal and taper thread
- Constant and variable pitch
- Linear and degressive infeed
- Machining of multiple-start threads

Drilling cycles

- Centering, deep-hole drilling and tapping with non-rotating tools
- Arbitrary drill holes on front face and peripheral surface with rotating tools

Milling cycles

- Arbitrary milling on front face and peripheral surface
- Standard geometries such as circular and rectangular pockets
- Solid machining cycle for free geometries with residual material detection
- Engraving of arbitrary texts

Position pattern

- Arbitrary position pattern on front face and peripheral surface
- Position patterns such as line, circle or grid

Counterspindle machining

- Counterspindle cycle with graphic input
- Automatic workpiece transfer

Counterspindle cycle

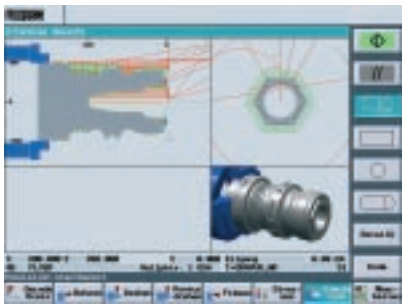
DIN/ISO programming

Full ASCII editor for flexible creation of DIN/ISO programs

- Input support for standard machining cycles
- Input support for automatic measuring cycles

Simulation

- High-performance simulation of machining step and DIN/ISO programs
- Display in turning plane, front view and 3D view



Simulation

Tools

- Clear display of tool and setup data in a single table
- Quantity and tool life monitoring with replacement tools

Setup functions

- Menu-assisted scratching function for determining the work offset
- Tool measuring through scratching or tool probe (tool eye)
- Universal turning cycle for applications such as smooth jaws boring

Manual machine (SINUMERIK 840D sl only)

Additional operating options for cycle-controlled lathes

- Turning of straight lines and chamfers with intermediate switch
- Individual machining of turning, milling and drilling cycles without creation of a program
- Thread repair cycle

Automatic functions

- Block search also on certain machining operations in position patterns
- Display of traversing paths of machining steps in G code (basic block display)

Accessories

- PC training and programming tool
- CAD reader for PC

NCs

ShopTurn is available on the following NCs

- SINUMERIK 810D/840D/840Di
- SINUMERIK 840D sl

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