

DMG MORI

High-Precision, High-Speed Horizontal Machining Center

NHX 5500 2nd Generation
NHX 6300 2nd Generation

NHX 5500 2nd Generation NHX 6300 2nd Generation



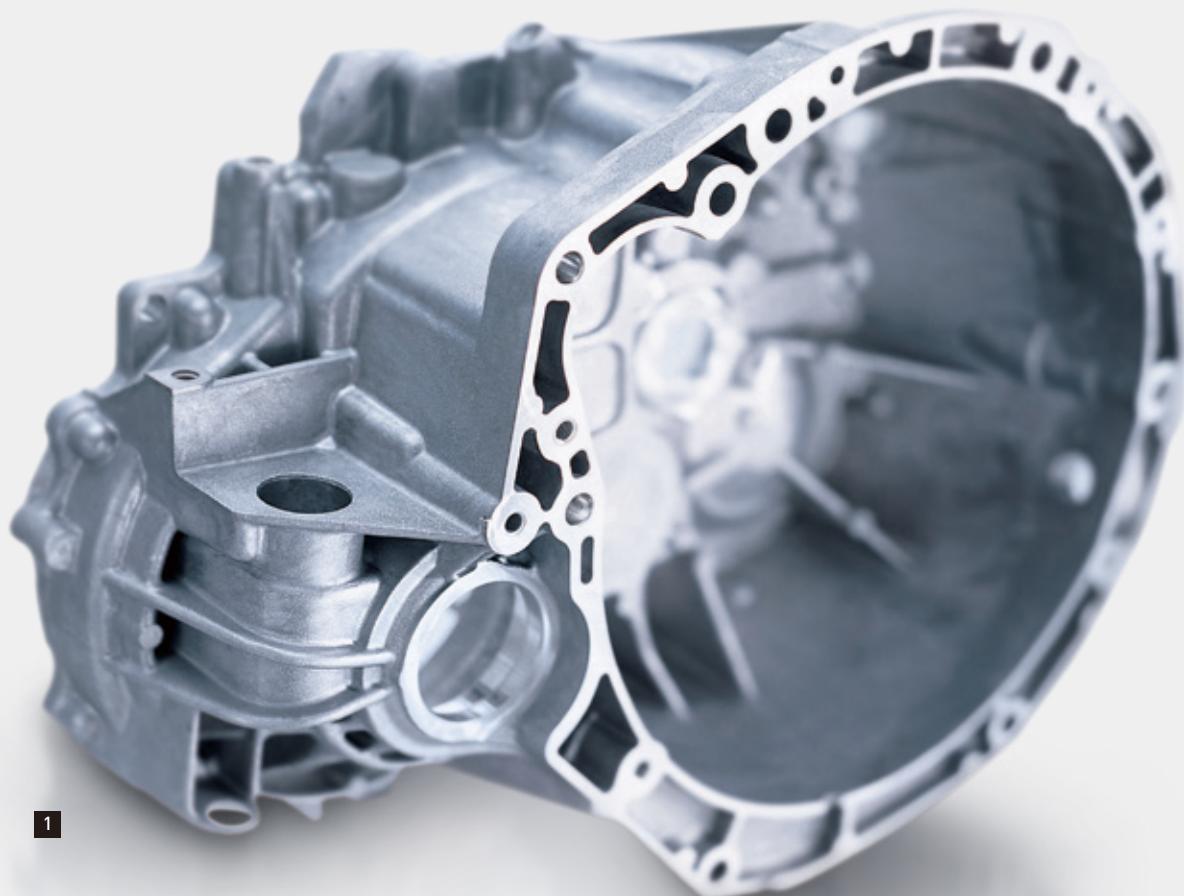
DMGMORI.COM

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Overwhelmingly Powerful Machining Performance by Excellent Rigidity

The NHX 5500 2nd Generation and NHX 6300 2nd Generation are horizontal machining centers with a high rigidity construction designed exclusively for No. 50 taper spindles. The models are equipped with a diverse range of functions and suited to a wide variety of machining in many different fields including automotive and construction machinery.

The model mounting the powerful and high-performance spindle powerMASTER and super-high rigidity bed suited for heavy duty cutting has evolved with higher cutting capabilities than that of the existing machine. An ideal machine has been achieved by a design with great attention down to the detail including the exterior.





Scan the QR code for the NHX 5500 / NHX 6300 2nd Generation movie.
[https://www.dmgmori.co.jp/en/movie_library/movie/
id=3509](https://www.dmgmori.co.jp/en/movie_library/movie/id=3509)



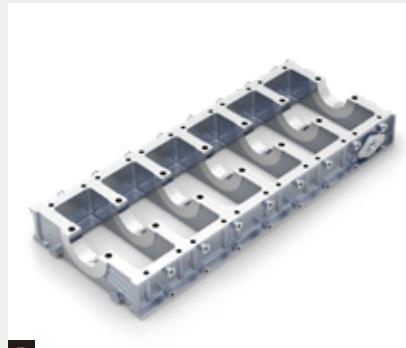
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Automobiles

- 1 Gear box housing
- 2 Cylinder head
- 3 Cylinder block
- 4 Transmission case
- 5 Crankcase

Construction machinery

- 6 Gear housing
- 7 Control valve
- 8 Case

Hydraulic & Pneumatic equipment

- 9 Pump casing

Industrial machinery

- 10 Differential housing

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Highest Rigidity and Accuracy

The NHX 5500 2nd Generation and NHX 6300 2nd Generation achieve the highest rigidity and accuracy expected of horizontal machining centers. The ergonomically designed cover leads to outstanding operability and beautiful form. The models are equipped with the cutting-edge operation system, CELOS, which flexibly handles any conceivable scene in production processes.

High speed

- + Rapid traverse rate <X, Y and Z axes>:
60 m/min (2,362.2 ipm)
- + Cutting feedrate <X, Y and Z axes>:
60 m/min (2,362.2 ipm)*

CELOS

- + Consistent administration, documentation and visualization of order, process and machine data
- + Extension of functions possible by adding applications, and high compatibility with existing information infrastructure and software

High rigidity

- + Thick, high-rigidity bed
- + The 3-point support structure ensures a stable machine installation
- + Machining with shorter tools

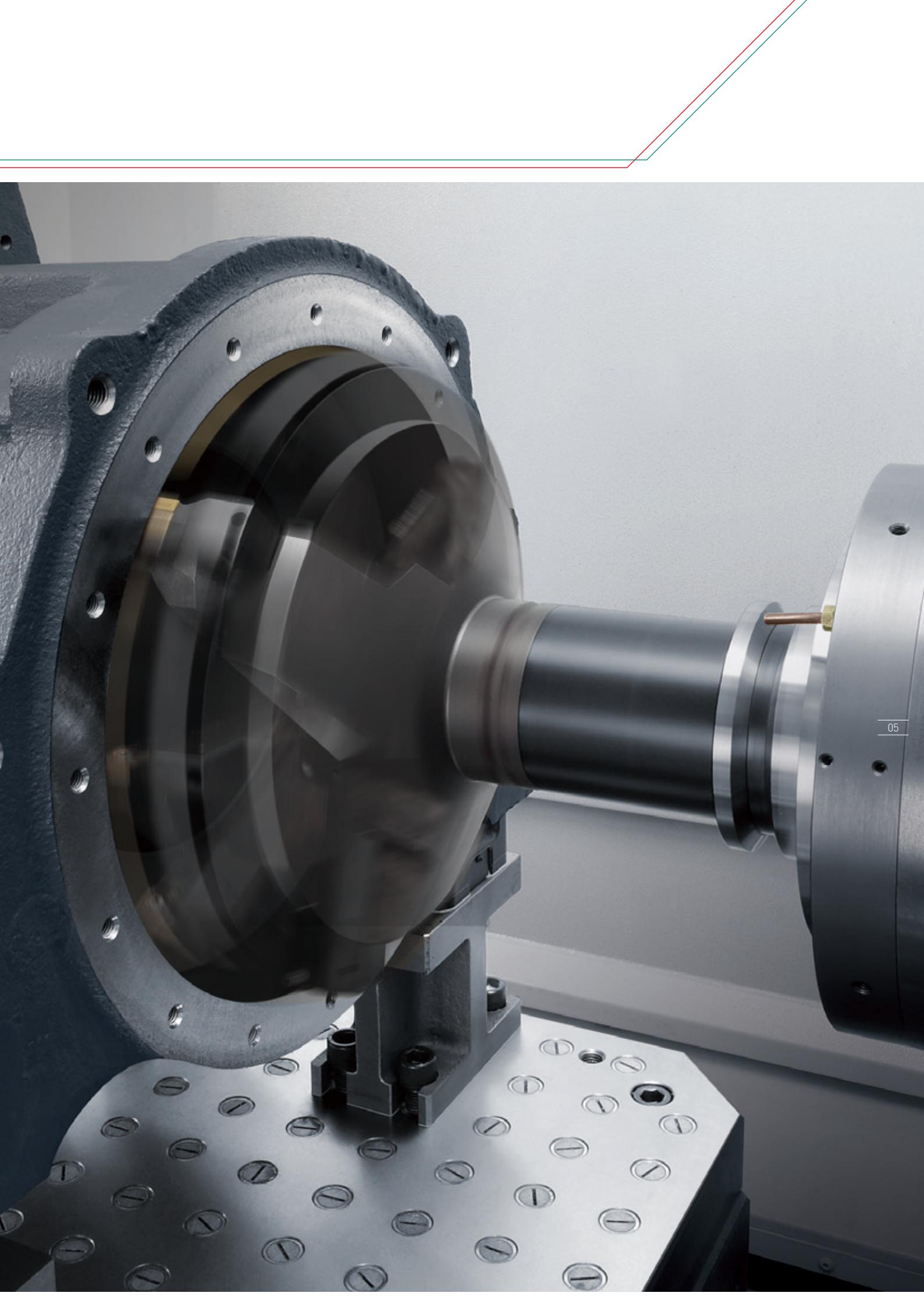
Power-saving

- + Function for energy-saving and visualization of the effect

High-precision equipment

- + High-resolution full closed loop control (Scale feedback)
- + Draw-back function for through-spindle coolant

* When using high-precision control (look-ahead control)
CELOS: Control Efficiency Lead Operation System



05

NHX 5500 2nd Generation / NHX 6300 2nd Generation

No. 50 Taper Machine (HSK-A100*)

Best Suited for Mass Production of Large Workpieces

+ Pallet size:

NHX 5500 // 500 × 500 mm [19.7 × 19.7 in.]
 NHX 6300 // 630 × 630 mm [24.8 × 24.8 in.]

+ Max. weight per station:

NHX 5500 // 1,000 kg [2,200 lb.]
 NHX 6300 // 1,500 kg [3,300 lb.]

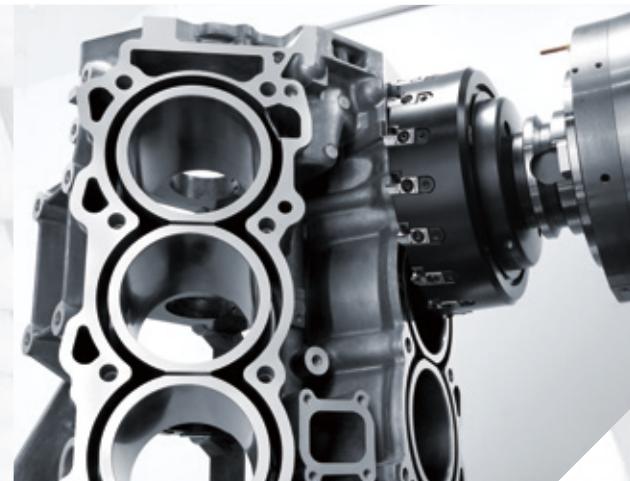
* Available as an option. The standard is BT50.



		NHX 5500	NHX 6300
Travel <X- / Y- / Z-axis>	mm (in.)	800 / 800 / 880 [31.5 / 31.5 / 34.6]	1,050 / 900 / 1,030 [41.3 / 35.4 / 40.6]
Max. workpiece height	mm (in.)	1,100 [43.3]* ¹	1,300 [51.1]
Max. workpiece swing diameter	mm (in.)	800 [31.4]	1,050 [41.3]
Pallet loading capacity	kg (lb.)	1,000 [2,200]	1,500 [3,300]
Floor space <width × depth* ² >	FANUC mm (in.) SIEMENS mm (in.)	3,365 × 5,465 [132.5 × 215.2] 3,748 × 5,465 [147.6 × 215.2]	3,930 × 5,917 [154.7 × 233.0] 4,028 × 5,917 [158.6 × 233.0]

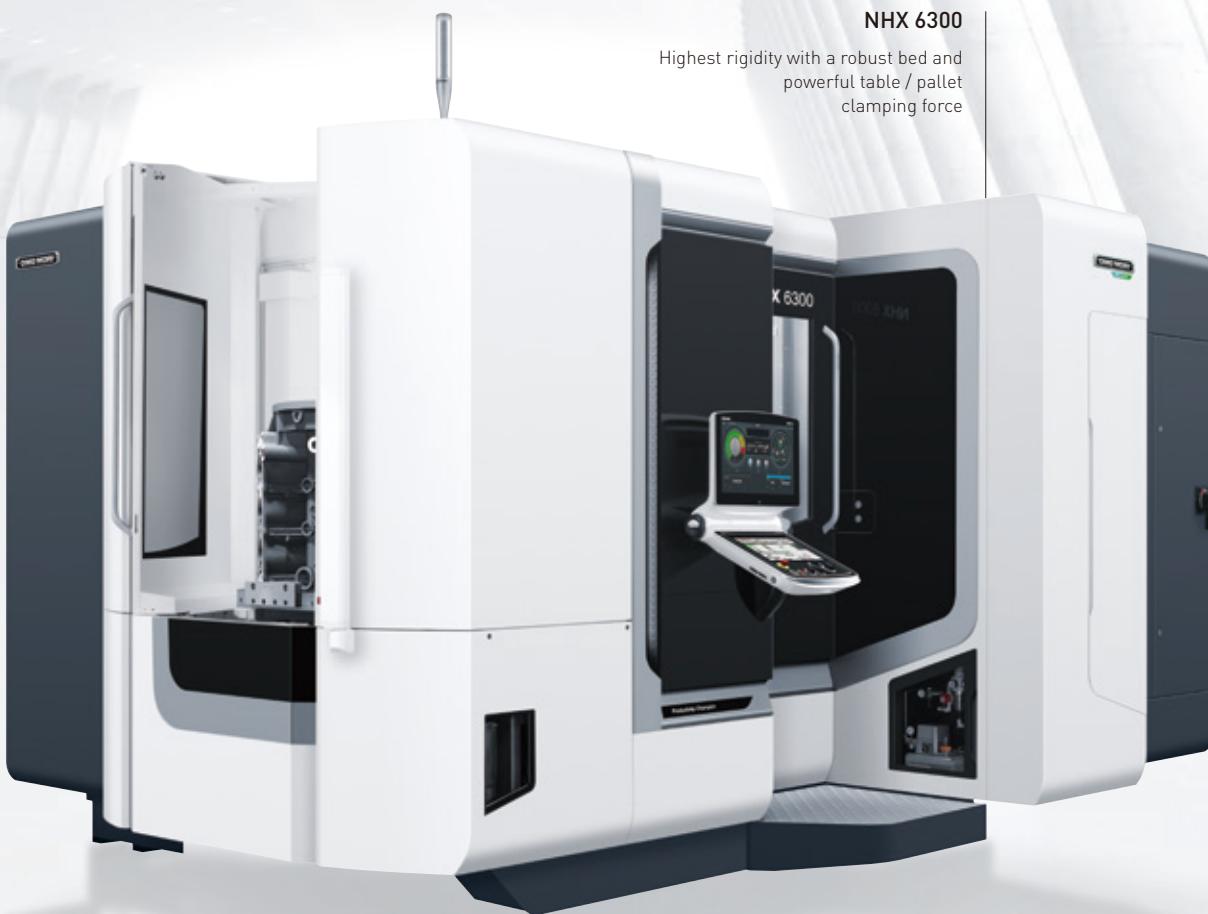
*1 LPP specifications: either 1,000 mm (39.3 in.) or 1,100 mm (43.3 in.) can be selected

*2 Please consult our sales representative when the Hinge + Scraper 2-stage chip conveyor (with drum filter) is selected.



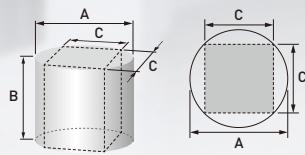
NHX 6300

Highest rigidity with a robust bed and powerful table / pallet clamping force



07

Max.
workpiece size
mm (in.)



NHX 5500

NHX 6300

Max. workpiece swing diameter: A

800 [31.4]	1,050 [41.3]
------------	--------------

Max. workpiece height: B

1,100 [43.3] ^{*1}	1,300 [51.1]
----------------------------	--------------

Length of one side of a workpiece^{*2}: C

565 [22.2]	742 [29.2]
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*1 LPP specifications: either 1,000 mm [39.3 in.] or 1,100 mm [43.3 in.] can be selected

*2 Length of one side of a square inscribed in a max. workpiece swing diameter range

LPP: Linear Pallet Pool

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Integration of Super-high Rigidity Bed and Spindle Unprecedented Heavy-duty Cutting

A robust bed is an essential machine structure for stable and high-quality machining. The NHX 5500 2nd Generation and NHX 6300 2nd Generation exclusively designed for a No. 50 taper spindle (HSK-A100*) have high-quality beds with a thicker wall and higher rigidity to minimize vibration generated during machining. What's more, the models come standard with the high-rigidity spindle powerMASTER with overwhelmingly powerful cutting capabilities to achieve stable heavy-duty cutting.

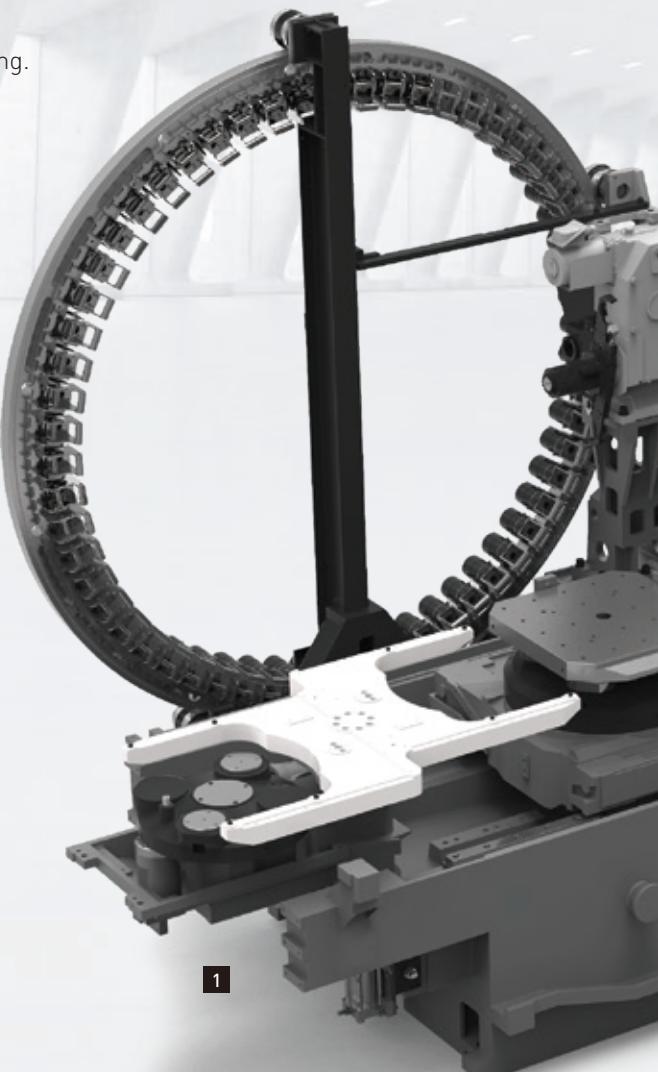
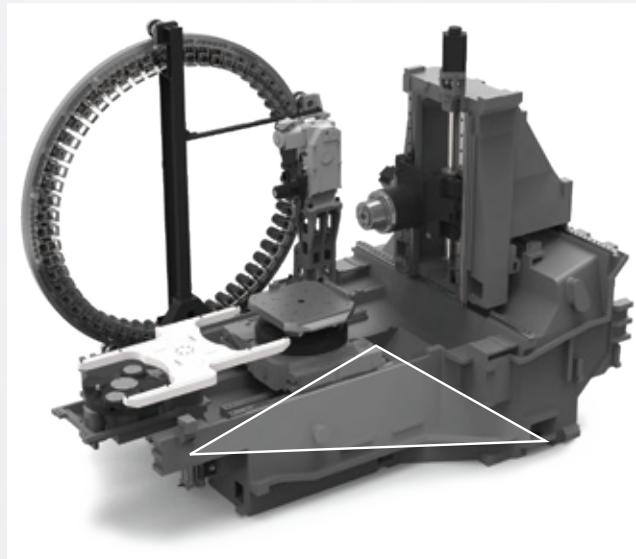
* Available as an option. The standard is BT50.

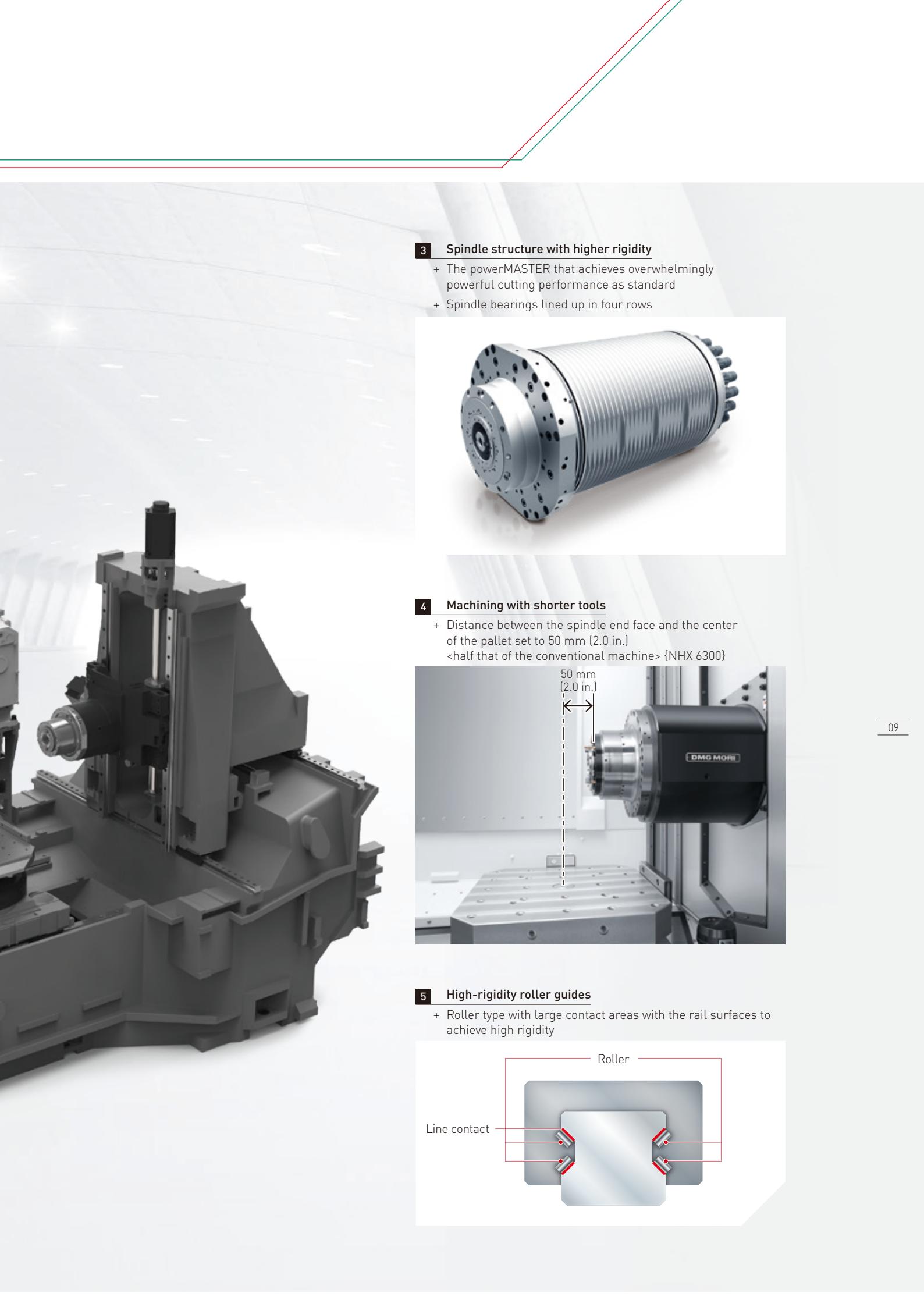
1 High-rigidity bed

- + The X-axis guideways with a step difference made high-rigidity bed possible
- + Thicker wall thickness than that of the existing machine to improve rigidity

2 3-point support structure

- + 3-point support machine structure for easy horizontal adjustment drastically reduces installation time
- + Not affected by ground conditions or gradual changes





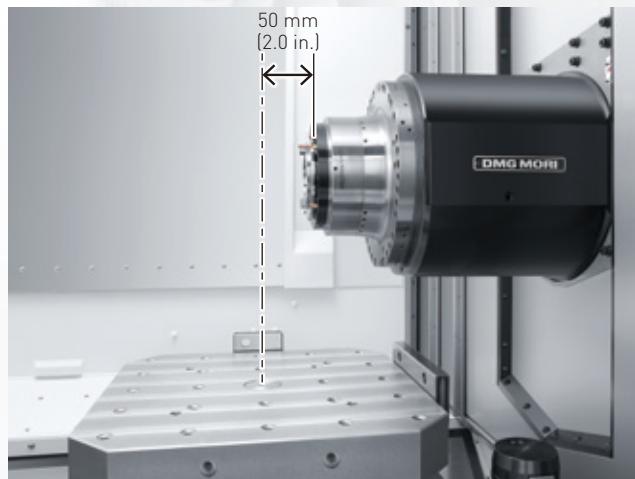
3 Spindle structure with higher rigidity

- + The powerMASTER that achieves overwhelmingly powerful cutting performance as standard
- + Spindle bearings lined up in four rows



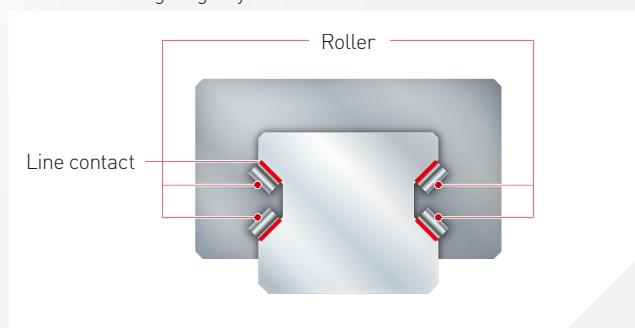
4 Machining with shorter tools

- + Distance between the spindle end face and the center of the pallet set to 50 mm (2.0 in.)
<half that of the conventional machine> {NHX 6300}



5 High-rigidity roller guides

- + Roller type with large contact areas with the rail surfaces to achieve high rigidity



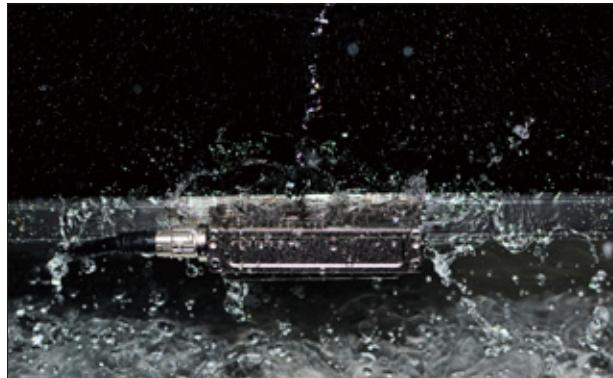
NHX 5500 2nd Generation / NHX 6300 2nd Generation

Perfect Equipment for Ultimate Machining Accuracy

The NHX 5500 2nd Generation and NHX 6300 2nd Generation models are equipped with everything required for stable high-precision machining. In addition to perfect spindle cooling, a highly reliable SmartSCALE (Magnescale) with extreme accuracy is employed on all axes as standard to ensure the best positioning accuracy for a long period of time.

Full closed loop control (Scale feedback) as standard on all axes (SmartSCALE)

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Simple non-contact structure

- + Saves space bearingless compact design
- + Can be mounted in proximity to workpieces, enabling easy installation of multiple scales on one axis

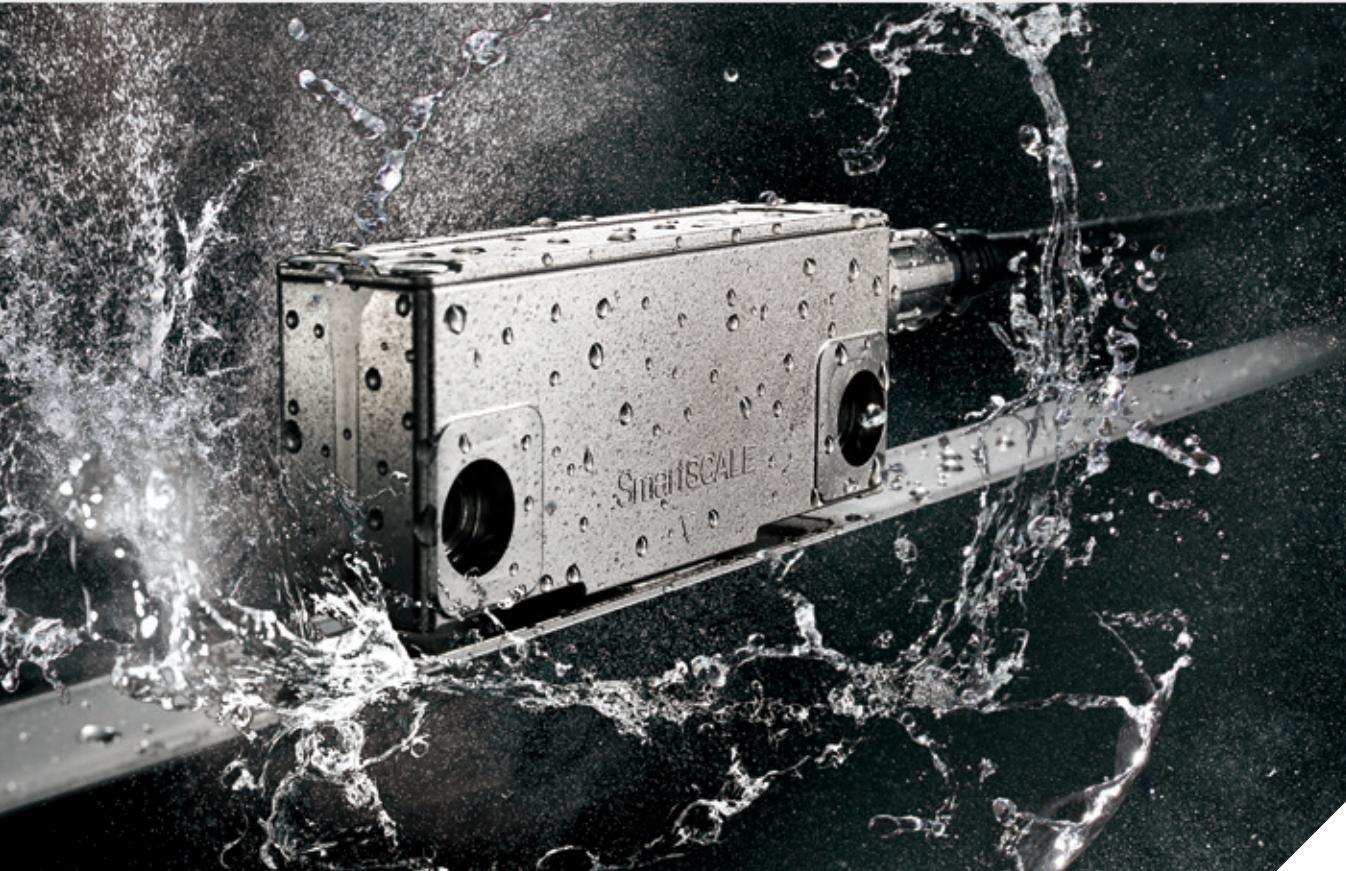


High resolution of 0.01 µm

- + Newly developed algorithm employed to improve the high-performance arithmetic processing circuit

No air purge necessary thanks to the sealing structure with a protection degree of IP67

- + The magnetic scale and the detection device surfaces completely covered with a metal cover for even higher durability against coolant and chips



Draw-back function for through-spindle coolant

Any remaining coolant in the spindle is drawn back into the tank when the coolant flow is stopped, which minimizes the residue to ensure stable machining accuracy.



- + Prevent coolant from adhering to the spindle taper during ATC
- + Prevent mounting errors and rust caused by chips
- + Prevent coolant from entering the magazine

• This function is included in the through-spindle coolant specification.

Coolant chiller (separate type) <option>

Increased coolant temperature causes thermal displacement in the fixtures and workpiece, affecting the machining accuracy of the workpiece. Use this unit to prevent the cutting coolant from heating up. When using oil-based coolant, the coolant temperature can become extremely high even with the standard coolant pump, so please be sure to select this unit.



When using oil-based coolant or a high-pressure coolant system, please be sure to consult our sales representative.

- + Machining with required accuracy of less than 20 µm
- + High-precision machining that requires a large amount of high-pressure coolant
- + Machining that requires oil-based coolant

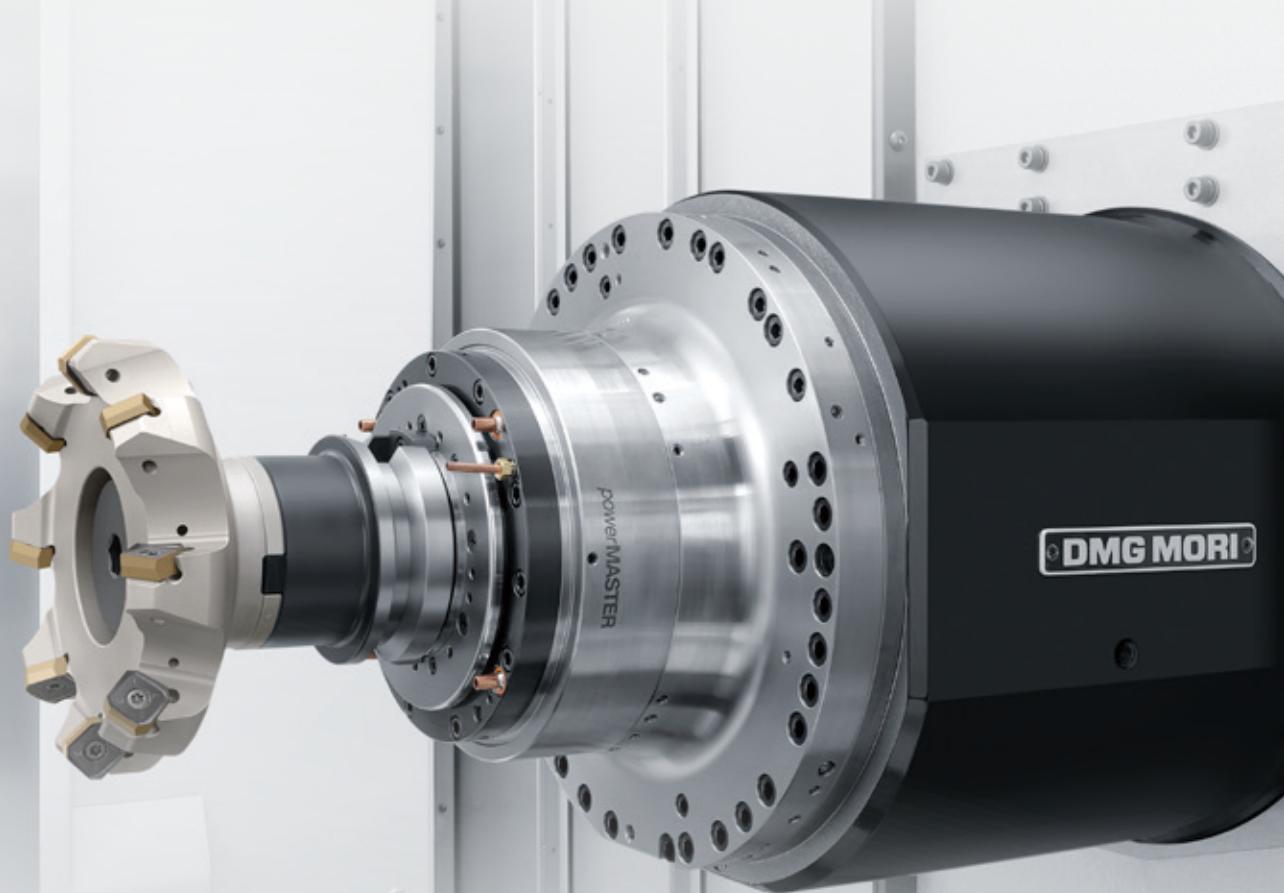
• We cannot guarantee that this unit will completely control the coolant temperature. It is designed to help prevent oil temperature increases.

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Outstanding Machining Capability High-power Spindle powerMASTER

The high-performance spindle powerMASTER with DMG MORI's cutting-edge technologies and know-how. The powerMASTER with overwhelmingly high-power achieves a torque of up to 807 N·m (595.2 ft·lbf) as standard, and delivers superb performance especially in heavy-duty cutting that requires rigidity.

The spindle offers varieties of specifications including the high-speed <16,000 min⁻¹> as an option.



Sophisticated spindle labyrinth structure

- + The labyrinth structure has been enhanced, taking into account frequent use of high-pressure coolant
- + Prevent coolant entry and improve spindle durability

Spindle with point-symmetric structure

- + Fixing bolts and pipes to supply coolant and cooling oil to the spindle are arranged symmetrically relative to the center of the spindle, enabling the machine to achieve high-precision machining without being affected by thermal displacement

Two-face contact specification (option)

- + Coming into contact with both spindle taper and spindle nose, a tool achieves greater flexural rigidity and longer useful life

Cutting-edge spindle technologies

powerMASTER

- + No. 50 taper spindle achieves overwhelming heavy-duty cutting
- + High-speed machining with the maximum spindle speed of 16,000 min⁻¹ (option)
- + Advanced spindle labyrinth structure prevents coolant from entering the spindle



Spindle: 3-year warranty



• The standard warranty period varies depending on the region. For details, please consult our sales representative.

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No. 50 taper spindle

- + Type of tool shank: BT50*¹, CAT50, DIN50, HSK-A100
- + Max. spindle speed: 12,000 min⁻¹
 - 16,000 min⁻¹ <high speed>
 - 8,000 min⁻¹ <high torque>^{*2}
- + Output: 55 / 30 kW (75 / 40 HP) <15%ED / cont>
 - 37 / 26 kW (50 / 34.7 HP) <25%ED / cont> {high speed}
 - 55 / 45 kW (75 / 60 HP) <25%ED / cont> {high torque}^{*2}
 - 90 / 50 kW (120 / 66.7 HP) <S6 10% / cont> <SIEMENS>
 - 85 / 50 kW (113.3 / 66.7 HP) <S6 10% / cont> {high speed} <SIEMENS>
 - 80 / 45 kW (106.7 / 60 HP) <S6 10% / cont> {high torque}^{*2} <SIEMENS>
- + Max. spindle torque: 807 N·m (595.2 ft·lbf) <10%ED>
 - 528 N·m (389.4 ft·lbf) <10%ED> {high speed}
 - 1,413 N·m (1,042.2 ft·lbf) <10%ED> {high torque}^{*2}
 - 808 N·m (595.9 ft·lbf) <S6 10%> <SIEMENS>
 - 549 N·m (404.9 ft·lbf) <S6 10%> {high speed} <SIEMENS>
 - 1,414 N·m (1,042 ft·lbf) <S6 10%> {high torque}^{*2} <SIEMENS>

*1 When the two-face contact specification is selected, a two-face contact tool and other tools cannot be used together.

*2 NHX 6300 only.

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Outstanding Standard Specification Fully Ready for Automation

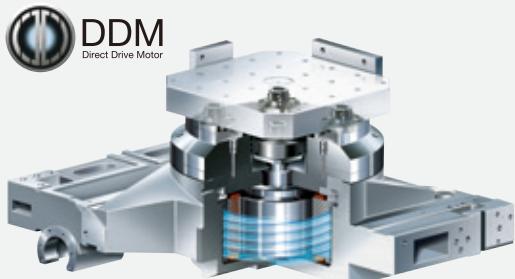
The models come standard with hydraulic / pneumatic interfaces, which used to be options, to facilitate the performance of hydraulic / pneumatic fixtures. This can fully accommodate system automation and greatly improve customers' productivity. The standard rotary table uses a high-speed rotary axis drive system DDM (Direct Drive Motor) that achieves zero backlash.

NHX 5500: 500 × 500 mm (19.7 × 19.7 in.)
NHX 6300: 630 × 630 mm (24.8 × 24.8 in.)

Direct Drive Motor

Until now, gears have been used to transmit the drive power to the rotary axes, but this drive system had a negative effect on drive speed and precision. By transmitting the drive power to the rotary axes directly without using gears, DDM offers outstanding transmission efficiency and high-speed feed. DDM also achieves zero backlash for highest accuracy.

- + High-speed rotation (B-axis max. rotational speed: 100 min⁻¹)
- + High-precision indexing
- + Less maintenance
- + Longer product life



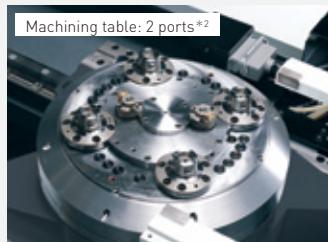
DDM: Direct Drive Motor

Hydraulic / pneumatic interfaces essential for automation equipped as standard

Easy automation integration with standard hydraulic and pneumatic interface.



*1 Hydraulic 2 circuits 4 ports,
workpiece seating detection 2 circuits 2 ports

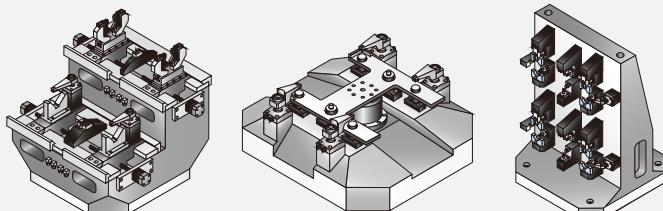


*2 For keeping clamp force of the hydraulic fixture
• Hydraulic fluid is supplied to the machining table through two ports that diverge from one circuit.

- + Automatic workpiece clamping / unclamping by hydraulic pressure
- + Pallet through type
- + Hydraulic / pneumatic pressure can be supplied from above (option)

Hydraulic / pneumatic fixtures

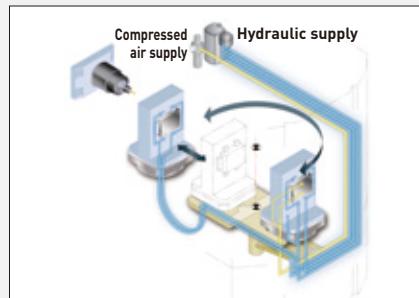
Offer optimal hydraulic / pneumatic fixtures based on our extensive experience and machining know-how.



- + Improve setup accuracy and reduce operators' burden compared to hand tightening fixtures
- + No variation in setup work according to operators
- + Prevent clamp errors with the seating detection function
- + Clamp / unclamp a workpiece with one push of a button

Pallet through specification

Easily transfer the pallets between the setup station and the work area and avoid external hoses and couplers.

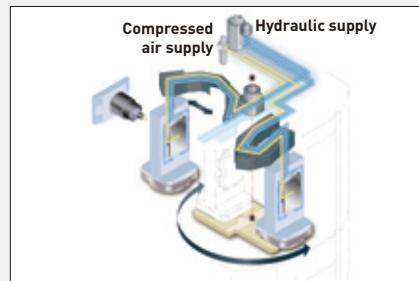


- + The hydraulic / pneumatic interfaces make it possible to supply hydraulic / pneumatic pressure to the table of the APC-equipped machines

Supply of hydraulic / pneumatic pressure from above (option)

Supplying from above the machine allows more ports to be added as needed by your fixture. Suitable for machining that requires high-pressure coolant and a number of ports.

Capable of clamping and unclamping workpieces inside the machine to achieve flexible machining.



Optimal acceleration / deceleration for each workpiece

Servo Sense for Workpiece (Z-axis, B-axis)

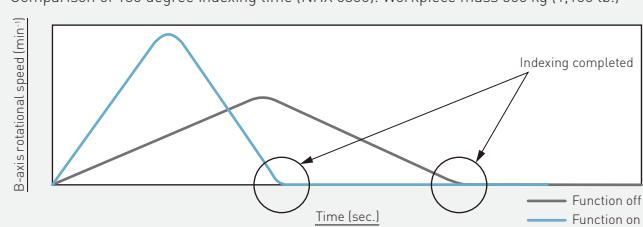
Drastically decrease overall cycle time by automatically finding the optimal acceleration / deceleration for each pallet (Z-axis and B-axis). The auto servo tuning function allows for efficient and smooth acceleration / deceleration, as well as ensuring stable positioning and higher machining accuracy. It automatically controls machine vibration and caused by gradual change in the machine and unbalanced fixtures.

- + Optimized acceleration / deceleration for reduction of machining time
- + Improved positioning accuracy
- + Reduced machine vibration

Example: Reduction in the B-axis indexing time

Increase acceleration according to workpiece mass and reduce positioning and machining time

Comparison of 180 degree indexing time [NHX 6300]: Workpiece mass 500 kg [1,100 lb.]



Reduced by
40%!

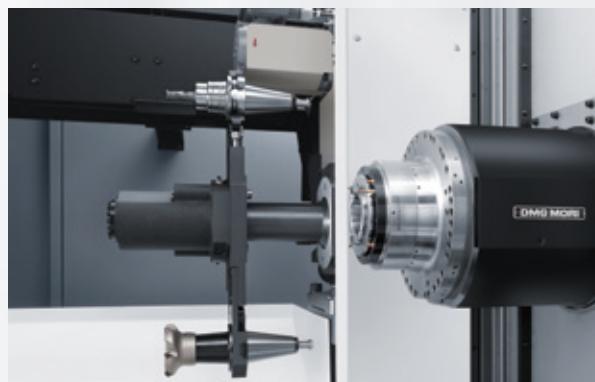
NHX 5500 2nd Generation / NHX 6300 2nd Generation

Variety of Magazines

The smooth, high-speed indexing, ring type magazine (60-tool specification) is offered as standard. Three types of magazines (ring type, chain type, and rack type) are available with a max. tool storage capacity of up to 330, so the customers can choose the one that best suits their production needs.

- + Tool storage capacity <ring-type / chain-type / rack-type>:
60 tools / 100, 120 tools / 180, 240, 330 tools
- + Max. tool length: 550 mm (21.6 in.) <NHX 5500> / 630 mm (24.8 in.) <NHX 6300>
- + Max. tool mass: 30 kg (66 lb.)
- + Max. tool diameter: 320 mm (12.5 in.) <without adjacent tools> /
110 mm (4.3 in.) <with adjacent tools>

- Chain-type magazines (100- or 120-tool capacity) incorporate a pot tilting mechanism and the tool capacity includes one tool at the spindle side.
- Rack-type magazines (180-, 240- or 330-tool capacity) incorporate a pot transfer mechanism and the tool capacity includes one tool at the spindle side.
- The maximum tool diameter is limited to 230 mm (9.0 in.) or less when using the spindle at 10,000 min⁻¹ or higher.



Reliable tool change

The ATC arm equipped with a holding lever for securing a tool tightly holds a long and heavy tool, offering reliable tool change.



A maximum tool length exceeding the pallet size

On the NHX 5500 2nd Generation the maximum tool length is greater than the pallet size, and on the NHX 6300 2nd Generation it is the same as the pallet size.

So deep hole boring up to the maximum tool length is now possible without reversing the table. It also contributes to reducing cutting time and achieving high-precision machining.

- + Max. tool length: 550 mm (21.6 in.) <NHX 5500> /
630 mm (24.8 in.) <NHX 6300>

- Depending on condition, machining may not always be possible.

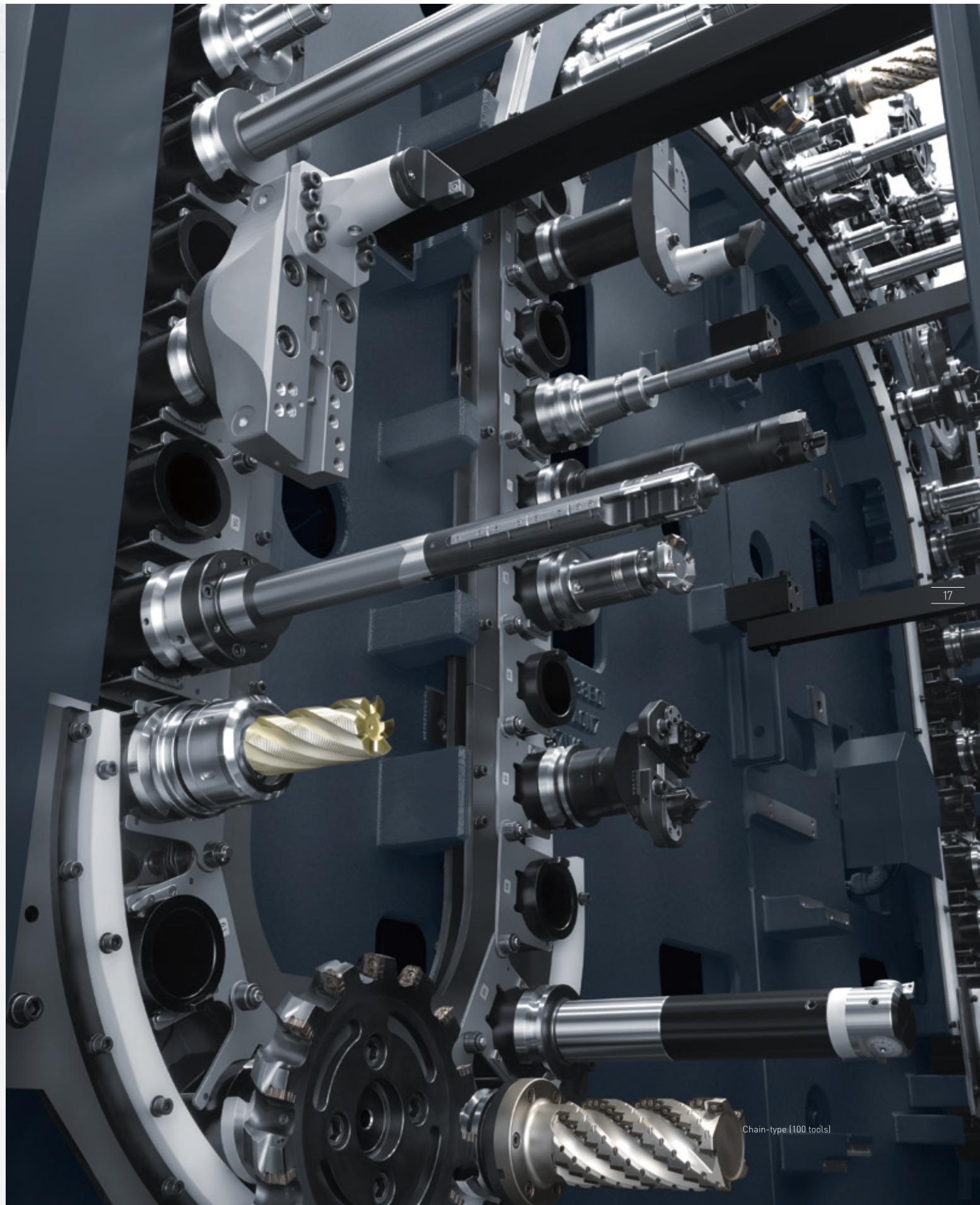
ISO 10791-9 JIS B6336-9 ISO: International Organization for Standardization
JIS: Japanese Industrial Standard

* Ring type: 60 tools

● Cut-to-cut (chip-to-chip): The time differences are caused by the different conditions (travel distances, etc.) for each standard.

● Depending on the arrangement of tools in the magazine, the cut-to-cut (chip-to-chip) time may be longer.

		NHX 5500	NHX 6300
Cut-to-cut	Max. <ISO> sec.	10.0	10.2
{chip-to-chip)*	Min. <ISO> sec.	4.4	4.7
<FANUC>	<MAS> sec.	4.4	4.8
Tool-to-tool			
<FANUC>	sec.	1.97	2.05



NHX 5500 2nd Generation / NHX 6300 2nd Generation

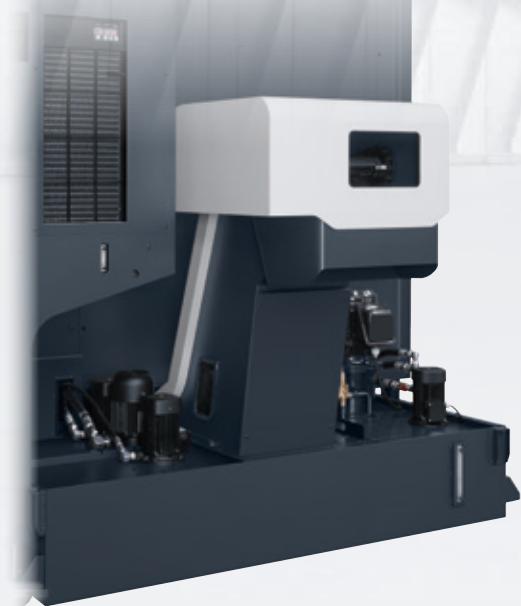
Cutting-edge Chip Disposal Solution

Chips can be one of the main causes leading to machining failure and machine stop.

DMG MORI conducted an in-depth study on them by carrying out various experiments and analyses, and achieved outstanding chip disposal performance.

Inside the machine, for example, coolant is sprayed not only from the ceiling but from the lower part of the machine, allowing the machine to prevent chip accumulation more reliably than conventional machines.

We offer optimal chip disposal solutions according to a machining condition of each customer.



Chip conveyor outside machine (rear discharge, drum filter type)

- + Regardless of shapes or materials, any types of chips including long / short chips can be transferred using one conveyor
- + Suitable for discharging various types of chips
- + Tank capacity: 1,025 L (270.6 gal.) <NHX 5500> / 1,200 L (316.8 gal.) <NHX 6300>
- + Depth of tank: 400 mm (15.7 in.)

◎: Ideal ○: Suitable —: Not suitable

Workpiece material	Steel			Cast iron			Aluminum / non-ferrous metal		
Chip form									
Chip size	Long	Short	Powdery	Short	Powdery	Long	Short	Powdery	
Scraper type (drum filter type)	○ ^{*1}	○	○ ^{*2}	○	○ ^{*2}	—	○ ^{*3}	○ ^{*2}	
Hinge + Scraper 2-stage chip discharge (drum filter type)	○	○	○ ^{*2}	○	○ ^{*2}	○	○	○ ^{*2}	

*1 For long chips <100 mm (3.9 in.) or longer>, select the optional "Hinge + Scraper 2-stage chip discharge (with drum filter)."

*2 Depending on the size, some chips may pass through the drum filter and accumulate in the coolant tank.

It is recommended to use the zero sludge coolant tank to minimize the impact on machining accuracy.

*3 When chips are easy to float on coolant (aluminum, titanium etc.) and lumps of over ø 40 mm (ø 1.6 in.) chips are often generated in large amount, please select "Hinge + Scraper 2-stage chip discharge (with drum filter)" <option>.

● <Chip size guidelines> Powdery: minute particles / Short: chips 50 mm (2.0 in.) or less in length, bundles of chips ø 40 mm (ø 1.6 in.) or less / Long: over 50 mm (2.0 in.)

● The options table shows the general options when using coolant.

Changes may be necessary if you are not using coolant, or depending on the amount of coolant, compatibility with machines, or the specifications required.

● Be sure to select a chip conveyor that suits the shape of your chips.

When using special or difficult-to-cut material (chip hardness HRC45 or higher), please consult our sales representative.

● Please consult our sales representative for dry machining, or machining of carbon fibers or resins.

● Chip conveyors are available in various types for handling chips of different shape and material. For details, please consult our sales representative.

Automatic chip removal

AI chip removal (option)

- + Shorter cycle time through reduced cleaning processes after machining
- + Optimal cleaning process based on the amount and location of accumulated chips
- + Reduce manual cleaning work by operator. Prevent machine troubles caused by chip accumulation

Cleaning process by AI chip removal



1

Two high-performance cameras take high-precision images of the entire machining chamber



2

AI detects the "Location" and "Amount" of chips based on the taken images



3

Automatic generation of the optimal cleaning path according to chip positions and conditions



4

High-performance coolant nozzle to clean chips

zeroFOG - Built-in Mist Collector (option)

- + Harmful mist cannot escape from the machine: Mist collection efficiency over 99.97% for 0.3 µm particles
- + Compact design: Directly attached to the machine body. No additional floor space necessary
- + Low maintenance



Scan the QR code to view the video of the zeroFOG.
https://www.dmgmori.co.jp/en/movie_library/movie/id=5808

**CO₂ emissions* cut by
13 tons every 10 years**

* Compared with conventional products. Assuming operation of 16 hours per day and 240 days per year.

Zero sludge coolant tank

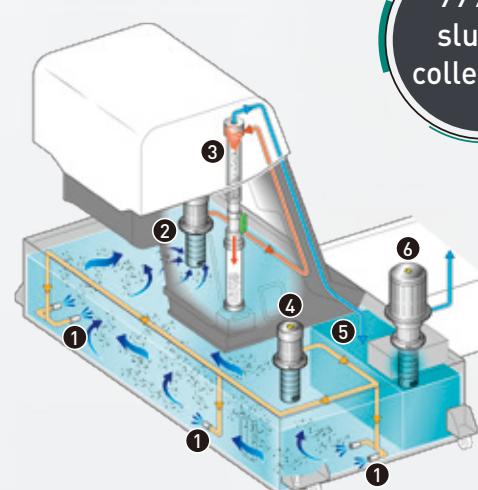
Multiple coolant nozzles are arranged to stir coolant and efficiently collect fine casting sludge with a highly accurate cyclone filter.

- + Reduce cleaning work of the coolant tank dramatically
- + Prevent clogging of pipes / coolant nozzles and pump breakage
- + Expand coolant life

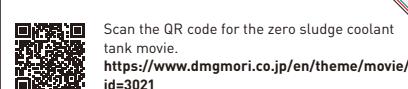
- ① Coolant nozzle
- ② Inlet filter pump
- ③ Cyclone filter
- ④ Stirring nozzle coolant pump
- ⑤ Clean coolant tank (from cyclone filter)
- ⑥ Through-spindle coolant pump

* This is an experimental result with test sludge.
Collection ratio may differ based on the sludge type.

● Not compatible with oil-based coolant.



**99% of
sludge collected***



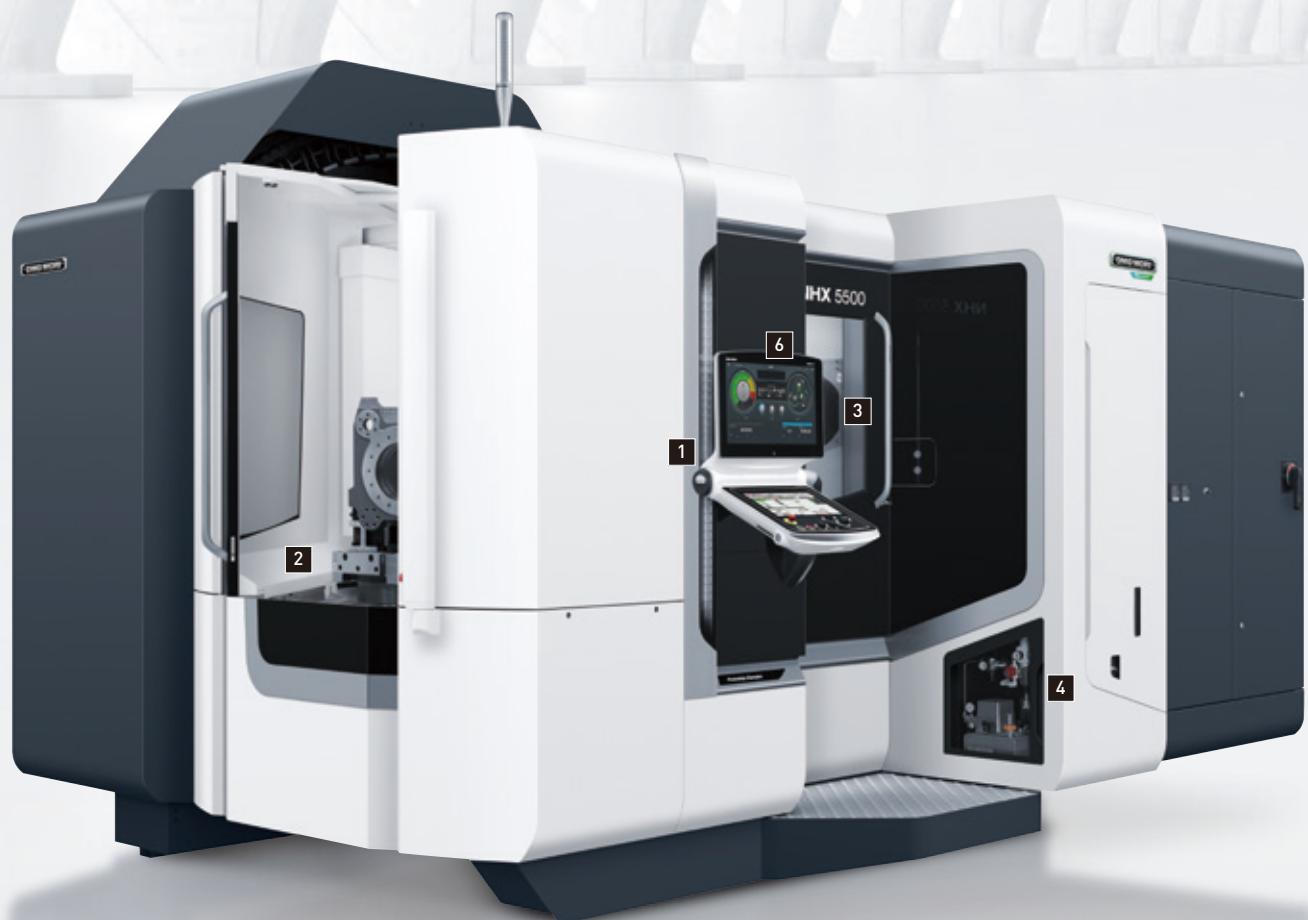
Scan the QR code for the zero sludge coolant tank movie.
<https://www.dmgmori.co.jp/en/theme/movie/id=3021>

Image of sludge collection

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Pursuit of Usability

The NHX Series is designed with the priority on operability. The models have larger windows to improve visibility and take an ingenious approach to every part of the machine to enhance workability with a completely workability-oriented concept. What's more, equipment including the hydraulic & pneumatic units are located together at a easy-to-access location to ensure easy maintainability.





1 CELOS / ERGOline Touch

Improved access to the spindle and workpieces thanks to the touch screen operation panel with a turning mechanism.

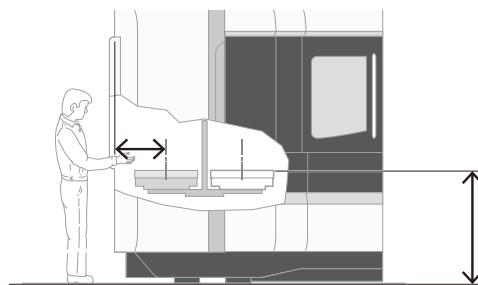


• The photo shows CELOS (FANUC).

- + Swivel angle: 120° (NHX 5500)
135° (NHX 6300)

2 Setup station

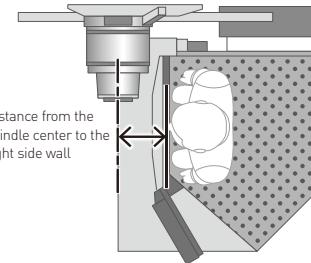
With excellent access to the table and a wide door opening, setup operations such as fixture adjustment can be done smoothly.



- + Distance to the center of the pallet:
520 mm (20.5 in.) <NHX 5500>/
600 mm (23.6 in.) <NHX 6300>
- + Distance from floor surface to pallet surface:
1,200 mm (47.2 in.) <NHX 5500>/
1,250 mm (49.2 in.) <NHX 6300>
- + Door opening:
815 mm (32.1 in.) <NHX 5500>/
1,064 mm (41.9 in.) <NHX 6300>

3 Access to the machining chamber

The machine offers improved accessibility from the operation door to the spindle.



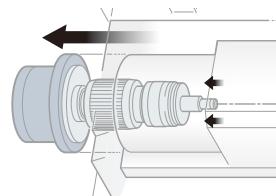
- + Distance from the spindle center to the right side wall:
308 mm (12.1 in.) <NHX 5500>
270 mm (10.6 in.) <NHX 6300>
- + Distance below the door opening (from the top of the step):
956 mm (37.6 in.) <NHX 5500>
949 mm (37.4 in.) <NHX 6300>

4 Centralized layout of devices

Peripherals requiring periodic maintenance are located in one place, which contributes to improving operators' work efficiency.

5 Replacement of spindle unit

By changing the spindle unit to a cartridge, which even includes the rear bearings, we have dramatically reduced replacement time.



6 Display of Manuals

As well as viewing operation manuals on the CELOS screen, you can perform full-text search with keyword and jump to links in the same way as you do on a PC. This is particularly convenient when searching for information during maintenance.

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Flexible Automation Solutions

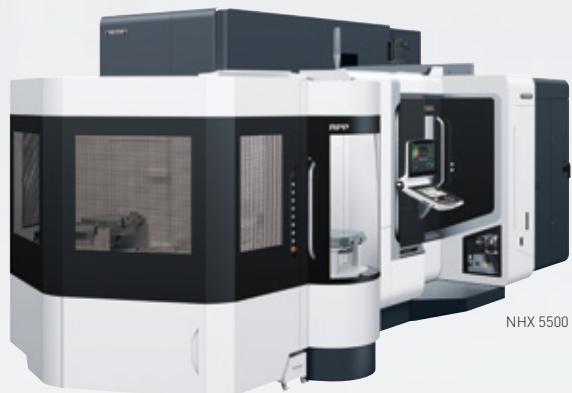
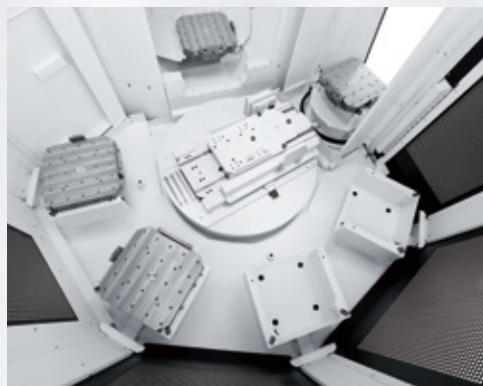
DMG MORI provides number of proven automation solutions for our customer diverse production requirements. We have installed automation systems around the world. With the advanced know-how we provide our customers with modular of fully customized solutions best suited for your floor.



Scan the QR code for the RPS movie.
https://www.dmgmori.co.jp/en/movie_library/movie/id=4250

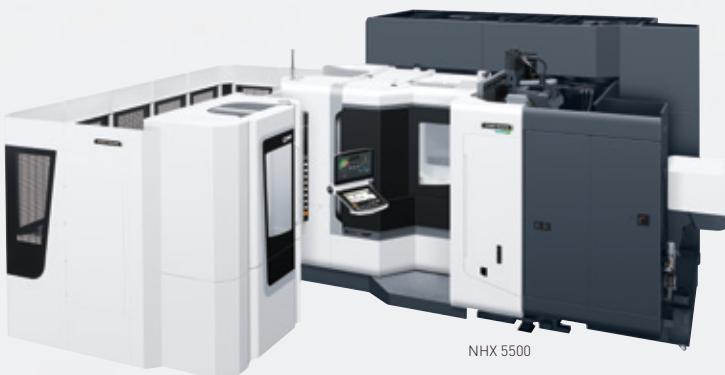
1 RPS system (Rotary Pallet Storage)

This system features outstanding space savings and setup capabilities, and can hold more pallets per unit area than any other pallet pool system. (NHX 5500 only)



2 CPP system (Compact Pallet Pool)

With its simple construction provided in predefined packages, this system is easy to introduce. For the system configuration, the customer can select from 8 packages to provide the optimum specifications for their needs.



3 LPP system (Linear Pallet Pool)*

This system can be equipped with multi-level pallet racks, providing a high level of automation.

The system construction can also be customized however you wish, achieving the optimum productivity and operation rate.

* Max. workpiece height: either 1,000 mm (39.3 in.) or 1,100 mm (43.3 in.) can be selected <NHX 5500>
• For details, please consult our sales representative.



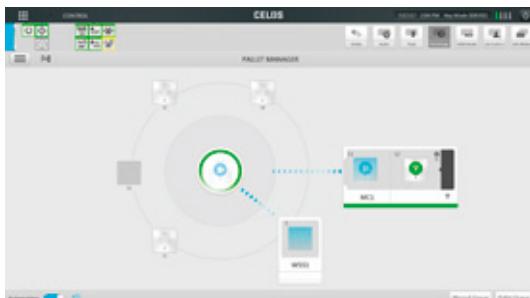
Scan the QR code for the LPP movie.
https://www.dmgmori.co.jp/en/movie_library/movie/id=4518

Simple Control System

PALLET MANAGER*

* MAPPS V function, available to RPS and CPP only.

Easy check of pallet status on CELOS



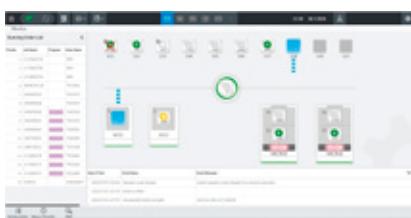
- + Displays the entire system layout in an easy-to-see manner
- + Able to check the latest pallet status and shorten setup time
- + Able to transfer pallets by drag and drop of the pallet icon on the screen

Tool check to prevent troubles in advance



- + Automatically identifies and displays tools that are not suitable for machining by central tool management
- + Prevents machining failure and troubles caused by tool breakage
- + Improves productivity by minimizing problem-caused rework

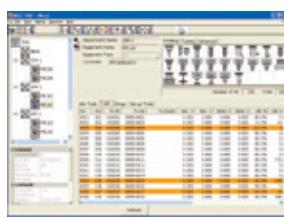
LPS 4th Generation (Linear Pallet Pool Control System)



MAPPS: Mori Advanced Programming Production System
CELOS: Control Efficiency Lead Operation System
RPS: Rotary Pallet Storage

- + Easy operation / management of the pallet transfer system
- + Machining programs can be managed and automatically downloaded
- + Able to flexibly change production priority in response to urgent requests

MCC-TMS (The Tool Management System)



- + Improves the system operating rate through highly efficient, centralized tool management
- + Compatible with ID tags
- + Compatible with tool presetter interface

• For machines with the FANUC NC unit only.

NHX 5500 2nd Generation / NHX 6300 2nd Generation

One Stop Service for Various Needs DMG MORI Qualified Products

The DMG MORI Qualified Products [DMQP] program <option> is designed to certify peripherals that meet DMG MORI standards in quality, performance and maintainability. DMG MORI collaborates with our partners in the world and provides customers with peripherals required for their machining. We take care of the arrangement from selection to installation to support best-quality machining. DMG MORI helps customers improve productivity by offering the total solutions including quality peripherals as well as machine tools.

- + Offer peripheral equipment optimal for each customer at one stop
- + Provide support including connection and setup of machines and peripheral equipment
- + Achieve efficient connections with optimal interfaces



Four DMQP categories

Handling

Robot system

Chip conveyor (external)

Shaping

Mist collector

High-pressure coolant system

Oil skimmer

Rotary window

Measuring

In-machine measuring system (tool)

Tool presetter

In-machine measuring system (workpiece)

Surface roughness measuring system

Monitoring

Electrical cabinet chiller

Coolant chiller

Coolant float switch

Signal lamp

Robot



In-machine measuring system (workpiece)



Tool presetter



Tool balance measuring system



Shrink fit system



Coolant filtration filter



Air dryer



Air compressor



Electrical cabinet chiller



Oil skimmer



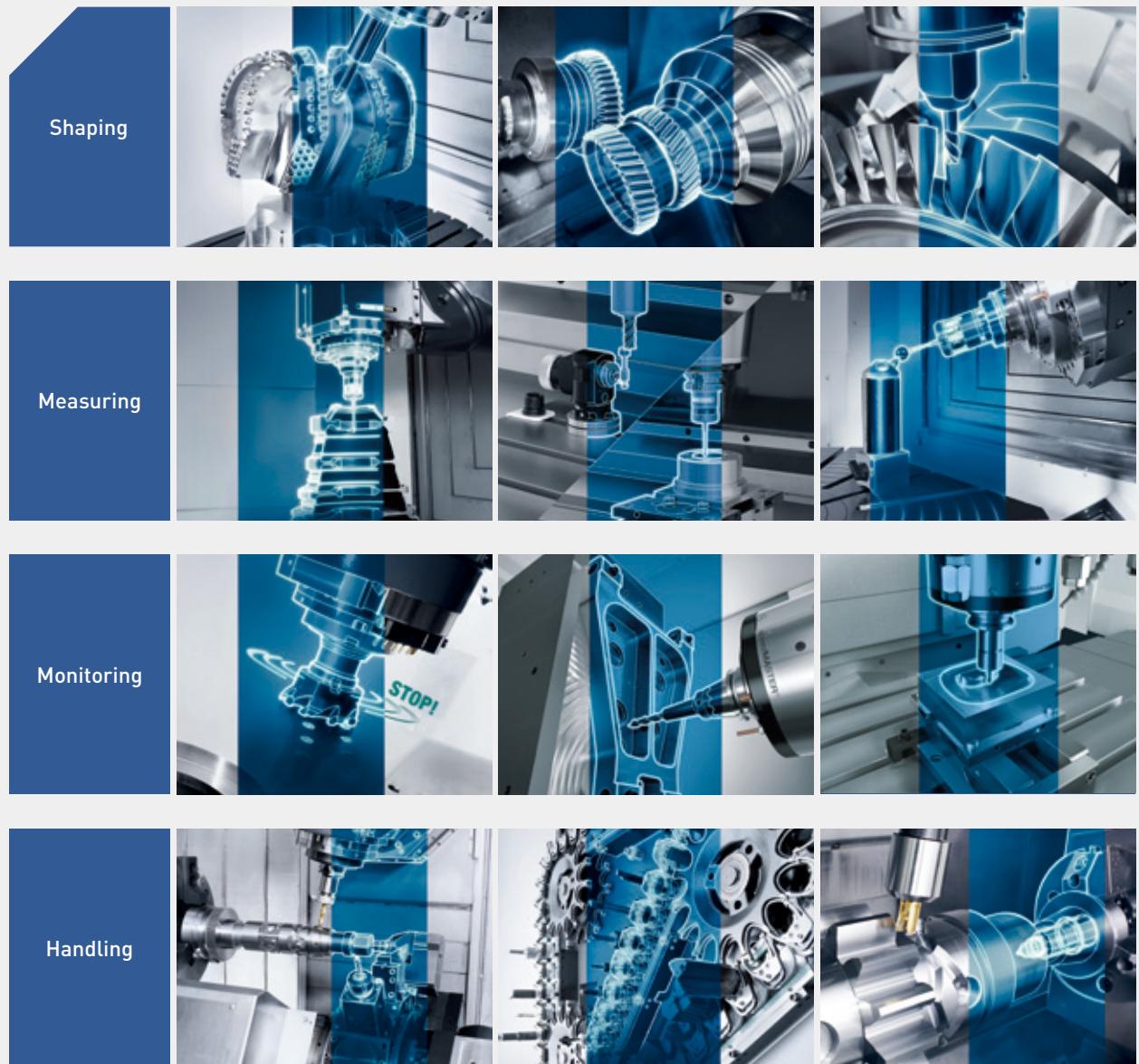
Tool



NHX 5500 2nd Generation / NHX 6300 2nd Generation

DMG MORI Technology Cycles

Technology Cycles are complete solutions that achieve complex machining easily in a short time. They enable every operator to easily perform high-quality machining, setups and measurements with general-purpose machine tools and standard tools / fixtures, which used to require specialized machines, programs and tools.



- The availability of the functions differ depending on the machine. For details, please consult our sales representative.
- The above is an image picture.

Interpolation turning^{*1}



Easy programming of interpolation turning

DMG MORI gearMILL^{*2}



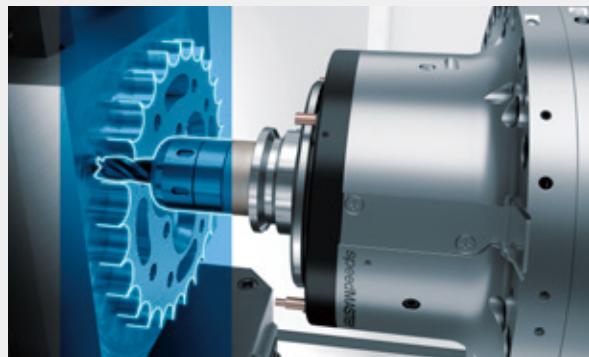
Integrating gear cutting into milling

MVC (Machine Vibration Control)^{*1*3}



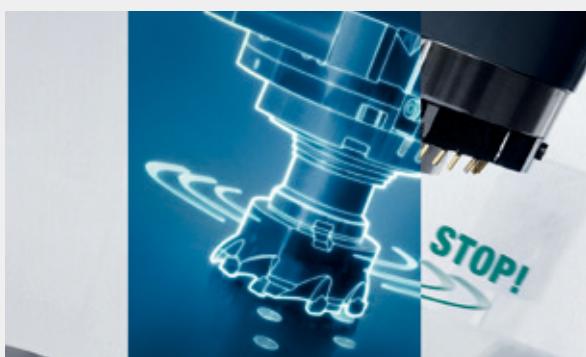
Selects optimum conditions for preventing chatter

ATC (Application Tuning Cycle)



Easy setting of optimum feed according to the machining operation

MPC (Machine Protection Control)^{*1}



Minimizing load to the spindle when interference occurs

Efficient Production Package (High-speed canned cycle)^{*1}



Easy inputting of various machining patterns

NHX 5500 2nd Generation / NHX 6300 2nd Generation

From the Idea to the Finished Product

DMG MORI's cutting-edge operation system, CELOS, enables consistent management, documentation and visualization of orders, processes and machine data. CELOS can be extended with apps and is also compatible with your company's existing infrastructures and programs.

CELOS APPs facilitate quick and easy operation: three examples »»



JOB MANAGER

Systematic planning, administration and preparation of work orders

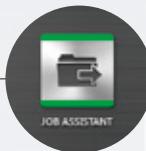
- + Machine related creation and configuration of new work orders
- + Structured storage of all production related data and documents
- + Easy visualization of job information on drawings, models, tools, fixtures, etc.



JOB ASSISTANT

Process-defined orders

- + Menu guided set-up of the machine and conversational processing of production orders
- + Reliable error prevention thanks to windows-based assistance instructions with a mandatory acknowledgement function



APPLICATION CONNECTOR

CAD / CAM operation by remote access to external computer

- + Direct remote access to external CAD / CAM workstations
- + Central master data as basis for component viewing
- + Immediate change options for machining steps, NC programs and CAM strategies, directly in the CNC system



CELOS

APP menu:

Central access to all available applications



ERGOline operation panel with 21.5-inch multi-touch screen and NC unit from FANUC or SIEMENS

STANDARD

Standard user interfaces for all new high technology machines from DMG MORI

CONSISTENT

Consistent administration, documentation and visualization of order, process and machine data

COMPATIBLE

Compatible with PPS and ERP systems
Can be networked with CAD / CAM products
Open to trendsetting CELOS APP extensions

PPS: Production Planning and Scheduling System
ERP: Enterprise Resource Planning

NHX 5500 2nd Generation / NHX 6300 2nd Generation

DMG MORI Digital Factory



Find detailed information on Digital Factory here.
<https://www.dmgmori.co.jp/en/knowledge/category/?type=digitalization>

PLANNING

Production planner

PREPARATION

Process designer

PRODUCTION

Operator

CELOS / CELOS PC Version

CELOS PC Version (PC)



CELOS (Machine)



JOB MANAGER

(on-machine and PC)



- + Registration of workpiece information (drawings, materials)



APPLICATION CONNECTOR

(on-machine and PC)



- + Remote connection with CAD / CAM, operation and check on CELOS



JOB SCHEDULER

(on-machine and PC)



- + Creation and change of work schedule by setting start / end dates of machining



ORGANIZER

(on-machine and PC)



- + Setting of memos and alarms



JOB MANAGER

(on-machine and PC)



- + Registration of cutting tools, clamping fixtures, machining programs, work instructions and setup procedures to centrally manage workpiece information



TECHNOLOGY CYCLE

(on-machine only)

- + Complex machining easily realized in a short time

CELOS Machine



- + A wide variety of apps facilitate machining operation



JOB ASSISTANT

(on-machine only)



- + The operator can check the information registered in JOB MANAGER and do setups for machining
- + NC data and information about tools and a clamping device are transferred to the machine



TOOL HANDLING

(on-machine only)

- + Tool management by checking and registering tools to be used

DMG MORI realizes "Digital Factory" that drastically improves customer productivity and profits, using the cutting-edge technologies. The DMG MORI Digital Factory largely consists of five steps. Our cutting-edge operating system "CELOS" connects humans, machines and factories, enabling visualization and analysis of information which were difficult before. We make clear customers' production issues by shop digitization and provide optimal solutions for them.

MONITORING

Factory manager

SERVICE

Service engineer

CELOS / CELOS PC Version



MESSENGER (on-machine and PC)



- + Visualizes operating status of networked machines
- + Collects alarm history and identifies reasons for machine stops
- + Possible to check from a machines, PC or smartphone anytime, anywhere

Find a video about MESSENGER here.



CONDITION ANALYZER

(on-machine only)

- + Allows for early identification of machine and machining problems based on machine data recorded by on-machine sensors



IoT connector

- + Compatible with widely used communication protocols (MTConnect, OPC UA, MQTT, etc.)
- + Communication PC equipped with the enhanced data connection function to boost the machine's network performance



Use of AI (under development)

- + AI learns information sent from a sensor and estimates & corrects thermal displacement to achieve higher machining accuracy
- + Preventive maintenance to prevent machine problems in advance

myDMG MORI



- + Your online service manager
 - Visualize service history
 - Manage documents digitally
 - Order services online
 - Track & Trace Order status

WERKBLIQ



Integral solution for the digital shop floor, available for both DMG MORI & 3rd party products

- + Manage documents centrally
- + Control service precisely
- + Implement service sustainably
- + Learn continuously with analyses



NET SERVICE

(on-machine only)

- + Remote support by DMG MORI Service Center minimizes machine downtime caused by machine trouble



SERVICE AGENT

(on-machine and PC)

- + Regular machine maintenance in an accurate and attentive manner
 - MTConnect is a trademark or registered trademark of The Association For Manufacturing Technology.
 - OPC UA is a trademark or registered trademark of OPC Foundation.
 - MQTT is a trademark or registered trademark of International Business Machines Corporation.
 - These functions may differ in your country. Please consult our local sales representative for more detailed information.

NHX 5500 2nd Generation / NHX 6300 2nd Generation

High-Performance Operation Systems

MAPPSV is a high-performance, smart operation system mounted on CELOS. It enables operators to easily control machine operation with touch operation. SIEMENS 840D solutionline: This powerful state-of-the art operation system with a variety of functions as standard will ensure optimal productivity.



The 6-window display provides access to a variety of information at the same time >>>

The screen combinations can be freely customized >>>



CELOS with FANUC

- + User memory area with large capacity of 6 GB as standard
- + Equipped with simple and easy-to-follow conversational programming function
- + Quick access to necessary information in manual data by searching function
- + Two multi-touch panels
- + 3D machining simulation for easy geometry check
- + 6-window display for checking necessary machine information all at once
- + Improved setups by displaying necessary machine information according to operation

CELOS with SIEMENS

- + Highly simplified interactive programming
- + SINUMERIK Operate new user interface
- + ATC*, 3D quickSET*
- + Fast block processing time of approx. 0.6 ms
- + Look-ahead function for up to 150 NC blocks (capable of parameterisation)
- + Graphic simulation of the machining process with overhead view, triple-plane display and 3D display; synchronised display during the machining process
- + 3D machining, optional 3D tool correction via the surface normal vector

* Option

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Unique Energy-saving Function GREENmode



DMG MORI has developed the energy-saving function “GREENmode” to accomplish sustainable development goals (SDGs).

SDGs: Sustainable Development Goals

The machine's power consumption is reduced by cutting unnecessary standby power and using efficient machining programs to shorten machining time.

- + Improve cutting conditions to reduce machining time by bringing the best out of machine tools and tools
- + Reduce unnecessary power consumption during stand-by time by shutting off power of the spindle, chip conveyor and coolant pump at a time of machine stop
- + Visualize power consumption and CO₂ emission amount



GREENmode

GREEN monitoring

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



GREEN device

- + High-brightness LED light
- + Accumulator pressure-keeping hydraulic pump

GREEN idle reduction

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

GREEN control

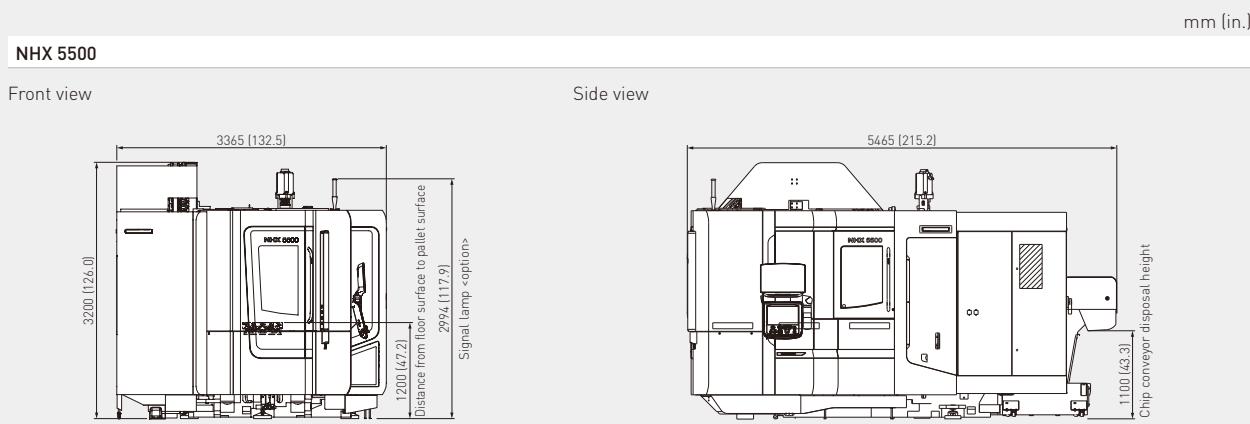
- + Reduce machining power by energy-saving pecking cycles
- + Quicken standard M codes
- + Simultaneous acceleration / deceleration of the spindle and feed axes
- + Inverter-controlled coolant supply

CELOS: Control Efficiency Lead Operation System

• The photo shows CELOS (FANUC).

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Machine Size



● The diagrams show the machine with FANUC (60 tools).

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055604B03

NHX 5500

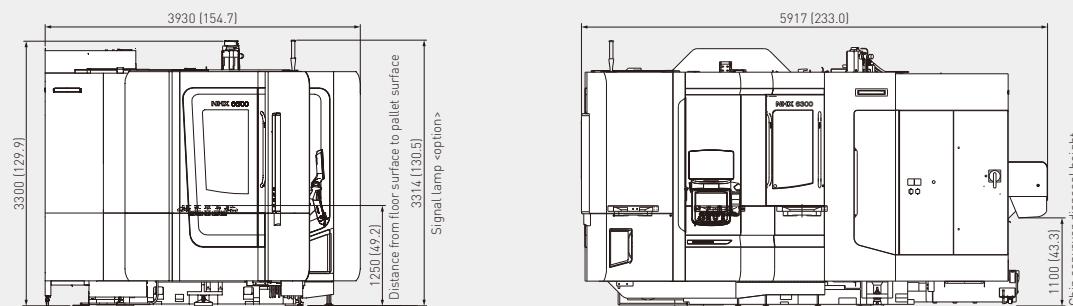
Tool storage capacity	Ring type: 60	Chain-type: 100, 120	Rack-type: 180	Rack-type: 240	Rack-type: 330
Height X width X depth* <FANUC>	mm (in.)	3,200 × 3,365 × 5,465 (126.0 × 132.5 × 215.2)	3,260 × 3,470 × 5,962 (128.3 × 136.6 × 234.7)	3,300 × 4,203 × 5,465 (129.9 × 165.5 × 215.2)	3,300 × 4,203 × 5,723 (129.9 × 165.5 × 225.3)
Height X width X depth* <SIEMENS>	mm (in.)	3,200 × 3,748 × 5,465 (126.0 × 147.6 × 215.2)	3,260 × 3,853 × 5,962 (128.3 × 151.7 × 234.7)	3,300 × 4,586 × 5,465 (129.9 × 180.6 × 215.2)	3,300 × 4,586 × 5,723 (129.9 × 180.6 × 225.3)

* Please consult our sales representative when the Hinge + Scraper 2-stage chip conveyor (with drum filter) is selected.

mm (in.)

NHX 6300

Front view Side view



● The diagrams show the machine with FANUC (60 tools).

055605A06
055599A05

NHX 6300

Tool storage capacity	Ring type: 60	Chain-type: 100, 120	Rack-type: 180	Rack-type: 240	Rack-type: 330
Height X width X depth* <FANUC>	mm (in.)	3,300 × 3,930 × 5,917 (129.9 × 154.7 × 233.0)	3,260 × 3,672 × 6,419 (128.3 × 144.6 × 252.7)	3,300 × 4,405 × 5,917 (129.9 × 173.4 × 233.0)	3,300 × 4,405 × 6,135 (129.9 × 173.4 × 241.5)
Height X width X depth* <SIEMENS>	mm (in.)	3,260 × 4,028 × 5,917 (128.3 × 158.6 × 233.0)	3,260 × 4,093 × 6,419 (128.3 × 161.1 × 252.7)	3,300 × 4,826 × 5,917 (129.9 × 190.0 × 233.0)	3,300 × 4,826 × 6,135 (129.9 × 190.0 × 241.5)

* Please consult our sales representative when the Hinge + Scraper 2-stage chip conveyor (with drum filter) is selected.

[Applications and Parts](#)[Highlights](#)[Machine and Technology](#)[Others](#)[Machine Specifications](#)

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Machine Specifications

		NHX 5500	NHX 6300
Travel			
X-axis travel <longitudinal movement of saddle>	mm (in.)	800 (31.5)	1,050 (41.3)
Y-axis travel <vertical movement of spindle head>	mm (in.)	800 (31.5)	900 (35.4)
Z-axis travel <cross movement of pallet>	mm (in.)	880 (34.6)	1,030 (40.6)
Distance from pallet center to spindle gauge plane	mm (in.)	70—950 (3.9—35.4)	50—1,080 (2.0—42.5)
Pallet			
Pallet working surface	mm (in.)	500 × 500 (19.7 × 19.7)	630 × 630 (24.8 × 24.8)
Pallet loading capacity	kg (lb.)	1,000 (2,200)	1,500 (3,300)
Max. workpiece swing diameter	mm (in.)	800 (31.4)	1,050 (41.3)
Max. workpiece height	mm (in.)	1,100 (41.3)* ¹	1,300 (51.1)
Spindle			
Max. spindle speed	min ⁻¹	12,000 16,000 <high speed>	12,000 16,000 <high speed> 8,000 <high torque>
Feedrate			
Rapid traverse rate	mm/min (ipm)	X, Y, Z: 60,000 (2,362.2)	
Cutting feedrate	mm/min (ipm)	X, Y, Z: 1—60,000 (0.04—2,362.2) {when using high-precision control <look-ahead control>}	
ATC			
Type of tool shank		BT50* ² , CAT50, DIN50, HSK-A100	
Tool storage capacity		Ring-type: 60 Chain-type: 100, 120 Rack-type* ³ : 180, 240, 330	
Max. tool diameter <with adjacent tools>	mm (in.)	110 (4.3)	
Max. tool diameter <without adjacent tools>	mm (in.)	320 (12.5)	
Max. tool length	mm (in.)	550 (21.6)	630 (24.8)
Max. tool mass	kg (lb.)	30 (66)	
Tool-to-tool	s	1.97	2.05 2.40 <SIEMENS>
Tool changing time	<MAS>	4.4: 60 tools <ring-type>	4.8: 60 tools <ring-type>
Cut-to-cut (chip-to-chip)	ISO 10791-9 JIS B6336-9	60 tools <ring-type>: 10.0 / 4.4 (max. / min.)	60 tools <ring-type>: 10.2 / 4.7 (max. / min.)
APC			
Number of pallets			2

	NHX 5500	NHX 6300		
Motor				
Spindle drive motor <FANUC>	12,000 min ⁻¹ 16,000 min ⁻¹ <high speed> 8,000 min ⁻¹ <high torque>	kW (HP) kW (HP) kW (HP)	55 / 30 [75 / 40] <15%ED / cont> 37 / 26 [50 / 34.7] <25%ED / cont> — 55 / 45 [75 / 60] <25%ED / cont>	
Spindle drive motor <SIEMENS>	12,000 min ⁻¹ 16,000 min ⁻¹ <high speed> 8,000 min ⁻¹ <high torque>	kW (HP) kW (HP) kW (HP)	90 / 50 [120 / 66.7] <S6 10% / cont> 85 / 50 [113.3 / 66.7] <S6 10% / cont> — 80 / 45 [106.7 / 60] <S6 10% / cont>	
Machine size				
Machine height <from floor>	FANUC SIEMENS	mm (in.) mm (in.)	3,200 (126.0) 3,200 (126.0)	3,300 (129.9) 3,260 (128.3)
Floor space* ⁴ <width X depth* ⁵ >	FANUC SIEMENS	mm (in.) mm (in.)	3,365 × 5,465 (132.5 × 215.2) 3,748 × 5,465 (147.6 × 215.2)	3,930 × 5,917 (154.7 × 233.0) 4,028 × 5,917 (158.6 × 233.0)
Mass of machine <including coolant tank>		kg (lb.)	14,590 (32,098)	18,750 (41,250)
Control unit				
FANUC			F31iB	
SIEMENS			SINUMERIK 840D sl	

ISO: International Organization for Standardization JIS: Japanese Industrial Standard

*1 LPP specifications: either 1,000 mm (39.3 in.) or 1,100 mm (43.3 in.) can be selected.

*2 When the two-face contact specification is selected, two-face contact tools and non-two-face contact tools cannot be used together.

*3 With rack type 180-, 240- or 330-tool magazines, the number of tools with a diameter of 110 mm (4.3 in.) or greater that can be stored in the magazine is restricted. Up to nine of the tools with the maximum permissible diameter of 320 mm (12.5 in.) can be stored.

*4 Floor space may differ between different control versions.

*5 Please consult our sales representative when the Hinge + Scraper 2-stage chip conveyor (with drum filter) is selected.

● Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.

● Please use a two-face contact tool when cutting at 15,000 min⁻¹ or higher.

● Max. tool diameter: the maximum tool diameter is limited to 230 mm (9.0 in.) or less when using the spindle at 10,000 min⁻¹ or higher.

● Tool changing time: the time differences are caused by the different conditions (travel distances, etc.) for each standard.

● For details, please check the Detailed Specifications.

● The information in this catalog is valid as of August 2022.

LPP: Linear Pallet Pool

NHX 5500 2nd Generation / NHX 6300 2nd Generation

Standard & Optional Features

●: Standard features
 ○: Options
 -: Not applicable

NHX 5500 NHX 6300

Spindle				
		BT50*1	●	●
Type of tool shank		CAT50	○	○
		DIN50	○	○
		HSK-A100	○	○
		12,000 min ⁻¹ : 55 / 30 kW (75 / 40 HP) <15%ED / cont>	●	●
	FANUC	16,000 min ⁻¹ : 37 / 26 kW (50 / 34.7 HP) <25%ED / cont> {high speed}	○	○
		8,000 min ⁻¹ : 55 / 45 kW (75 / 60 HP) <25%ED / cont> {high torque}	-	○
Output		12,000 min ⁻¹ : 90 / 50 kW (120 / 66.7 HP) <S6 10% / cont>	●	●
	SIEMENS	16,000 min ⁻¹ : 85 / 50 kW (113.3 / 66.7 HP) <S6 10% / cont> {high speed}	○	○
		8,000 min ⁻¹ : 80 / 45 kW (106.7 / 60 HP) <S6 10% / cont> {high torque}	-	○
Magazine				
Tool storage capacity		60 tools (ring type)	●	●
		100 tools (chain-type)	○	○
		120 tools (chain-type)	○	○
		180 tools (rack-type)	○	○
		240 tools (rack-type)	○	○
		330 tools (rack-type)	○	○
Coolant				
Coolant system			●	●
Shower coolant			●	●
Coolant gun		Setup station side	●	●
		Setup station side and machining side	○	○
Through-spindle coolant / air (switching specifications)			○	○
Through-spindle coolant system (unit on coolant tank)*3		1.5 MPa (217.5 psi) <water-soluble>	●	●
center through		7.0 MPa (1,015 psi) <water-soluble>	○	○
Through-spindle coolant system (separate type)*2*3*4		7.0 MPa (1,015 psi)	○*5	○*5
center through				
Through-spindle coolant system (unit on coolant tank)*3		1.5 MPa (217.5 psi) <water-soluble>	○	○
side through		7.0 MPa (1,015 psi) <water-soluble>	○	○
Through-spindle coolant system (separate type)*2*3*4		7.0 MPa (1,015 psi)	○*5	○*5
side through				
Coolant chiller (separate type)		For standard coolant system	○*5	○*5
		For through-spindle coolant system	○*5	○*5
zeroFOG			○	○
Mist collector interface		Duct only, ø 200 mm (ø 7.9 in.)	○	○

●: Standard features
 ○: Options
 -: Not applicable

NHX 5500 NHX 6300

	Rear discharge, scraper type (drum filter type)	●	●
Chip conveyor	Rear discharge, Hinge + Scraper 2-stage chip discharge (drum filter type)	○	○
Zero sludge coolant tank*6		●	●
AI chip removal		○	○
Measurement		(M)	(R)
In-machine measuring system (table)*7	Touch sensor	○	○
	Touch sensor	○	○
	Touch sensor + tool setter function (tool length + diameter) (M)	○	○
	Touch sensor + tool setter function (tool length + diameter) (R)	○	○
In-machine measuring system (spindle)*7*8	Touch sensor (optical signal transmission type) + workpiece setter function	(R)	●
			●
Improved accuracy			
Full closed loop control [Scale feedback]		●	●
Oil chiller		●	●
Other			
Signal lamp	4 colors (LED type: red, yellow, green, blue)	○	○
Manual pulse generator (separate type)		●	●

*1 When the two-face contact specification is selected, a two-face contact tool and other tools cannot be used together.

*2 For machines with the FANUC NC unit only.

*3 Zero sludge coolant tank is included.

*4 When using oil-based coolant, please be sure to consult our sales representative.

*5 DMQP (DMG MORI Qualified Products)

*6 Not compatible with oil-based coolant.

*7 The specifications vary depending on the manufacturers. (M: made by MagneScale R: made by RENISHAW)

*8 Equipped with the spindle for which the spindle bearing uses a high wear resistance ceramic ball. So the energization type touch sensor cannot be used.

● DMQP: Please see Page 24 for details.

● For details, please check the Detailed Specifications.

● The information in this catalog is valid as of August 2022.

● Specifications, accessories, safety device and function are available upon request.

● Some options are not available in particular regions. For details, please consult our sales representative.

**⚠ Flammable coolant such as oil-based coolant has a high risk of ignition, and will cause fire or machine breakage if ignited.
 If you have to use a flammable coolant for any reason, please be sure to consult our sales representative.**

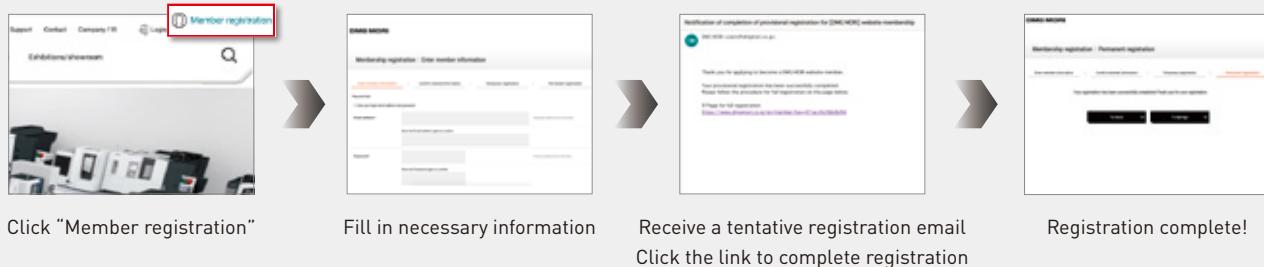
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<Precautions for Machine Relocation>

This product is deemed regulated cargo when exported under the Japanese government's Foreign Exchange and Foreign Control Trade Law. Government authorization is required when exporting this product.

The product shipped to you (the machine and accessory equipment) has been manufactured in accordance with the laws and standards that prevail in the relevant country or region. If it is exported, sold, or relocated to a destination in a country with different laws or standards, it may be subject to export restrictions of that country.

This product detects machine relocation. Once the machine is relocated, it is not operable unless its legitimate relocation is confirmed by DMG MORI or its distributor representative.

If the restart of the machine can result in unauthorized export of cargo or technology or will violate legitimate export controls, DMG MORI and its distributor representative can refuse to restart the machine.

In that case, DMG MORI and its distributor representative do not assume any loss due to the inability to operate the machine or any liability during the warranty period.

+ DCG, DDM, ORC, speedMASTER, powerMASTER, 5X-torqueMASTER, DMQP, DDRT, MATRIS, Robo2Go, RPS, Zero sludge coolant tank, ZEROCHIP, smartTilt, CELOS, ERGOline, SLIMline, COMPACTline, DMG MORI SMARTkey, proTIME and names of each Technology Cycle are trademarks or registered trademarks of DMG MORI CO., LTD. or its group companies in Japan, the USA and other countries.

+ If you have any questions regarding the content, please consult our sales representative.

+ The information in this catalog is valid as of October 2022. Designs and specifications are subject to changes without notice.

+ The machines shown in the catalog may differ from the actual machines. The location and the size of the nameplates may also differ from the actual machines, or the nameplates may not be attached to some machines.

+ DMG MORI is not responsible for differences between the information in the catalog and the actual machine.

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