ME4 / Production Work Cell

AUTOMATIC LOADING, CUTTING, & OFFLOADING



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ME4 / Production Work Cell

Techno CNC Systems

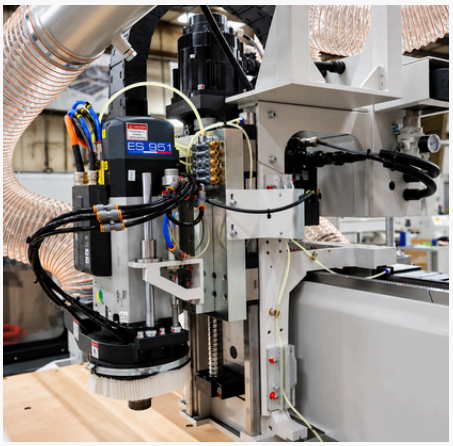


FEATURES THAT MAKE A DIFFERENCE



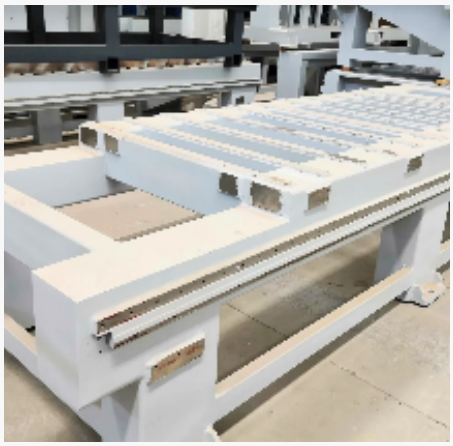
TOOLING

The ME4 Production work cell includes an 12-position rotary carousel that moves with the machine while the gantry travels. This speeds up tool changes for faster cycle times increasing production capability.



SPINDLE

12 HP hiteco ATC spindle: high-frequency automatic tool changer with 6,000–24,000 RPM programmable speeds, maintenance-free operation, ER collets & ISO 30 tool holders, plus a pneumatically retractable vacuum hood.



FRAME

Every frame is precision-engineered using advanced CAD/CAM and Finite Element Analysis, then stress-relieved for superior strength and stability. The result is a rigid, durable foundation built for long-term precision AND performance.

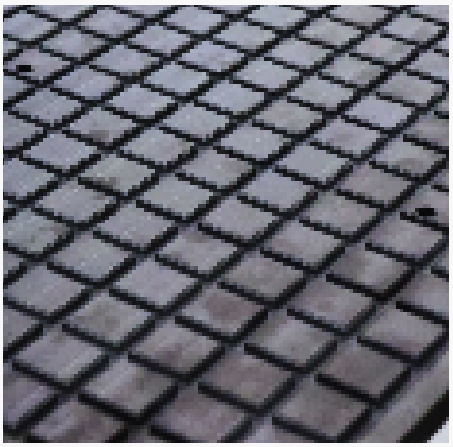
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FEATURES THAT MAKE A DIFFERENCE



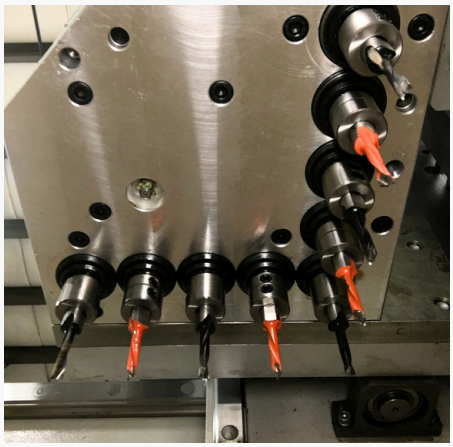
DRIVE TRAIN ASSEMBLY

The ME4 uses precision helical rack and pinion drives with digital AC servo motors for smooth, quiet, accurate motion. THK 35 mm linear guide rails ensure durability, with automatic lubrication for easy maintenance.



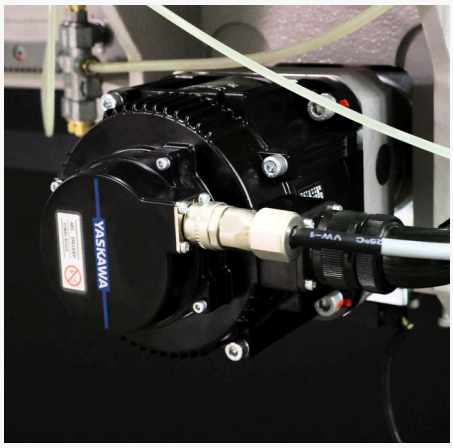
VACUUM TABLE

Multi-Zone Vacuum Table: The segmented vacuum table lets operators easily switch between full-sheet and smaller-part processing, with convenient side-mounted controls to quickly activate or shut off individual zones.



DRILL BANK

9-Spindle HSD Drill Bank:
The ME4 machine comes with a 3 HP, with an “L”-shaped drill pattern. All 9 spindles are spaced on 32 mm centers, with 5 drills in X, 4 in Y, and a shared center spindle.



DRIVE MOTORS

High Powered Servo Drive System: Digital AC servo motors deliver fast, ultra-smooth motion through high-speed Ethernet, with direct-coupled helical pinions for powerful, precise axis control.



MATERIAL ALIGNMENT

Automatic Material Alignment: Centrally aligns material with the machine origin, eliminating manual realignment and ensuring quick, accurate setup every time.



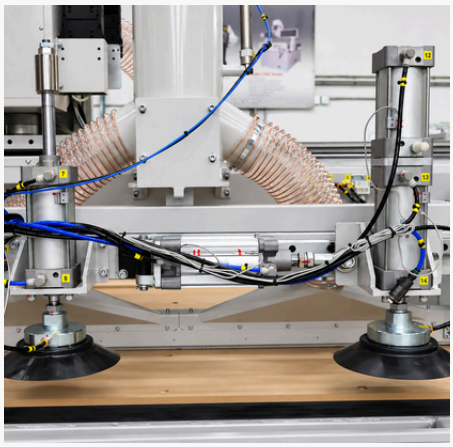
REAR SCISSOR LIFT

Automatic Stack Lift:
The rear scissor lift raises material to vacuum bed height, with optical sensors automatically monitoring stack height for smooth, consistent operation.

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MORE FEATURES



SUCTION LOAD SYSTEM

Automatic Sheet Loading: The rear suction cup system smoothly loads each sheet onto the vacuum bed while sweeping away debris, keeping the surface clean for maximum vacuum hold-down and reliable processing.



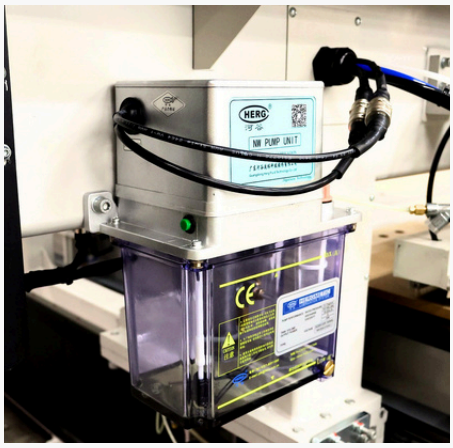
M.A.S POP UP RAILS

Pop-Up Side Rails:
Keep the previous routed nest properly aligned and uniform as material is smoothly pushed onto the conveyor, ensuring consistent part positioning throughout the process.



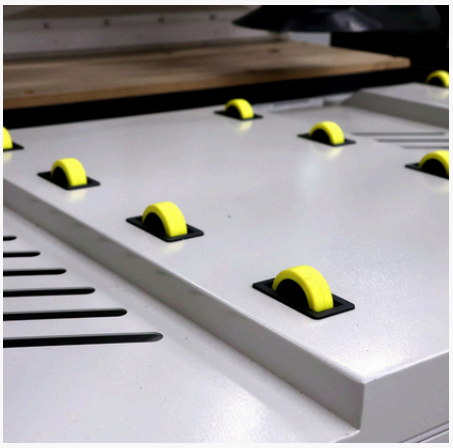
CONVEYOR TABLE

Front Conveyor Table:
Located at the front of the ME4, the conveyor table provides smooth, efficient unloading of finished material, helping streamline production and reduce handling time.



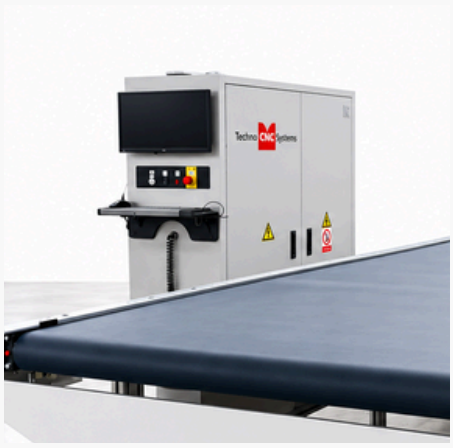
AUTO LUBRICATION

Automatic Lubrication System: Automatically applies oil to the linear bearings and ballscrews, ensuring smooth operation while reducing maintenance and extending component life.



LOAD ROLLERS

Load Rollers: Positioned at the front of the machine, load rollers make it easy to slide heavy sheets onto the work surface, reducing manual handling and speeding up material loading.



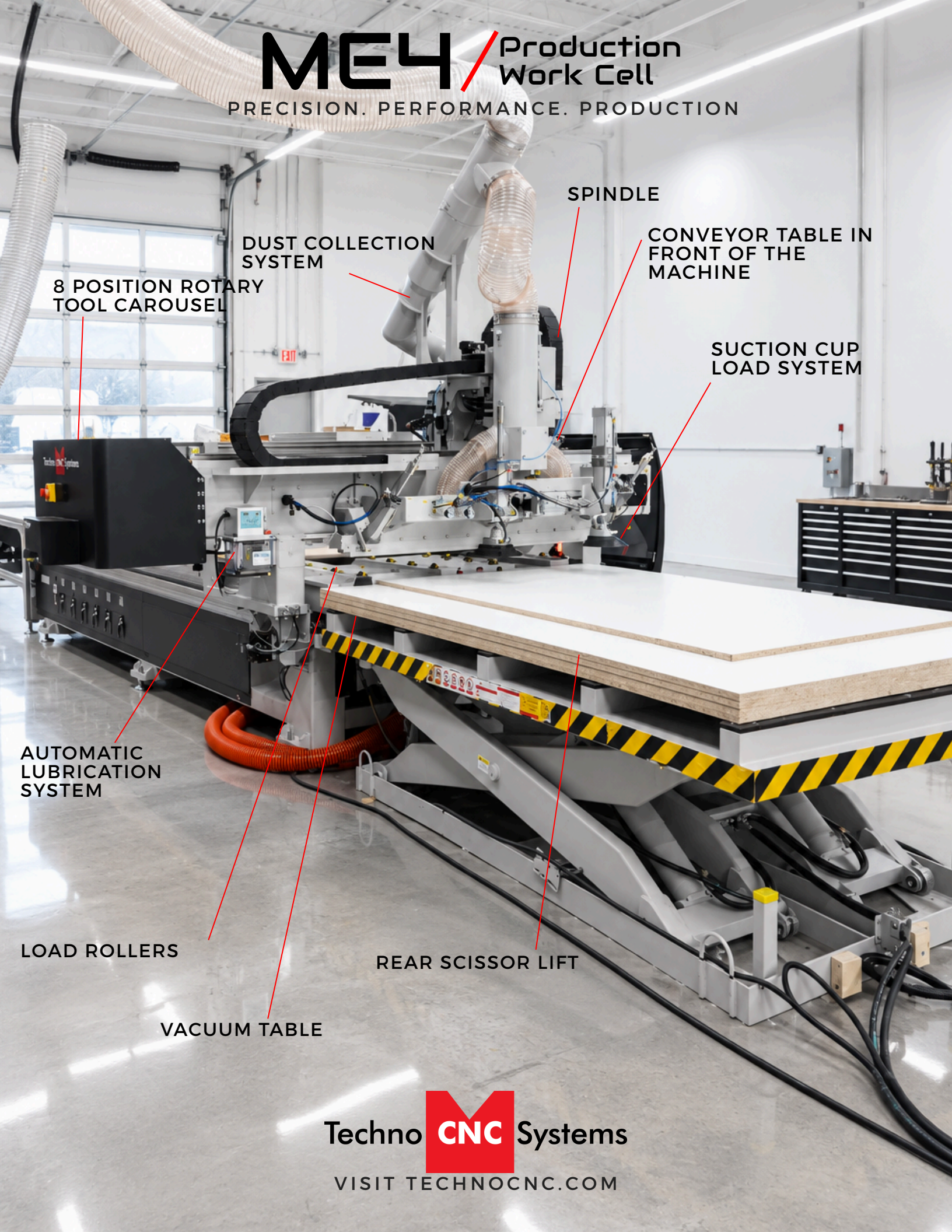
ELECTRICAL CABINET

Electrical Cabinet: The ME4's centralized electrical cabinet houses the machine's key electrical and control components, providing reliable, organized, and efficient system operation.

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HOW THE ME4 WORKS / Production Work Cell

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1. LOAD MATERIAL

The ME4 scissor lift raises the pallet of material to the proper loading height. The gantry then moves forward.



2. PLACE ON MACHINE TABLE

The automatic suction cup loading system transfers a sheet of material from the rear of the CNC machine directly onto the machine bed.



3. CNC CUTTING & DUST REMOVAL

The ME4 cuts the sheet while residual dust is captured by the dust collector and swept into a chute, keeping the table and your material clear of dust and debris.



4. PARTS UNLOAD

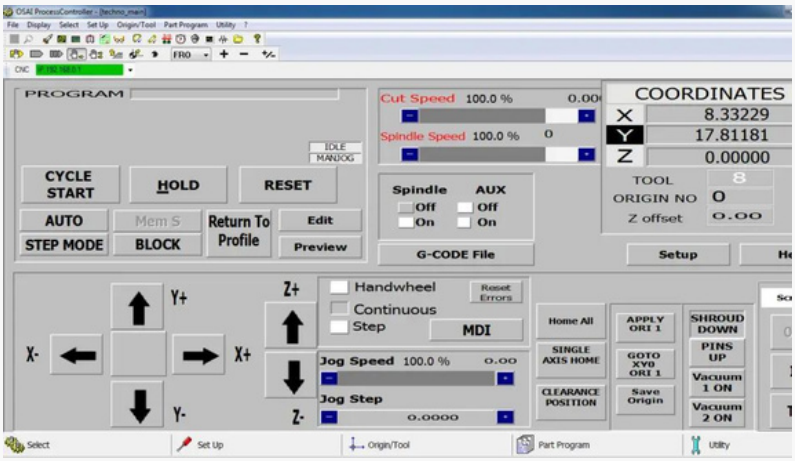
Upon completion of the routing job, the cut parts are automatically unloaded onto the conveyor table for easy offloading of material.



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G-CODE INTERFACE CONTROL SYSTEM



KEY FEATURES

- Full automated tool length offset cycle
- Remote access
- Intuitive design and operation
- Skip functionality
- Backlash compensation
- Cutter compensation
- Full 3D capability with helical interpolation
- Highly customizable
- Built-in editor for shop floor modifications
- Machine feed rate and spindle override control
- Continuous step jogging, or convenient hand-held pulse
- Generator can be used to fine tune positional locations
- CNC NC code previewer
- I/O machine status display
- Convenient vacuum pump switches on console interface
- Convenient pop-up pin switches on console interface
- Real time file execution

CNC Windows-Based G-Code Interface

The Windows-based G-Code Interface is included with every ME4 Production Work Cell, providing a powerful and intuitive control solution for virtually any CNC routing application. Its open architecture allows seamless compatibility with G-Code files generated by industry-standard CAD/CAM software, while keeping essential machine controls easily accessible from a single, user-friendly screen.
Jogging controls, speed adjustments, machine status, and run displays are all conveniently located on the main interface, making operation straightforward and easy to learn. Even users new to CNC automation can quickly become comfortable with the system, with most operators up and running in less than a day. Simple to operate, yet comprehensive in capability, the Techno CNC Interface delivers the functionality required for demanding production environments.

OSAI CNC Control

The ME4 is powered by an industrial OSAI open-series, PC-based CNC controller, combining advanced CNC control technology with the familiarity and flexibility of a Windows operating environment. OSAI's multi-platform software architecture and real-time multitasking operating system provide precise, reliable axis control supported by advanced control algorithms.
The result is a powerful control platform that brings together the ease of use, flexibility, and connectivity of a Windows PC with the precision, durability, reliability, and serviceability of a dedicated industrial CNC controller—giving operators a familiar interface without compromising machine performance.

SIMPLE. POWERFUL. READY TO PERFORM

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