MORI SEIKI
THE MACHINE TOOL COMPANY

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Press Release

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A new model of the NZ-S1500, the world's smallest shaft lathe, is developed for long workpieces

With a distance between centers of 1,000 mm, suitable for a wider range of workpieces,

From April 16, Mori Seiki Co., Ltd. will start accepting orders for the **NZ-S1500/1000,** with a distance between centers of 1,000 mm, which has been added to the NZ-S1500 Series of 2-Turret Shaft Lathes.

The NZ-S1500/1000 is especially suited for machining shafts with a maximum turning diameter of φ120 mm. With a maximum turning length of 1,050 mm, it can turn workpieces twice as long as those which can be machined with the NZ-S1500/500. The installation area is only 2/3 that of our previous model, dramatically improving the productivity per unit area. The height of the machine is 1,583 mm (to the top of the machine cover), which is significantly smaller than conventional machines. Even when you construct a production line, you will still have a good view of the factory, allowing easy management and maintenance.

In order to achieve excellent operability and chip disposal, we used a symmetrical structure, in which the turrets are symmetrical in relation to the spindle, and the bed is vertical.

Type	2-Turret Shaft Lathe
Model	NZ-S1500/1000
Market	Automobile parts (cam shafts, drive shafts, etc), motor shafts, and other shaft machining
Orders from	April 16, 2007
Production	5 units/month

■Main features

1. Specifications especially designed for shaft machining
2. Machine height of 1,583 mm
3. Small installation area
4. Symmetrical structure
5. The vertical bed structure offers excellent access and chip disposal
6. There is no chip accumulation because of the vertical protector
7. The 3-point support structure allows easy installation

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■Features

1. Specifications especially designed for shaft machining

   This compact 2-shaft turret lathe limits the standard machining diameter to φ60 mm, and eliminates waste by offering the minimum requirements for axis travel, spindle output and feed thrust force.

2. Machine height of 1,583 mm

   Limiting the machine's height so that the rear of the machine can be seen offers good visibility over the whole factory, allowing easier management and maintenance.

3. Small installation area

   With only 2/3 the installation area and 1/2 the body size of conventional machines, it allows significant space savings for production lines.

4. Symmetrical structure

   Placing the turret symmetrical to the spindle, which is mounted on the vertical bed, reduces the effects of heat. Continuous machining accuracy has been improved, achieving thermal displacement of less than ±10 μm even from a cold start.

5. The vertical bed structure offers excellent access and chip disposal

   The distance to the spindle center is 275 mm. For manual workpiece attachment/detachment specifications, the operator can reach the workpiece easily. And since chips fall straight down into the chip pan, there is no chip accumulation inside the machining chamber.

6. There is no chip accumulation because of the vertical protector

   The protector (movable cover) is vertical, so that chips do not accumulate on top of it. It prevents chips from infiltrating into the linear guides and the ball screw part.

7. The 3-point support structure allows easy installation

   We use a 3-point support structure. The machine can be installed in 10 minutes.

■Main specifications

Max. turning diameter	φ120 mm
Standard turning diameter	φ20〜φ60 mm
Max. turning length	1,050 mm
Axis travel (X1, X2/Z1, Z2)	60, 60/1100, 1100 mm
Max. spindle speed	Through-spindle hole diameter Φ43: 6,000 min^{-1} Through-spindle hole diameter Φ61: 3,500 min^{-1}
Rapid traverse rate (X1, X2/Z1, Z2)	20, 20/36, 36 m/min
Number of tool stations	Turret 1: 6 ＋ Turret 2: 6
Turret indexing time	0.18 sec.
Tailstock spindle diameter	φ85 mm
Taper hole of tailstock spindle	MT4 (live center), [MT3 (built-in center)]
Spindle drive motor (30 min./cont.)	5.5/3.7 [7.5/5.5], [11/7.5/5.5 (1 min./rating/cont.),[15/11] kW
Machine size	Width: 2,500 mm Depth: 1,822 mm (2,848 mm (when using chip conveyor) Height: 1,583 mm (1,723 mm (including operation panel))
Machine mass	5,200 kg

[ ] option

■Main options

Hydraulic steady rest (in-out type) φ4〜φ64 mm (manual, servo motor type)
6-, 8-inch compensation chuck
Dry machining specifications
Tailstock spindle built-in center (MT3)
In-machine tool presetter (automatic)
Gantry loader
Temporary workpiece rest (fixed type, in-out type)
Parts catcher
Workpiece ejector
Workpiece stocker

■Other

This machine will be displayed at the Summer Productivity Show, which will be held at our Iga Campus from June 21 (Thursday) to June 23 (Saturday) 2007.

NZ-S1500/1000