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Press Release

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NRX 2000, Front Parallel Dual-spindle/Dual-turret Lathe Best Suited for Mass-production of Flanges for Automobiles

DMG MORI CO., LTD (hereinafter called DMG MORI) has developed the NRX 2000, a front parallel dual-spindle/dual turret lathe, which is able to simultaneously perform two machining processes. Production of the machine is scheduled at Nara No. 1 Plant which is a production base for compact and mass-production machines.

The NRX 2000 employs one of our new design concepts, “STEALTH DESIGN” featuring sharp lines, and comes with COMPACT*line* that enables touch panel operation. The machine boasts its space-saving design with a machine width of 1,650 mm and is best suited for mass production of flange-shaped workpieces for automobiles. The NRX 2000 reduces operators’ work load and brings higher productivity through good access to transfer systems and the spindle, enhanced workability during tool changes, and improved chip disposal.

We would like to highlight the features of the NRX 2000 from viewpoints of (1) Space Saving, (2) Substantially Improved Chip Disposal Capability, (3) High productivity, (4) Workability and (5) Safety.

(1) Space Saving

The NRX 2000 has the machine structure with the turrets on the front side facing the spindles, which led to a compact machine width and height. The machine width is 1,650 mm (2,495 mm including the loader), and machine height is 2,100 mm, achieving space saving. The low machine height makes the machine shippable in 20 ft. dry containers, drastically reducing the transportation costs. The floor space has also been reduced to the smallest in its class of 6.8 m^2, which enables customers to establish production lines in a small shop floor space.

(2) Substantially Improved Chip Disposal Capability

The NRX 2000 has the machine structure that employs an in-machine integral molded round chip chute (patent pending) and does not use telescopic cover. This structure helps eliminate possible troubles of chips entering inside and the cover breaking down by chips that could get stuck inside. As a result, the chip disposal performance has been significantly improved, allowing highly reliable automatic operation for long hours.

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(3) High productivity

The NRX 2000 is equipped with a newly developed high-speed transfer loader that adopts a new loading method. The high-speed transfer loader is 300 mm long which is 53% shorter in the X-axis distance, and the moving parts on the Z-axis is 57% lighter compared to the conventional model. This ensures high-acceleration and the world's fastest loading* time of 5.6 seconds. The space-saving design and the world's fastest loading* enables establishment of high-productivity machining lines. Lighter moving parts help reduce vibration during workpiece transfer, contributing to achieving higher surface roughness of finished workpieces. The NRX 2000 is compatible with various automation systems that boost productivity. The in-machine robot is available an option.

*World's fastest loading: Among the parallel dual-spindle/dual-turret lathes with the equivalent machine size (in-company investigation)

(4) Workability

With the machine structure with the turrets on the front side facing the spindles, the access to the spindles and turrets has been drastically improved. The wide front door opening of 790 mm ensures good access to the turrets for the operators, and the distance between the machine front to the tool is 290 mm, which enables easy tool changes. The NRX 2000 has also outstanding access to the transfer unit: the distance between the machine front to the loader hand is 300 mm, and the loader hand height is 1,360 mm. This, as a result, leads to easy setups and significantly reduces operators' work load.

(5) Safety

The NRX 2000 complies with safety standards all over the world, including ISO standards, IEC standards, UL standards and JIS standards.

DMG MORI will continue to provide products that are reliable, highly functional and worthy of investment to meet each and every customer's needs.

Type	Front parallel dual-spindle/dual-turret CNC lathe
Model	NRX 2000
Market	Automotive industry
Monthly production capacity	200 units/year

■ **Main Specifications**

Item		NRX 2000
X-axis travel	(mm)	No. 1 and No. 2 : 100
Z-axis travel	(mm)	No. 1 and No. 2 : 220
Max. turning diameter	(mm)	No. 1 and No. 2 : 180
Max. turning length	(mm)	No. 1 and No. 2 : 100
Rapid traverse rate	(m/min)	X1, X2, Z1, Z2 : 30
Max. spindle speed	(min^{-1})	No. 1 and No. 2 : 5,000 [6,000]
Number of tool stations	(tool)	No. 1 and No. 2 : 8 [10]
Electric motor for spindle	(kW)	No. 1 and No. 2 : 7.5/7.5/5.5 (40%ED/30 min. / cont.) [11/7.5 (30 min./ continuous)]
Floor space (width x depth)	(mm)	1,650 × 2,705 [2,495 × 2,705 (Loader specification)]

[ ] Option

*No. 1: Turret 1 or Spindle 1, No. 2: Turret 2 or Spindle 2

Photo 1: Exterior

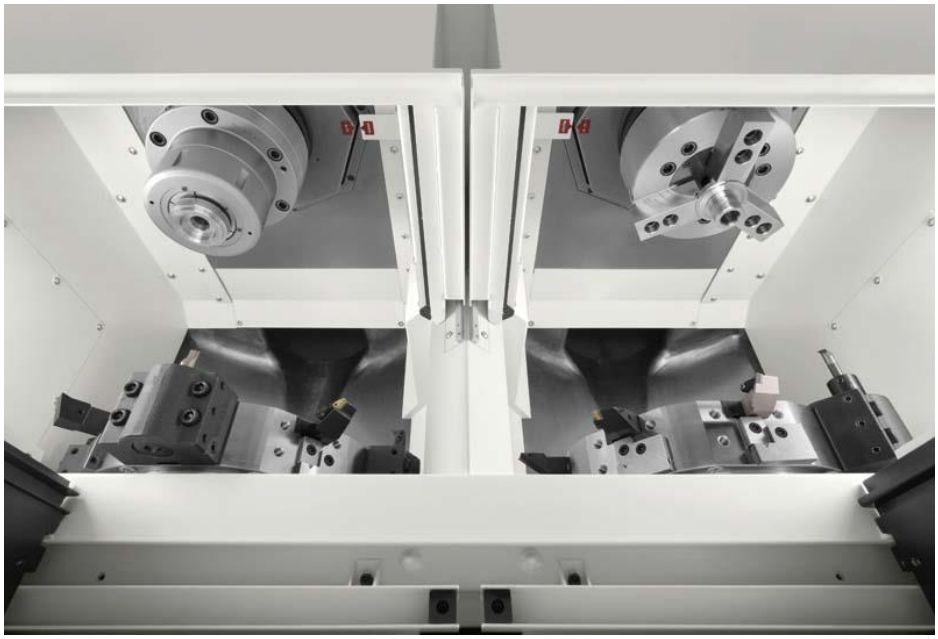

Photo 2: Built-in spindles and turrets

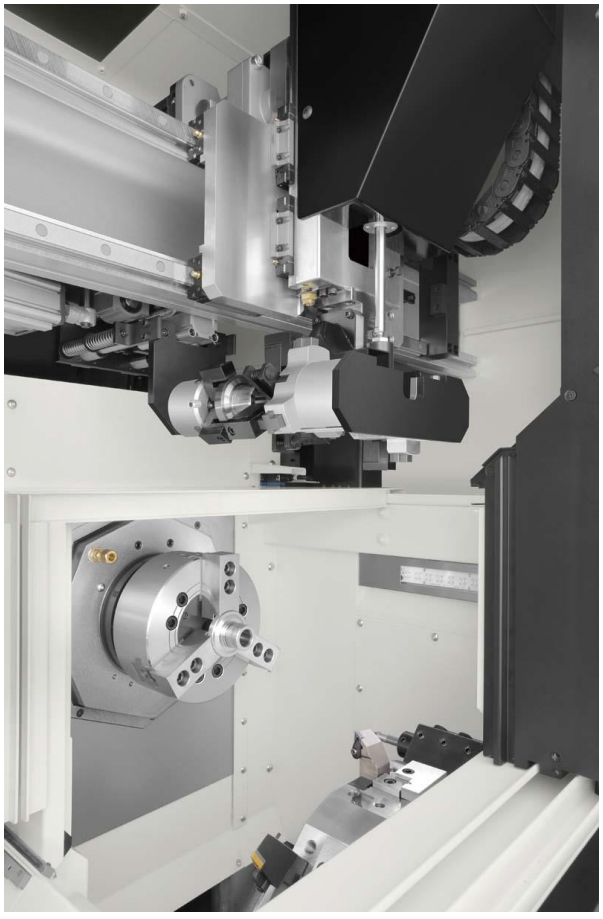

Photo 3: New and the world’s fastest loader