

## Press Release

May 10, 2007

# Mori Seiki starts accepting orders for the NZ Series of multi-axis machines with up to 3 turrets for mass production

## The world's first machine with up to 3 BMT™ (Built-in Motor Turret) for a 40% reduction in machining time

Mori Seiki Co., Ltd. started accepting orders for all 10 variations in our **NZ Series** of multi-axis machines, incorporating many of our original technologies, on May 1, 2007.

The **NZ Series** is a multi-axis machine equipped with up to 3 turrets, all of them BMT™, and the Y-axis function. It offers high-efficiency machining for mass production of bar material, flanges and shafts, and for mass production of precision parts in various fields such as the automobile parts, electrical and communications equipment, hydraulic/pneumatic equipment industries, etc.

The NZ Series has **10 variations**, in order to respond to our customers' diverse needs. There are 2 models in the Series, the NZ1500 with a 6-inch chuck and the NZ2000 with a 8-inch chuck, and customers can choose from 2 turrets with no Y-axis function to 3 turrets all with the Y-axis function. 16 tools can be mounted on 1 turret, and a **maximum of 48 tools** can be installed, allowing long-term unmanned operation with few setup changes. With its **structure designed for excellent chip disposal** and the **3D interference checking function**, customers can do continuous operation and setups with peace of mind.

The **T3Y3 type** is equipped with 3 turrets, all of them with the **Y-axis function and BMT™**. This not only offers outstanding process integration using simultaneous machining on 3 turrets, but also achieves heavy-duty cutting and high-speed machining using rotary tools. What's more, compared with conventional machines with 2 turrets and 2 spindles, it will reduce machining time by approximately 40% (for the NZ1500 T3Y3).

Type	Multi-axis machine for mass production machining
Model	NZ Series (10 variations)
Market	Automobile parts, electrical/communications equipment, hydraulic/pneumatic equipment, etc
Orders from	May 1, 2007
Production	15 units/month

### Main features

1. All turrets are BMT™
2. Dramatically reduced machining time
3. Improved chip disposal
4. 3D interference checking function with the MAPPS next-generation operating system
5. 10 variations in the Series

## Features

### 1. All turrets are BMT™

All the turrets are BMT™ (Built-in Motor Turret) as standard. The rotary tool spindle has a maximum output of 7.5 kW, the largest in its class, with a maximum spindle speed of 6,000 min<sup>-1</sup> (12,000 min<sup>-1</sup> as an option), achieving both heavy-cutting ability and high speed. Also, with the T3 type a total of 48 tools can be installed on the 3 turrets (16 tools per turret), dramatically improving productivity.

### 2. Dramatically reduced machining time

The machine allows not only simultaneous machining on multiple turrets, but also achieves greatly reduced machining time by shortening workpiece delivery times between Spindle 1 and Spindle 2 and workpiece unloader operation time, and by speeding up the feedrate and the rotary tools.

### 3. Improved chip disposal

The wires and pipes for Turret 2 are located inside the machine cover, achieving better chip disposal. Turret 2 is built with a round turtleneck structure, solving the problem of chip accumulation on the turret.

Also, by completely eliminating gaps in the cover we have prevented chips from infiltrating inside, protecting the guideways and ball screws.

### 4. 3D interference checking function with the MAPPS next-generation operating system

With the 3D interference checking function, the complex movements of all the turrets can be checked while the machine is in motion, and if interference is detected the machine will stop immediately, preventing collisions.

We also paid close attention to the operability of control units, greatly contributing to high-efficiency machining without putting any pressure on the operator.

### 5. 10 variations in the Series

The NZ Series has a wide variety of machines available in order to meet the needs of our customers. We have 10 variations ready which allow customers to select the chuck size (6 inch or 8 inch), and whether they need Turret 3 or the Y-axis function or not.

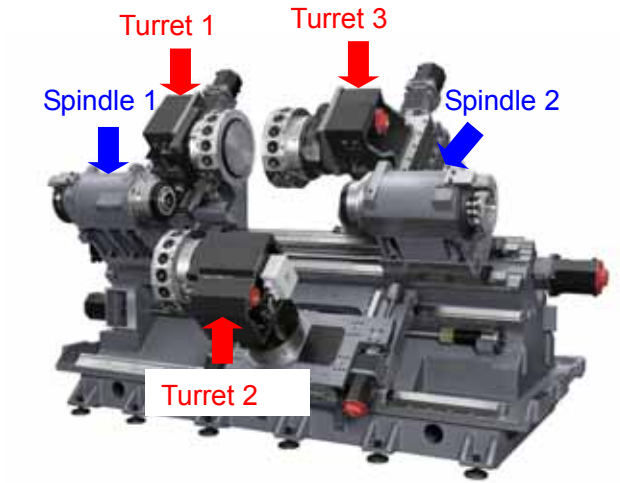
#### ■ Main specifications (T3Y3 type)

	NZ1500 T3Y3	NZ2000 T3Y3
Max. machining diameter	φ320 mm	
Max. machining length	260 mm	
Bar work capacity	φ52 mm	φ65 mm
Axis travel	X-axis: 210 mm Z-axis: 300 (Z1, Z3)/810 (Z2) mm Y-axis: 110 mm B-axis (Spindle 2): 920 mm	
Max. spindle speed	6,000 min <sup>-1</sup>	5,000 min <sup>-1</sup>
Max. rotary tool spindle speed	6,000 [12,000] min <sup>-1</sup>	
Rapid traverse rate	X-axis: 30,000 mm/min Z-axis: 50,000 mm/min Y-axis: 20,000 (Y1, Y3), 16,000 (Y2) mm/min	
Spindle drive motors (30 min/cont.)	22/18.5 kW	25/22 kW
Rotary tool drive motor (5 min/cont.)	7.5/5.5 kW	

[ ] Option



NZ2000



Machine structure