

Press Release

October 17, 2017

NHX 5500/6300 2nd Generation with the powerMASTER Spindle Suitable for Mass-production of Large Workpieces

DMG MORI CO., Ltd. (hereinafter called DMG MORI) began taking orders for the NHX 5500 2nd Generation and the NHX 6300 2nd Generation, which are the second generation models of horizontal machining centers NHX 5500 and the NHX 6300, at the EMO show held in Hannover, Germany last month. The NHX 6300 2nd Generation will be showcased as a Japan premiere at MECT Japan 2017 to be held from October 18.

The NHX 5500 2nd Generation and the NHX 6300 2nd Generation equipped with a No. 50 taper spindle (HSK-A100*) are designed for heavy-duty cutting of large workpieces and come standard with the energy saving function "GREENmode."

The models reflected the most demanded features from customers, "superior heavy-duty cutting capability" and "highly efficient chip disposal performance," in their designs and incorporated the overwhelmingly powerful and high-rigidity spindle "powerMASTER" and "the sludge collecting function" for collecting sludge inside the coolant tank in a highly efficient way.

*Available as an option. The standard is BT50.

The features of the NHX 5500 2nd Generation and the NHX 6300 2nd Generation are: 1. Cutting Ability and Accuracy; 2. Chip Disposal Solution; 3. High-rigidity; 4. Workability and Maintainability; 5. Automation System; and 6. Energy Saving.

1. Cutting Ability and Accuracy

- High-performance spindle powerMASTER mounted as standard
 - Standard: Maximum torque of 807 Nm (Up 157% compared to the conventional model*¹)
 - Max spindle speed: 12,000 min⁻¹ (Up 50% compared to the conventional model*¹)

<3 types of specifications>

Max spindle speed (min ⁻¹)	Max. spindle torque (Nm)
16,000/12,000/8,000	528/807/1,413

- Max cutting depth: Approximately 1.5 times*² (Compared to the conventional model)
 - Drastically reduce the time for machining parts that require large cutting allowance and high accuracy.

- Full closed loop control (Magnescale's SmartSCALE) on all axes to achieve high-accuracy machining.

*¹ NHX 5500 2nd Generation, *² NHX 6300 2nd Generation

2. Chip Disposal Performance

- Come standard with a new technology, the "sludge collecting function," that collects fine sludge inside the coolant tank with the high-accuracy cyclone filter in a highly efficient way.
 - Prevent pipes and coolant nozzles from clogging and pump performance from degrading to reduce cleaning time of the coolant tank.
- Come standard with the in-house manufactured external chip conveyor equipped with a drum filter with higher chip disposal performance than that of the conventional model.
- Reduce temperature variations of coolant by using the tank with a greater capacity.
 - The NHX 5500 2nd Generation: Up by approx. 28%
 - The NHX 6300 2nd Generation: Up by approx. 11%

(Compared to the conventional models)

3. High-rigidity

- Strengthen the bed rigidity by expanding wall thickness of a part of the machine structure by approximately 90%* and adding the bottom surface.
- Increase the torsional rigidity by employing the column with an approximately 40%* wider cross section (in part) and 50% thicker wall.
- Employ roller guides to achieve high rigidity.
- Reduce the minimum distance between the spindle end face and the center of the pallet to half* that of the conventional model.
 - Shorter tools can be used to perform heavy-duty cutting.

*NHX 6300 2nd Generation

4. Workability and Maintainability

- A separate pulse handle available as standard for better access to the machining envelop during operation.
- Improved access to the spindle and the pallet to reduce operators' load of setup work such as fixture adjustment.
- Slide door on the setup station side for a wider door opening of 1,064 mm*.
- Higher maintainability by placing equipment requiring daily inspection together at the side of the machine.

*NHX 6300 2nd Generation

5. Automation System

- Offer various high-quality automation systems to solve diverse production issues in a short delivery time.

RPP System (Round Pallet Pool)*

Space-saving and high setup workability with the largest number of pallets per unit area

CPP System (Carrier Pallet Pool)

Easy-to-install system to choose from eight packages according to customer needs (the number of pallets to be used).

LPP System (Linear Pallet Pool)

Customizable system configuration (ex. Multi-level pallet shelf) to increase productivity and

operation rate for customers.

- “DMG MORI One Stop Service” that supports everything about the introduction of automation systems for customers, including transfer systems, peripheral equipment, production management systems and even machining technologies, fixtures, tools and measurement as well as machine bodies.

*NHX 5500 2nd Generation

6. Energy Saving

- DMG MORI’s original energy-saving function “GREENmode” mounted as standard.

GREEN Monitoring

Visualize the power consumption and CO₂ emission amount on the CELOS operation screen

GREEN Device

Use high-brightness LED lights and accumulator pressure-keeping hydraulic pumps

GREEN Idling Stop

Shut off the power of the servo motor, spindle and coolant pump at the time of machine stop.
Turn off the operation panel screen when a machine is not operated for a certain period of time.

GREEN Control

Reduce machining time by energy-saving pecking cycles.

Control the coolant discharge amount by use of inverter-equipped hydraulic pumps.

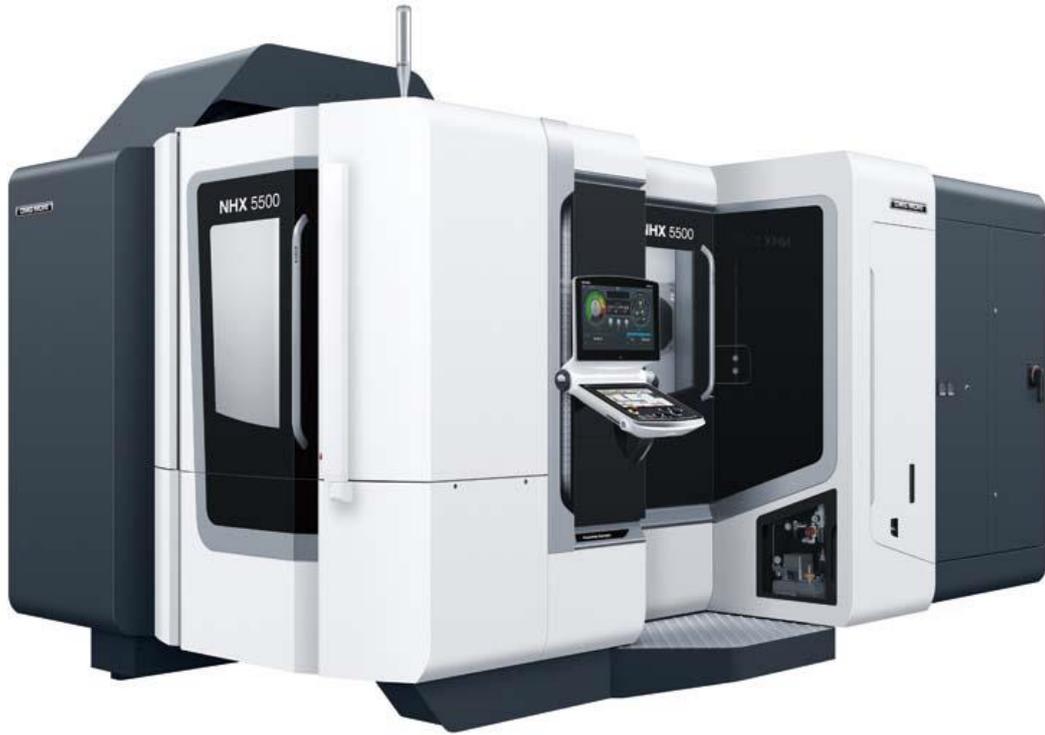
DMG MORI will continue to put products that are more reliable, highly functional and worthy of investment on the market in an utmost effort to meet customer needs.

Item	High-precision, high-speed horizontal machining center
Model name	NHX 5500 2 nd Generation NHX 6300 2 nd Generation
Market	Automotive and construction machinery industries etc.
Start of order taking	September 18, 2017
Planned sales volume	30 units/month

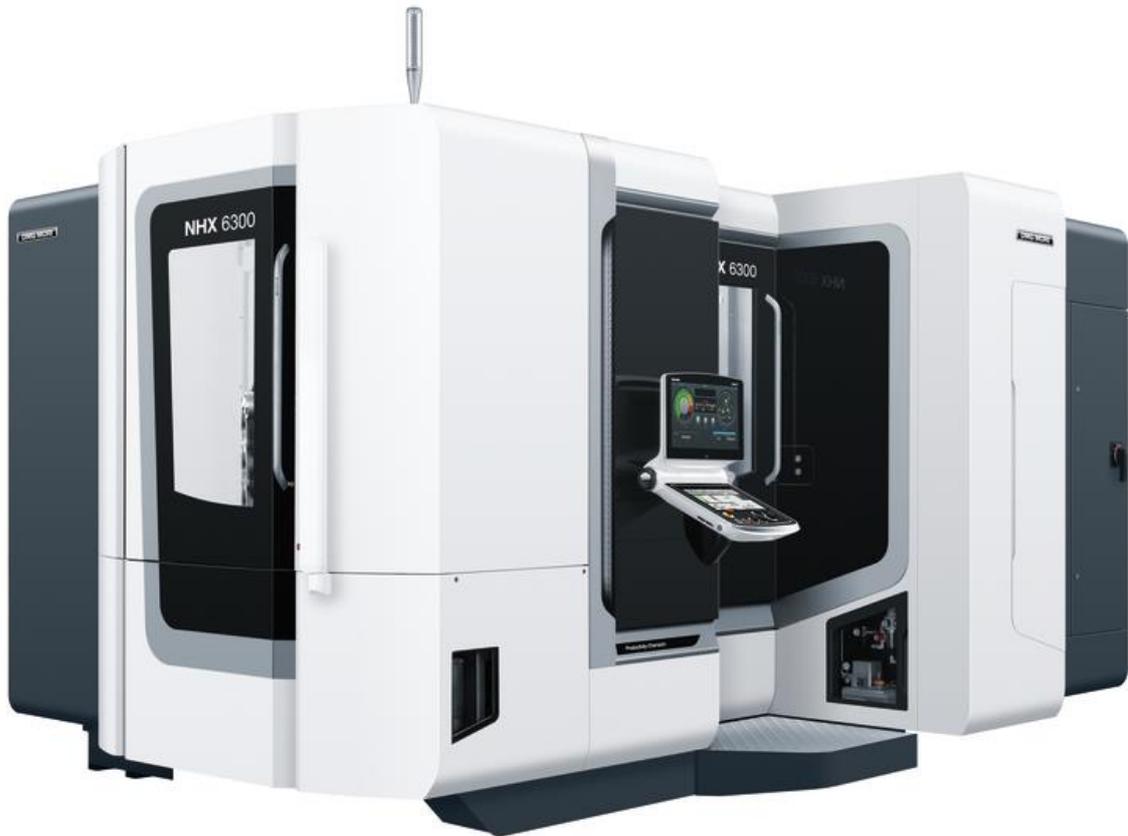
■Main specifications

Item		NHX 5500 2 nd Generation	NHX 6300 2 nd Generation
Axis travel (X/Y/Z)	(mm)	800/800/880	1,050/900/1,030
Pallet size	(mm)	500 × 500	630 × 630
Pallet loading capacity	(kg)	1,000	1,500
Rapid traverse rate (X/Y/Z)	(m/min)	60 / 60 / 60	
Max. spindle speed	(min ⁻¹)	12,000 [16,000 (High-speed spec.)]	12,000 [16,000 (High-speed spec.)] [8,000 (High-torque spec.)]
Spindle drive motor	12,000 min ⁻¹ (kW)	55/30 (15%ED/Cont.)	
	16,000 min ⁻¹ (High-speed spec.) (kW)	[37/26 (25%ED/Cont.)]	
	8,000 min ⁻¹ (High-torque spec.) (kW)	—	[55/45(25%ED/Cont.)]
Tool storage capacity	(tool)	60 (Ring type) [100/120 (Chain type)] [180/240/330 (Rack type)]	
Footprint (width × depth)	(mm)	3,365 × 5,465	3,930 × 5,917

[] Options



NHX 5500 2nd Generation (exterior)



NHX 6300 2nd Generation (exterior)