

## Press Release

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November 16, 2010

### Mori Seiki starts taking orders for the NVL1350 Series of high-rigidity, high-precision large vertical lathes

Mori Seiki Co., Ltd. started taking orders for the **NVL1350T** and **NVL1350MC** large vertical lathes from November 16, 2010.

The NVL Series machine is a large vertical lathe with a maximum turning O.D. of 1,600 mm. The NVL1350T has turret head specifications, and is specialized for machining flanges. The NVL1350MC is equipped with an ATC, and handles milling with a wide work envelope. We have developed the NVL Series in response to increasing demand from the aircraft, construction machinery and energy industries for a machine capable of handling large-diameter workpieces. The NVL Series machine reliably meets customers' needs with its (1) high-rigidity, (2) high precision, (3) improved productivity, (4) outstanding operability, (5) MAPPS IV and (6) compliance with safety standards.

#### (1) High rigidity

T type: The stroke is designed to suit large-diameter flanges. High rigidity is ensured with the low machine height.

MC type: The rotary tool spindle is equipped with a built-in motor, large-diameter bearing and **ORC (Octagonal Ram)** with a distance between opposite sides of 380 mm, ensuring rigidity. The Z-stroke can be extended by positioning the cross rail at arbitrary positions on the ZB-axis. Since the cross rail moves up and down on the ZB-axis according to the workpiece height, ram overhang can be kept as short as possible during machining.

Both the T and MC types use slideways for all axes to minimize vibration during machining.

#### (2) High precision

T type: The turret head offers stable, long-term machining.

T/MC types: The twin ball screws drive the Z-axis, offering more precise positioning control. In addition, in-machine measuring system capable of measuring the workpiece diameter is available as an option to offer higher precision machining. The X-axis scale is also provided as standard to improve machining and positioning accuracy.

\* ORC is a trademark or registered trademark of Mori Seiki Co., Ltd. in Japan, the USA and other countries.

### (3) Improved productivity

T type: The stroke is designed to suit large-diameter flanges in response to the market demand. Since the machine width, height and installation area are kept compact compared to other companies' machines in the same class, productivity per unit area has been increased.

MC type: The ATC double arm drastically reduces ATC time. This makes the NVL1350MC different from other companies' machines in which a ram travels to a magazine and directly changes tools. In addition, hydraulic chuck specifications, 2-station shuttle type APC and rack magazine specifications are available as options so that customers can choose the best specifications to suit their machining.

### (4) Outstanding operability

T type: The operator can change more than one insert in only one indexing through the window that is placed at the setup area and opens wide. There is no need to go inside the machine for insert change. In addition, the turret is designed for easy holder change operation using a crane, and its holder mounting surface can be indexed horizontally.

T/MC types: Since the internal steps can be flipped up, the inside of the machine can be cleaned easily. The floor level difference between the internal and external steps is eliminated so that the operator will not lose his/her footing when going in and out the machine. In addition, the chip conveyors placed on the both sides of the table reliably discharge chips outside of the machine.

### (5) MAPPS IV

The MAPPS IV high-performance operating system has been installed in the NVL1350 Series' operation panel. The automatic programming software offers flexible machining according to customers' workpieces. The NVL1350 Series machine offers outstanding operability with the industry's largest 19-inch display, customizable soft-keys placed on the right and left sides and a PC-type keyboard.

### (6) Compliance with safety standards

The NVL1350 Series complies with safety standards of the respective countries around the world. (CE marking, UL, ANSI and other standards)

Mori Seiki will continue to improve our product line-up and work hard to meet the needs of more customers.

Type	Large Vertical Lathe
Model	NVL1350T, NVL1350MC
Market	Aircrafts, construction machinery, railroad vehicles and parts used in the energy industry
Orders start	November 16, 2010
Production	15 units/year

■ Major Specifications

Item	NVL1350T	NVL1350MC
Axis travel (X/Z/ZB) (mm)	1,400/560/-	2,050/800/500
Table diameter (mm)	1,350	
Max. turning O.D. (mm)	1,600	
Max. table loading capacity (kg)	8,000	
Max. spindle speed (Max. table rotational speed) (min <sup>-1</sup> )	400	
Max. rotary tool spindle speed (min <sup>-1</sup> )	-	3,000 [6,000]
Spindle drive motor (kW)	37/30 (30 min./cont.)	
Rapid traverse rate (X/Z/ZB) (mm/min)	16,000/12,000/-	16,000/12,000/500
Tool storage capacity (tool)	-	24 [40, 80]

[ ] Option



Fig. 1 NVL1350MC Exterior

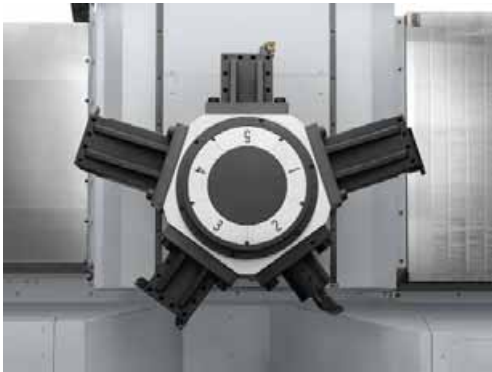


Fig. 2 Turret holder change position (NVL1350T)

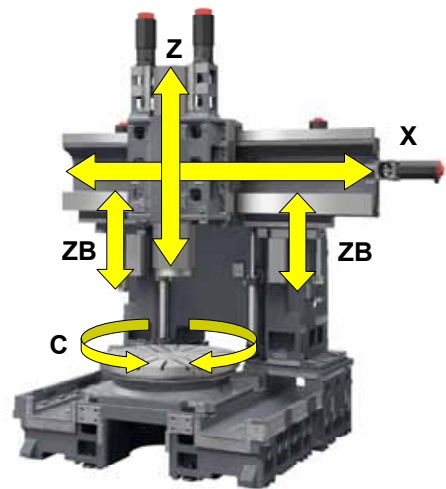


Fig. 3 Axis structure (NVL1350MC)



Fig. 4 Machining example (NVL1350MC)