

SigmaNEST Punch PowerPack™

SigmaNEST Punch PowerPack is the most comprehensive package for automatic nesting for punch machines, providing benefits through the entire order lifecycle. It's ideally suited for high-volume part production and lean manufacturing processes. PowerPack includes all the functionality of Punch Basic and Punch Techno™, plus:

FEATURES

- Turret set up optimization for maximum material yield
- Job tracking and scheduling
- Inventory control
- Interactive part and nest mode tooling
- Manual or automatic repositioning
- Automatic tool sorting
- Manual tabbing and micro-joints
- Automatic tabs on all parts based on user-defined preferences
- Drop door support
- Tool safety zones
- Part-in-part nesting according to exact shape geometry

ADVANTAGES

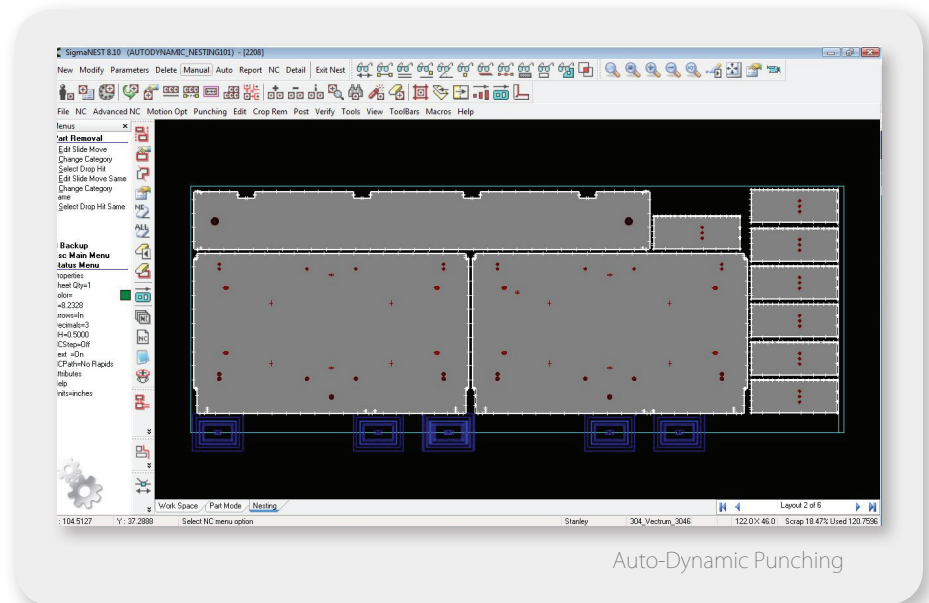
- Highest level of coordination between tools, work order schedules, and priorities
- Ideal for MRP integration
- One software programs all major profile cutting and punching machines
- Optimal material yield through tighter nests and reduced remnants
- Save time with fewer tool changes
- Maximum flexibility in file conversion and importation

BENEFITS

- Using a single software for multiple machines reduces programming and training time
- Optimal material utilization reduces scrap
- Save engineering time through simplified programming and more efficient machine output
- Highest efficiencies in tool and work order management
- Increased profitability with maximum output per machine

Technical Specifications

- Runs inside Windows XP or Vista® operating systems
- Post processors available for multiple machines
- Import standard industry file formats such as CDL, AutoCAD DXF and DWG, HPGL, and 3D IGES
- ESSI, G and M codes can be user-configured



Geometry/Importing

- Map layers to processes (for marking and cutting) or quality settings
- Validate files, filter geometry, and change weld gaps before creating part
- Complete 2D CAD functionality
- Trim, break, extend, and auto-segment large arcs
- Snap-to arcs as well as circle quadrants

Estimating Part-Cost and Time

- Calculate part costs with an integrated costing module featuring user-defined parameters for machine recovery rate, operator costs, and other overhead and consumable materials
- Calculate processing time based on nominal feed rate, material type and thickness, machine acceleration, and part quality specifications

Part Creation Management

- Standard shapes library with customizable, industry relevant shapes
- Lead-in/-outs automatically applied according to material or process type
- Automatic part geometry error detection and correction
- 2D CAD capabilities with part creation features
- Calculate kerf by computer or control

Job Tracking and Scheduling

- Automated nesting task set up
- Integrated order database with status reporting
- Allows combining work orders for scrap reduction
- Automatic part quantity tracking
- Parts production scheduling

Auto-Dynamic Tooling

Auto-dynamic tooling assigns a tool to the part while nesting takes place to ensure nest is always valid. SigmaNEST Punch PowerPack provides most efficient nests by considering the full range of available tools when nesting. Users can manually tool and sequence parts before nesting or re-tool an existing nest for special circumstances.

Auto-Dynamic Nesting

- Automatic or manual rotation and alignment of parts
- Automatic nesting of pre-nested clusters of parts
- Multiple sheet nesting on rectangular sheets
- Nesting under clamps with automatic clamp avoidance and corrective repositioning
- Nesting sequence controlled by user values for priority, due date, and broken work order
- Pattern recognition
- Automatic part clustering
- Learning technology

Tabbing and Repositioning

- Manually place tabs before or after tooling
- Automatic overlap repositioning commands and full manual override options
- Dedicate tab tool support

Safety Zones

- Correctly mark adjacent turret positions unavailable for oversized tools
- Automatically sequence louvers so that subsequent punching operations won't damage the forming operation
- Dynamic clamp zones depending on station size

Inventory Management

- Integrated material stock and remnant database
- Browse sheet and remnant library, which stores image, dimensional information, thickness, and material types
- Real-time sheet consumption tracking
- Graphical sheet history and traceability – including length, width, material grade, thickness, weight, value at cost, heat number, and sheet location code
- Inventory status and cost reporting through set data fields – area, weight, cost of sheet
- Import/export capabilities – new sheets received, parts sold, and material consumed

Post Processing

- Create industry standard G and M codes
- Open architecture
- OEM-specific technology tables cover standard material thicknesses and grades
- Simultaneously post to multiple, compatible machines

Reporting

- Job information including punch time estimates, material yield, and automatic job cost feedback

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