

Sixth-Generation Mazatrol Matrix CNC from Mazak Named Technology of the Year Winner by *IndustryWeek*

(CLEVELAND, OHIO) – IndustryWeek magazine has named the new Mazatrol Matrix computer numerical control (CNC) from Mazak Corporation (Florence, Kentucky) a 2006 Technology of the Year winner in its 14th annual Technology and Innovation in Manufacturing Awards Program. The program recognizes developments that show great potential for redirecting business opportunities and creating new growth in manufacturing. The sixth-generation Mazatrol Matrix CNC is the latest development of Mazak advanced technology for higher productivity and greater manufacturing industry competitiveness.

Mazatrol T-1

Mazak's introduction of the Mazatrol T-1, the world's first conversational CNC for turning centers in 1981, was the most significant breakthrough in machine tool history. Mazak quickly was embraced by the manufacturing industry for this achievement.

- Interactive programming based on the format of questions and answers eliminated the need for traditional punched tapes, the tape-punching machines and tape readers necessary at the machine tool, and the programming specialists required to produce them.
- With Mazatrol, the operator can quickly modify its programs with a few keystrokes at the machine as dimensional changes in parts drawings occur. Prior to interactive programming, even minor changes necessitated creating an entirely new tape.

- Novice operators with no previous programming knowledge could now become programmers with as little as a single day's training.

Mazatrol T-Plus and M-Plus

For its time, the Mazatrol T-1 had the most computing power with an 8-bit processor. Subsequent generations of Mazatrol were developed for machining centers and also moved to 16- and 32-bit processors as the computer industry advanced. By 1994, the fourth-generation Mazatrol T-Plus and M-Plus were powerful enough to integrate conversational programming with EIA/ISO programming in the same control, giving programmers the best of both worlds.

Mazatrol Fusion 640 T

In 1998, the fifth-generation Mazatrol Fusion 640-T doubled processing power again with a 64-bit single-engine CPU. More importantly, it marked the fusion of the CNC machine control with personal computer technology. With the PC built into the CNC system, program and production information can be accessed directly and managed more efficiently with Windows-based operations. This made the following advances possible:

- Machine status including parts production, machine alarm, or idle states can be monitored in real time and generated in PC-based programs. Together with Mazak's Cyber Production Center software, job data, tool management, and production schedules can be generated in an office and communicated directly with CNC machines on the plant floor.
- With Ethernet cards and cables, high-speed network communications are possible from the office to the machine.
- With a modem, CNC's screen display on machine is accessed from an outside PC. This remote-access function can be used by customers for monitoring the machine status or factory service personnel to diagnose machines..

Sixth-Generation Mazatrol Matrix

The Mazatrol Matrix offers significant advantages in quality, productivity, machine operation, and safety through advances in hardware, software, and enhanced machine performance.

The following significant improvements can now be achieved incorporating the powerful Mazatrol Matrix with Mazak Multi-Tasking Integrex machines.

Quality

- New pulse encoders on each linear axis generate 16 million pulses per revolution. This greatly improves accuracy and finishes for dies, molds, tapers, and radii.
- Sub-micron programming increments in both Mazatrol and EIA/ISO programs
- Quadrant Spike Compensation improves circular interpolation 38%
- Active Vibration Control minimizes machine vibration
- Intelligent Thermal Shield for heat-displacement control.
- New chip-breaking cycles for better part quality

Productivity

- 64-bit, dual-engine RISC processor. Maximum feedrates are four times faster than the previous CNC.
- Data storage capacity increased to 20Gb.
- Virtual 3D simulations verify program efficiency and check for interferences.
- Off line Mazatrol programs made in the office and checked for machine interference using the Matrix CAM system.
- Speed of spindle C-Axis is increased from 400 to 555 rpm and instant positioning from turning to milling mode
- New mill-turn cycles increase metal removal 50% or more.
- Helical approaches to pocket milling increase machining efficiency.
- Simultaneous machining of two different workpieces
- High-speed synchronized drilling and tapping

- Total cycle time including programming, program checking, machine interference check, and cutting for a first part improved 40% with the Mazatrol Matrix over Fusion 640 Control

Safety

- The Matrix Voice Advisor alerts the operator to potential setup or operating problems, increasing shop safety.
- Intelligent Safety Shield for machine interference prevention

Ease of Machine Operation

- A QWERTY keyboard offers the same familiarity as a PC keyboard for entering information.
- Movable swivel CNC panel
- Large 15-inch color XGA LCD display
- Rotary dial switches for feedrate override and axis selection

The powerful Mazatrol Matrix CNC is now standard equipment on all Mazak models., such the new Integrex IV series, Integrex e-series, Variaxis II series, Nexus series, Vortex 5-axis machining centers, and Cybertech Turn machines.

The Matrix control is the only control designed to fully complement the capabilities and highly complex Multi-Tasking machines with turning, machining center, and their other operations.

About Mazak Corporation

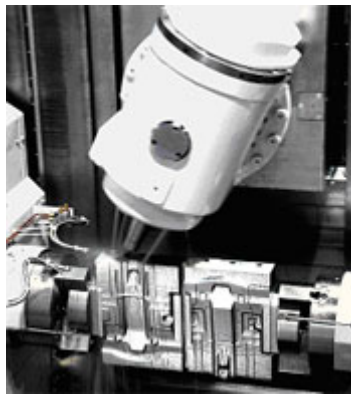
The largest machine tool builder in the world, Mazak is unsurpassed in continually providing machine-tool and production technologies that improve manufacturing processes for companies of all sizes.



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Mazatrol Matrix CNC



Multiple-axis, multiple-function machine tools like Mazaks Integrex series, shown here machining matching die halves from a single piece of steel, benefit from the improved processing functions of the Mazatrol Matrix CNC.