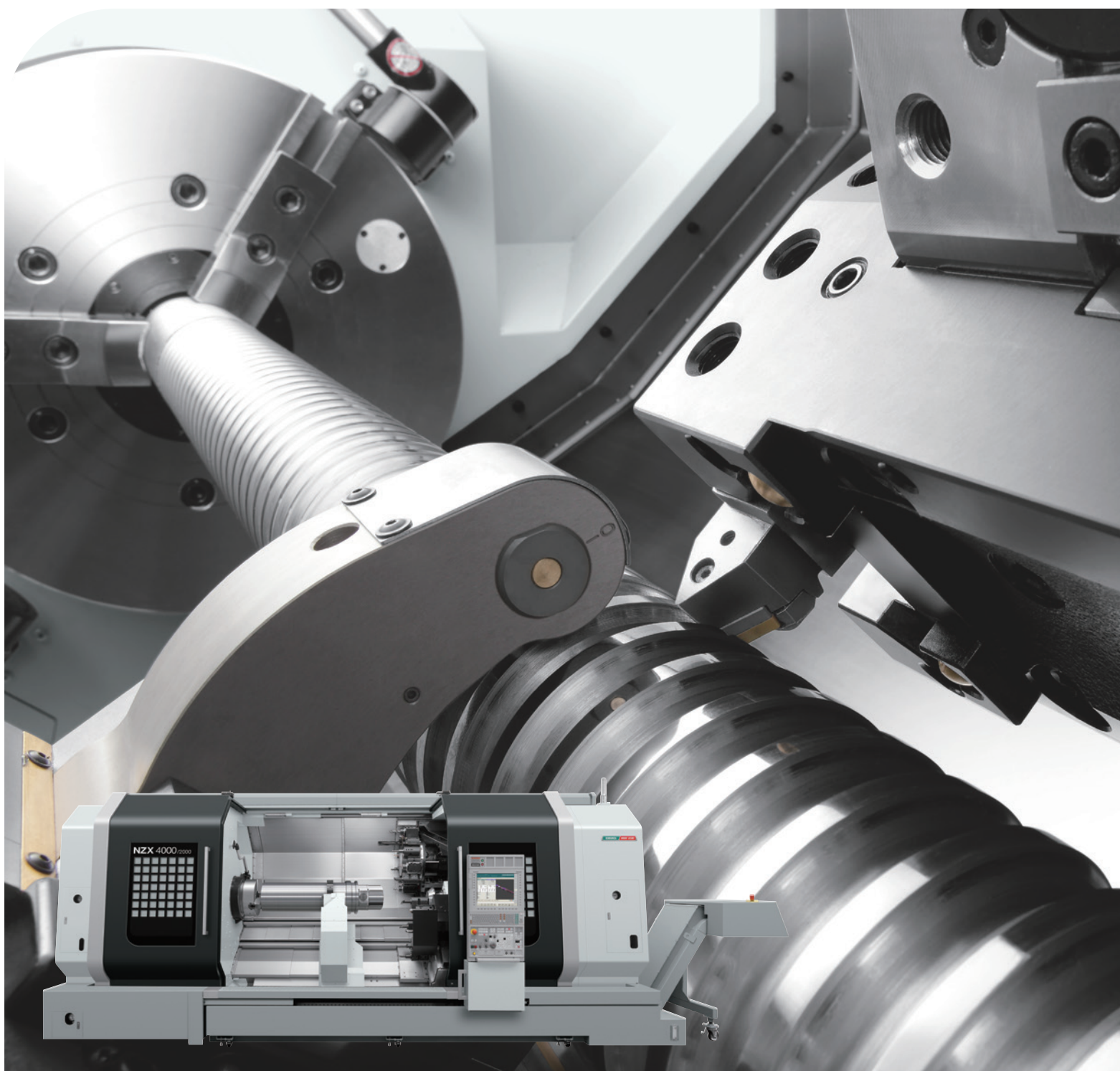


High-Precision, High-Efficiency Multi-Axis Turning Center

NZX4000

NZX6000

# NZX4000 / NZX6000



# Large-scale high-efficiency 4-axis turning center that achieves the ultimate in productivity with long and large diameter workpieces

Long and large diameter workpieces like oil well pipes indispensable for the oil and energy industries.

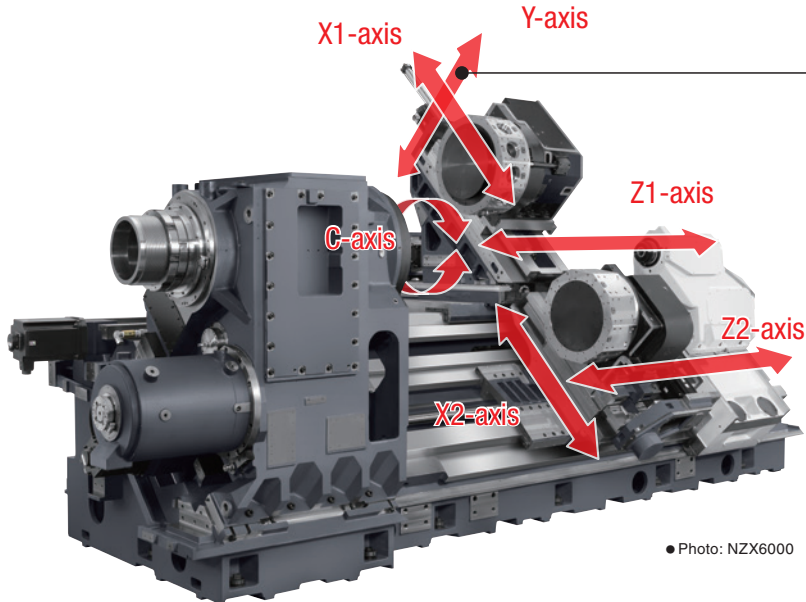
The NZX4000/NZX6000 have two turrets and demonstrate a high level of machining capability in the heavy-duty cutting of long, large-diameter workpieces by capitalizing on the high rigidity and bar work capacity by utilizing the BMT (Built-in Motor Turret) technology that provides a milling capability rivaling that of a No. 40 taper machining center.

With a wide variations of through-spindle holes available, making it possible to handle many types of workpieces, this is the ultimate large-scale 4-axis turning center, even achieving high productivity.



# Main features

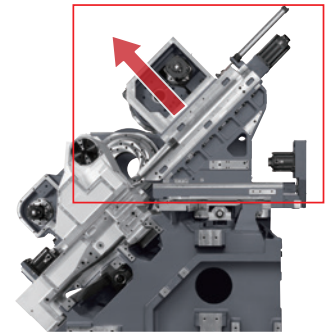
## Basic structure



● Photo: NZX6000

### Y-axis

Equipped with the Y-axis for Turret 1, which is the first of its class in the world, the machine achieves process integration.

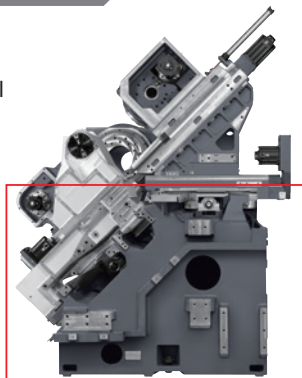


## Travel

		NZX4000			NZX6000			
		/1000	/2000	/3000	/1000	/2000	/3000	/4000
X-axis	Turret 1	385 mm (15.2 in.)			485 mm (19.1 in.)			
	Turret 2	235 mm (9.3 in.)			340 mm (13.4 in.)			
Y-axis<Y type>	Turret 1	±70 mm (±2.8 in.)			±100 mm (3.9 in.)			
Z-axis	Turret 1	1,100 mm (43.3 in.)	2,100 mm (82.7 in.)	3,100 mm (122.0 in.)	1,300 mm (51.2 in.)	2,150 mm (84.6 in.)	3,150 mm (124.0 in.)	4,150 mm (163.4 in.)
	Turret 2	1,000 mm (39.4 in.)	2,000 mm (78.7 in.)	3,000 mm (118.1 in.)	1,000 mm (39.4 in.)	1,990 mm (78.3 in.)	2,990 mm (117.7 in.)	3,990 mm (157.1 in.)

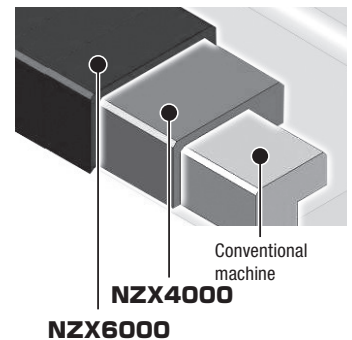
## High-rigidity trapezoidal bed

The basic structure using thick trapezoidal bed offers high torsional rigidity.

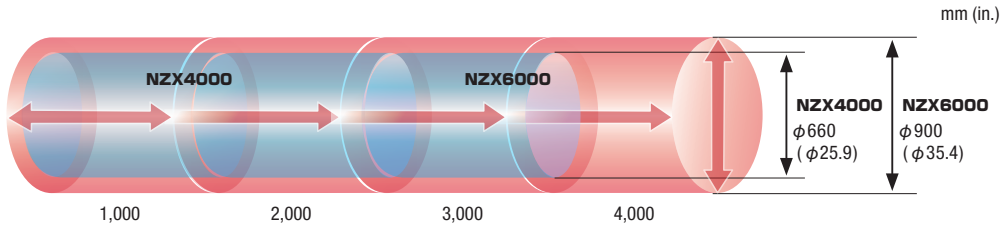


## Guideway width

With the largest width of slideways in its class, we have achieved stable cutting not only for turning but also for milling.



## Workpiece size

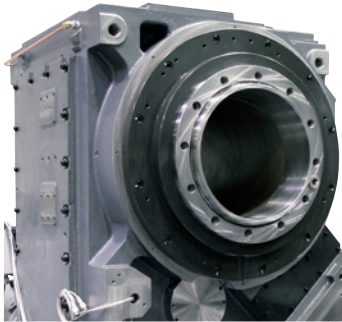


		NZX4000			NZX6000			
		/1000	/2000	/3000	/1000	/2000	/3000	/4000
Max. turning diameter	Turret 1	φ 660 mm (φ 25.9 in.)			φ 900 mm (φ 35.4 in.)			
	Turret 2	φ 460 mm (φ 18.1 in.)			φ 670 mm (φ 26.3 in.)			
Max. turning length	Turret 1	1,000 mm (39.3 in.)	2,000 mm (78.7 in.)	3,000 mm (118.1 in.)	1,000 mm (39.3 in.)	2,000 mm (78.7 in.)	3,000 mm (118.1 in.)	4,000 mm (157.4 in.)
	Turret 2	862 mm (33.9 in.)	1,862 mm (73.3 in.)	2,862 mm (112.6 in.)	840 mm (33.0 in.)	1,840 mm (72.4 in.)	2,840 mm (111.8 in.)	3,840 mm (151.1 in.)

## Spindle

We have prepared a wide variety of through-spindle holes suitable for various long/large-diameter workpieces.

The spindle offers high output while keeping its size small by using the belt-less, gear driven structure.



● Photo: NZX6000

### NZX4000

Through-spindle hole diameter		Spindle drive motor (30 min./cont)	Max. spindle speed
A-type: φ 145 mm (φ 5.7 in.)	Standard	37/30 kW (50/40 HP)	2,000 min <sup>-1</sup>
	High output <b>OP</b>	45/37 kW (60/50 HP)	
B-type: φ 185 mm (φ 7.2 in.)	Standard	37/30 kW (50/40 HP)	1,500 min <sup>-1</sup>
	High output <b>OP</b>	45/37 kW (60/50 HP)	
	High output <b>OP</b>	75/55 kW (100/75 HP)	
C-type: φ 285 mm (φ 11.2 in.)	Standard	37/30 kW (50/40 HP)	1,000 min <sup>-1</sup>
	High output <b>OP</b>	45/37 kW (60/50 HP)	
	High output <b>OP</b>	75/55 kW (100/75 HP)	



● Photo: NZX4000

### NZX6000

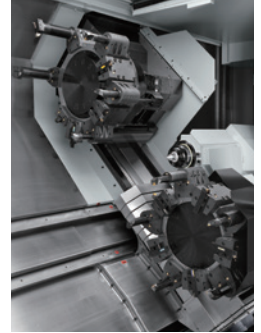
Through-spindle hole diameter		Spindle drive motor (30 min./cont)	Max. spindle speed
C-type: φ 285 mm (φ 11.2 in.)	Standard	45/37 kW (60/50 HP)	1,000 min <sup>-1</sup>
	High output <b>OP</b>	75/55 kW (100/75 HP)	
D-type: φ 375 mm (φ 14.7 in.)	Standard	45/37 kW (60/50 HP)	500 min <sup>-1</sup>
	High output <b>OP</b>	75/55 kW (100/75 HP)	
E-type: φ 560 mm (φ 22.0 in.)	Standard	45/37 kW (60/50 HP)	350 min <sup>-1</sup>
	High output <b>OP</b>	75/55 kW (100/75 HP)	



# Main features

## Turret

Item		NZX4000			NZX6000		
		Turning	Milling	Y type	Turning	Milling	Y type
Number of tool stations	Turret 1	12 tools					
	Turret 2	8 tools			10 tools		
Turret indexing time	(1-station)	0.4 sec.					
Number of rotary tool stations	Turret 1	—	12 tools		—	12 tools	
Rotary tool spindle drive motor	(30 min./cont)		11/7.5 kW (15/10 HP)			15/11 kW (20/15 HP)	
Max. rotary tool spindle speed			3,500 min <sup>-1</sup>			3,500 min <sup>-1</sup>	



● Photo: NZX6000

## Built-in Motor Turret



Original technology

The built-in structure, in which the motor is placed inside the turret, minimizes heat generation and vibration, improves transmission efficiency and significantly increases cutting power, speed and accuracy.

### Turret temperature increases

Compared with conventional machine **1/10 or less**

### Vibration amplitude

Compared with conventional machine **1/3 or less**

### Effects of the BMT

- Improved milling power
- Improved milling accuracy
- Controls the turret's heat and vibration
- Reduced energy loss



## Variations

Specifications		Through-spindle hole diameter	Distance between centers	Variations
NZX4000	Turning	A-type: $\phi$ 145 mm ( $\phi$ 5.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/3,000 mm (118.1 in.)	9 models
		B-type: $\phi$ 185 mm ( $\phi$ 7.2 in.)		
		C-type: $\phi$ 285 mm ( $\phi$ 11.2 in.)		
	Milling	A-type: $\phi$ 145 mm ( $\phi$ 5.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/3,000 mm (118.1 in.)	9 models
		B-type: $\phi$ 185 mm ( $\phi$ 7.2 in.)		
		C-type: $\phi$ 285 mm ( $\phi$ 11.2 in.)		
	Y type (Milling+Y-axis)	A-type: $\phi$ 145 mm ( $\phi$ 5.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/3,000 mm (118.1 in.)	9 models
		B-type: $\phi$ 185 mm ( $\phi$ 7.2 in.)		
		C-type: $\phi$ 285 mm ( $\phi$ 11.2 in.)		
NZX6000	Turning	C-type: $\phi$ 285 mm ( $\phi$ 11.2 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/3,000 mm (118.1 in.)/4,000 mm (157.5 in.)	10 models
		D-type: $\phi$ 375 mm ( $\phi$ 14.7 in.)		
		E-type: $\phi$ 560 mm ( $\phi$ 22.0 in.)		
	Milling	C-type: $\phi$ 285 mm ( $\phi$ 11.2 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/3,000 mm (118.1 in.)/4,000 mm (157.5 in.)	8 models
		D-type: $\phi$ 375 mm ( $\phi$ 14.7 in.)		
	Y type (Milling+Y-axis)	C-type: $\phi$ 285 mm ( $\phi$ 11.2 in.) D-type: $\phi$ 375 mm ( $\phi$ 14.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/3,000 mm (118.1 in.)/4,000 mm (157.5 in.)	8 models

# High-precision equipment

## Direct scale feedback (X-axis)



An absolute magnetic linear scale (full closed-loop control) made by Magnescape is equipped as standard to offer high-precision positioning.

- High accuracy, high resolution
- Greater accuracy than optical scale
- Highly resistant to condensation and oil
- Vibration and impact resistant characteristics

### Resolution

0.01  $\mu\text{m}$

**Magnescape**

High accuracy absolute scale SR87

- Optional for the Z-axis.

## Coolant cooling system (Separate type)

OP

Raised coolant temperature causes thermal displacement in the fixtures and workpiece, affecting the machining accuracy of the workpiece. Use this unit to prevent the 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, please be sure to consult with our sales representative.**

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



## Improved workability, Maintenance

### Bed with a cover

Since the bed is entirely covered, it is hardly affected by heat from chips at all.



### Detachable internal step

OP

The detachable inner step allows easier setups, such as attaching or removing tool holders and cutting tools to or from the turret.

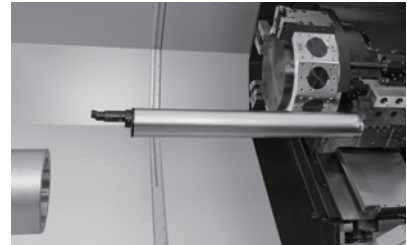
## Peripheral equipment

### Long boring bar specifications </2000, /3000, /4000>

OP

The long boring bar allows long, I.D. boring.

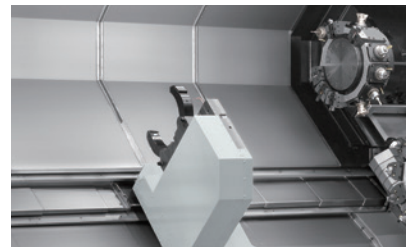
- Long boring bar sizes for the NZX4000 and the NZX6000 differ.  
NZX4000: A diameter of 90 mm (3.5 in.) and a length of up to 1,000 mm (39.3 in.)  
NZX6000: A diameter of 130 (5.1 in.) mm and a length of up to 1,300 mm (51.1 in.)



### Steady rests specifications

OP

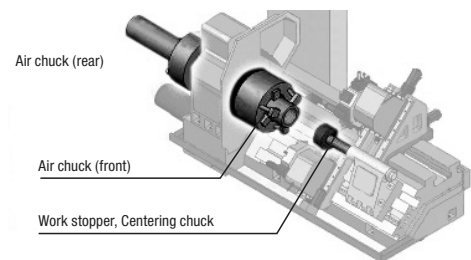
Up to two NC steady rests can be installed. The steady rests minimize run-out during machining of long workpieces, allowing high-precision machining.



### Machining of oil well pipes <Air chuck (Front, Rear), Centering chuck>

OP

The high-accuracy machining can be performed by holding workpieces with the front and rear chucks.



### External chip conveyor

OP

Specifications	Workpiece material and chip size ○: Suitable ×: Not suitable						
	Steel			Cast iron	Aluminum, non-ferrous metal		
	Long	Short	Powdery	Short	Long	Short	Powdery
Hinge type	○	×	×	×	○	×	×
Hinge type+ Drum filter type	○	○	○	○	○	○	○
Magnet scraper type	×	○	○	○	×	×	×

Chip size guidelines  
Short: chips 50 mm (2.0 in.) or less in length,  
bundles of chips  $\phi$ 40 mm ( $\phi$ 1.6 in.) or less  
Long: bigger than the above

- The options table below 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.
- Please select a chip conveyor to suit the shape of your chips. When using special or difficult-to-cut material (chip hardness HRC45 or higher), please consult with our sales representative.
- We have prepared several options for different chip shapes and material. For details, please consult with our sales representative.

# DMSQP (DMG Mori Seiki Qualified Products) OP

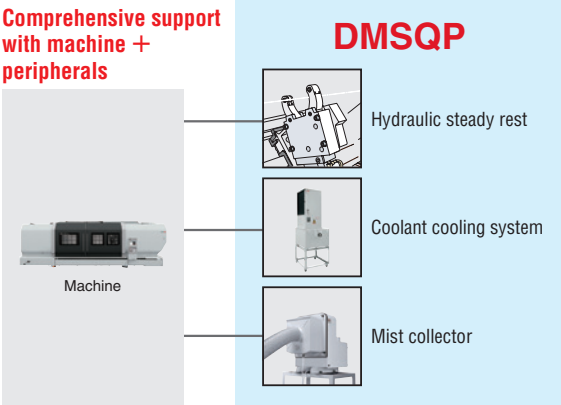
## Selected peripherals with superior quality, performance and maintainability.

The DMSQP program is designed to certify peripherals that meet DMG MORI SEIKI standards in quality, performance and maintainability. DMSQP provides customers with even greater peace of mind.

### Comprehensive support with machine + peripherals


DMG MORI SEIKI provides comprehensive support, from proposal to delivery and maintenance, for high-quality peripherals that offer superior performance and maintainability.

**Comprehensive support with machine + peripherals**



**DMSQP**

- Hydraulic steady rest
- Coolant cooling system
- Mist collector



**DMG MORI SEIKI Service Center**

**Advantages of DMSQP**

- Qualified peripherals are arranged by DMG MORI SEIKI
- Two-year warranty, the same as machines  
(Parts relating to machine breakdown will be guaranteed free for 2 years from the date of installation, and labor costs to repair will be free for 1 year)
- Toll-free phone support is available 24 hours a day, 365 days a year (Japan only)

### Examples of qualified products (NZX4000/NZX6000)

#### ☐ Hydraulic steady rest

This supports a shaft-like workpiece during machining, and minimizes run-out caused by rotation.

#### ☐ Super-high-pressure coolant system (separate type)

This improves chip disposal capability and contributes to machining of difficult-to-cut material by minimizing heat generation at the tool tip.

#### ☐ Coolant cooling system (separate type)

It cools down coolant to offer better cutting performance and minimize thermal displacement in the workpiece.

#### ☐ Mist collector

It removes mist, smoke, etc. generated inside the machine.

#### ☐ Chip bucket

Chips discharged from the chip conveyor are collected into this bucket.

#### ☐ Refrigerating type air dryer

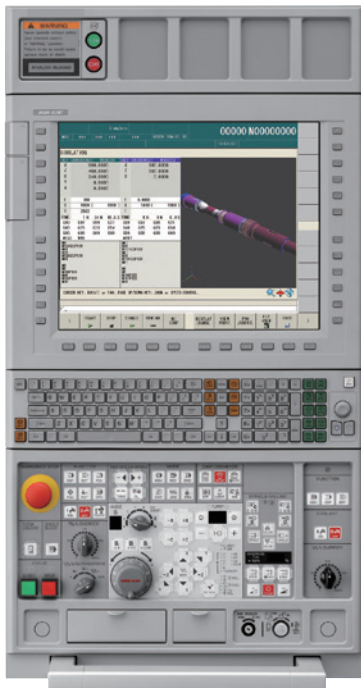
This unit removes moisture contained in the compressed air supplied by the compressor, preventing moisture-related problems in the pneumatic equipment.

#### ☐ Tool cabinet



# MAPPS IV

A New High-Performance Operating System  
for Multi-axis Turning Centers



● 19-inch operation panel

A new high-performance operating system that pursues ease of use, and combines the best hardware in the industry with the advanced application/network systems.

- ▶ Outstanding operability thanks to upgraded hardware
- ▶ Enhanced functionality by using CAM software
- ▶ New functions for easier setup and maintenance
- ▶ Various types of monitoring, including internal monitoring, are possible on the screen (option)
- ▶ In the event of trouble, DMG MORI SEIKI's remote maintenance service solves it smoothly **MORI-NET Global Edition Advance** OP

## Outstanding operability

### Vertical soft-keys

Vertical soft-keys are arranged on the left and right sides of the screen. The vertical soft-keys can be used as option buttons or shortcut keys to which you can assign your desired screens and functions, allowing you to quickly display the screen you want.

### Keyboard

A PC-type keyboard is used as standard, making key input easy. A keyboard with a conventional key layout is also available as an option.



## Advanced hardware

### Reduction of drawing time

Shorter drawing time was achieved thanks to increased CPU performance.



**MAPPS III** 57 sec.  
**MAPPS IV** 42 sec.

Approx.  
Reduced by **27%**

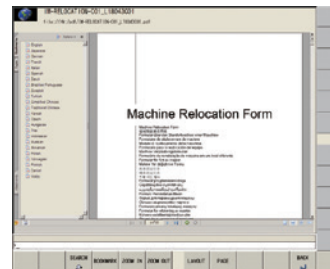
### Main specifications

Main memory	3 GB
User area	Standard: <b>6</b> GB    Option: <b>20</b> GB
Interface	<ul style="list-style-type: none"> <li>• USB 2.0 3 ports (Screen side: 1, Bottom and back of operation panel: each 1)</li> <li>• LAN 2 ports (1000BASE-T)</li> <li>• RS-232-C port</li> <li>• Memory card slot</li> </ul>
Soft-keys	Left/right 12 keys    Bottom 12 keys

## Improved ease of setup

### File display and Memo function

Data necessary for setups such as operating instructions, drawing data and text data can be viewed on MAPPS. Text data is editable.



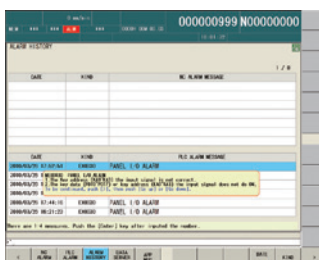
### Viewable file types

- PDF    • TXT (Editable)
- Any file that can be displayed with Internet Explorer is available

## Improved ease of maintenance

### Alarm help function

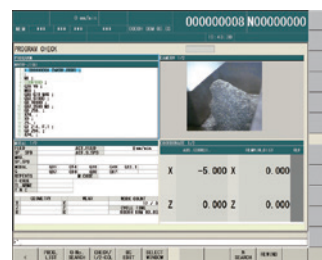
When an alarm occurs, MAPPS identifies the cause of the trouble and provides solutions.



## Improved work efficiency

### Fixed-point in-machine camera OP Consultation is required

Images taken by cameras installed inside/outside the machine can be viewed on the programming screen. This function is useful for maintenance.



### Examples of camera locations

- Inside machine (to check machining)
- Tool magazine (to check cutting tools)
- Chip bucket (to check chip accumulation)

## Conversational automatic programming

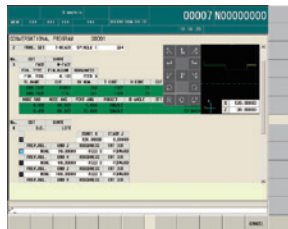
This function allows users to create programs simply by following the guidance on the screen.

Much of the programming process has been simplified due to the minimal key entry required for even the most complex shapes.

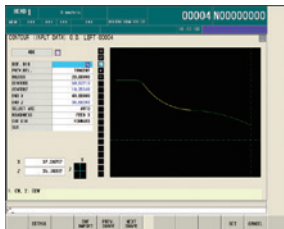
### Machining menu



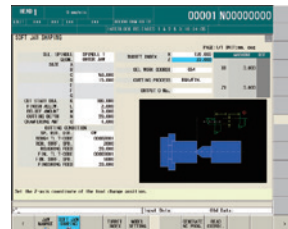
### List display function



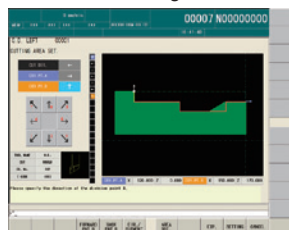
### Contour input



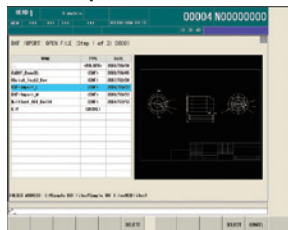
### Simple soft jaw forming function



### Relief machining **OP**



### DXF import function **OP**



### MORI Automatic Programming System for NZ/ZT

#### **MORI-APNZ/ZT** **OP**

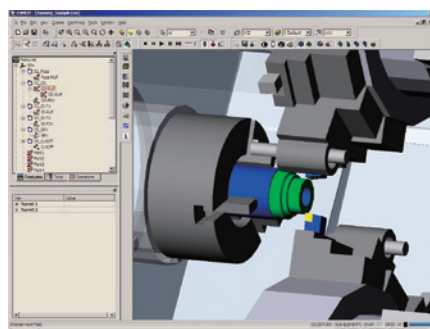
Application systems which let you create machining programs easily on your PC.

- Easy operation, simply by entering the product shapes while following the instructions on the screen.
- Its functions, data and operability are fully compatible with the conversational programming system of the MAPPS IV operating systems.



## CAM software

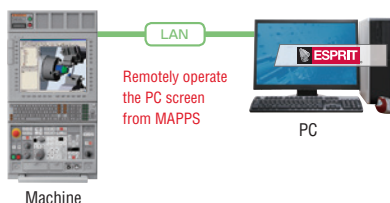
ESPRIT® allows you to create complex 3D programming with high-added value. By just installing the software on your PC with connection to LAN, you will be able to use it. (Once the software is started on the computer, it can be used for up to 7 days without LAN connection)



- Postprocessor as standard
- CAM software will be ready to use once your machine is installed
- Cost for introducing CAM software can be saved
- ESPRIT® data can be modified on the machine (through Remote Desktop connection\*)
- The software can be installed on multiple PCs on the network (It cannot be simultaneously started up on more than one PC)
- 2-year warranty support (including free update)

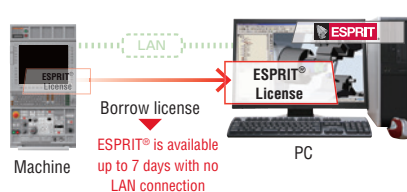
### Remote Desktop <Patent pending>

ESPRIT® installed on your PC can be operated from your machine via LAN. (It cannot be simultaneously started up on more than one PC)



### License borrowing system

By borrowing the ESPRIT® license from the machine over LAN, ESPRIT® can be run on the PC up to 7 days without LAN connection (or turning on the machine).



### Support system

Distributors/Trading companies, DMG MORI SEIKI Technical Centers and ESPRIT® Support Team will answer inquiries about the CAM software.



\* Applicable Operating Systems: Windows® Vista Business/Ultimate, Windows® 7 Professional/Ultimate  
 • A PC is required to use ESPRIT®. Please prepare PCs by yourself.

- The photo shown may differ from actual machine.
- Information about the screen is current as of July 2013.

## For shorter total production time for all our customers

### DMG MORI SEIKI's software Line-up

This network system application achieves fast information sharing and increased production efficiency.

— [Internet]  
— [LAN]

#### Remote Maintenance/Machine Operation Monitoring Service

### MORI-NET Global Edition Advance OP

#### ■ Features

- Remote maintenance service by DMG MORI SEIKI Service Center
- Internet-based, high speed (max. 1 Gbps), large capacity network
- No server installation is required — reduction in initial cost
- Download various data from the server located at DMG MORI SEIKI

#### ■ Remote alarm support

When an alarm goes off, an alarm notification will be sent to the DMG MORI SEIKI Service Center simply by pressing the "Send e-mail" button on MAPPS. DMG MORI SEIKI service personnel will remotely diagnose the cause of the problem, and quickly provide solutions for machine recovery.

- This service may not be available in some areas. Please contact our sales representative for details.

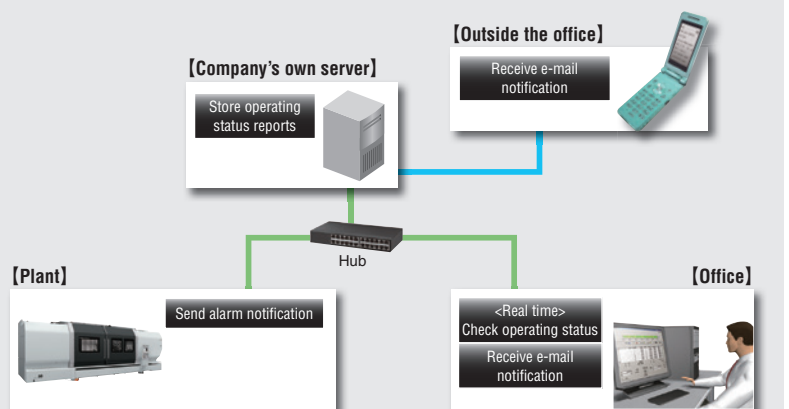


#### Machine Operation Monitoring System

### MORI-NET LAN Edition OP

#### ■ Features

- Intra-corporate network system
- Up to 30 machines can be connected with one server
- The operating status of your machines can be centrally managed in real time



#### Application for Data Transmission

### MORI-SERVER [Standard features]

This enables high-speed transfer of programming data between your office computer and machine, reducing the lead time of pre-machining processes.

#### MAPPS Screen Remote Control and Browsing Application

### MORI-MONITOR OP

This is an application which allows you to remotely operate and view the MAPPS screens from your office computer.

# ACT Advanced Communication Technology

## Advanced Communication Technology (ACT) connects machine tool and peripheral devices

DMG MORI SEIKI's new proposal, ACT, is designed to strengthen connections between machine tools and peripheral equipment by standardizing communication and software of the entire system. With ACT, standardization of interfaces of peripherals, simplified wiring, and labor saving can be achieved.

— [Internet]  
— [LAN]

### Industrial Network for Peripheral Equipment Control

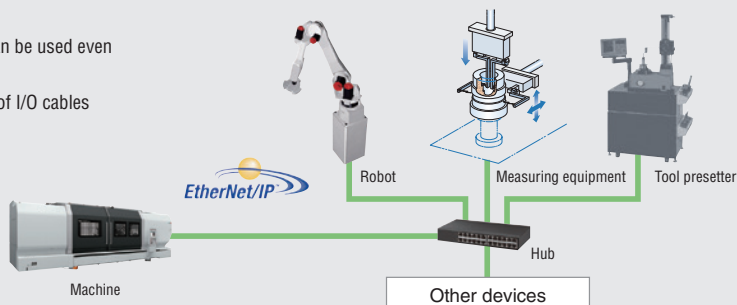
## MAPPS EtherNet/IP I/F OP

This industrial network using the standard Ethernet (TCP/IP) offers high speed and reliable connection. Simple Plug and Play connections, which are made available just by connecting to the hub through MAPPS, enable you to build a system easily. The use of standard cables also helps to reduce costs.

### ■ Features

- Connections between a machine and peripheral equipment become easy because standard LAN cables are used
- Thanks to increased versatility, your peripheral equipment can be used even when the machine tools are replaced by new ones
- Reliability is significantly increased by reducing the number of I/O cables

- Easy system construction
- Connection with existing devices
- Inexpensive devices



### Communication Interface for Monitoring Machine Operation

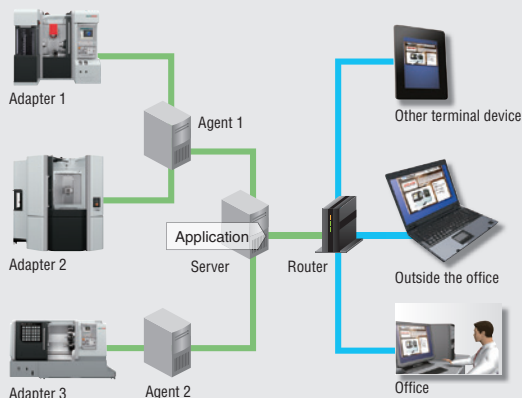
## MAPPS MTConnect I/F

MTConnect, which was introduced by the Association for Manufacturing Technology (AMT) in 2008, is a new XML (Extensible Markup Language) based communication protocol that offers an open interface. This interface allows you to build a system to monitor the operating status of your machines.

### ■ Features

- Open communication interface allows you to access to your company's system
- This makes it possible for you to build a system to monitor the operating status of your machines via the Internet

### ■ System examples



### ■ Application examples



Your machines are displayed all at once, allowing you to quickly call up the machine you wish to check.



Operating status can be checked in real time.



You can check the operating history on the Gantt chart screen.

- A server and application must be prepared by the customer.
- For introduction of MTConnect, separate consultation is required.



## Reduction in environmental burden

To conserve limited resources and protect global environment.

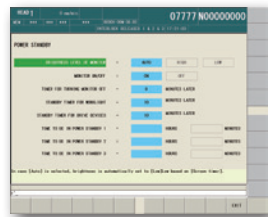
The NZX4000/NZX6000 Series pursues a high "environmental performance" that is required of machine tools.



● Photo: NZX4000

### Power-saving function

Power consumption is reduced while operating the machine efficiently.



### Automatic machine light function

If the operation panel is not touched for a certain amount of time, the interior light automatically turns off. This saves energy and lengthens the life of the machine lights.

### Automatic sleep function

If the keyboard is not touched after a certain amount of time and NC operation is not being performed, power is cut off to the servo motor, the spindle, the coolant pump and the chip conveyor, thereby saving energy.

### LED lighting

LED with high luminous efficiency offers a high light output at a low wattage, contributing to reducing electricity use.





## Machine specifications

Item			NZX4000								
			/1000L /2000L /3000L			/1000 /2000 /3000			/1000Y /2000Y /3000Y		
Capacity	Swing over bed	mm (in.)	930 (36.6)								
	Swing over cross slide	mm (in.)	520 (20.5)								
	Max. turning diameter	mm (in.)	No.1: $\phi$ 660 ( $\phi$ 25.9)    No.2: $\phi$ 460 ( $\phi$ 18.1)								
	Max. turning length	mm (in.)	No.1: 1,000 (39.3)	No.2: 862 (33.9) </1000>		No.1: 2,000 (78.7)	No.2: 1,862 (73.3) </2000>		No.1: 3,000 (118.1)	No.2: 2,862 (112.6) </3000>	
Travel	X-axis travel	mm (in.)	No.1: 385 (15.2)    No.2: 235 (9.3)								
	Y-axis travel	mm (in.)	—						±70 (±2.8)		
	Z-axis travel	mm (in.)	No.1: 1,100 (43.3)	No.2: 1,000 (39.4) </1000>		No.1: 2,100 (82.7)	No.2: 2,000 (78.7) </2000>		No.1: 3,100 (122.0)	No.2: 3,000 (118.1) </3000>	
Spindle	Max. spindle speed	min <sup>-1</sup>	A: 2,000    B: 1,500    C: 1,000								
	Number of spindle speed ranges		2								
	Spindle nose		A: A-11    B: A-15    C: A-20								
	Through-spindle hole diameter	mm (in.)	A: $\phi$ 145 ( $\phi$ 5.7)    B: $\phi$ 185 ( $\phi$ 7.2)    C: $\phi$ 285 ( $\phi$ 11.2)								
	Min. spindle indexing increment		—			0.001°					
	Spindle bearing inner diameter	mm (in.)	A: $\phi$ 200 ( $\phi$ 7.8)    B: $\phi$ 260 ( $\phi$ 10.2)    C: $\phi$ 360 ( $\phi$ 14.1)								
	Chuck used		15-24 inch Solid & hollow, Air chuck								
Turret	Number of turrets		2								
	Turret type		No.1: 12-station    No.2: 8-station								
	Number of tool stations		No.1: 12    No.2: 8			No.1: 12 (Rotary tool: 12)    No.2: 8					
	Shank height for square tool	mm (in.)	32 (1.3)								
	Shank diameter for boring bar	mm (in.)	$\phi$ 60 ( $\phi$ 2.4)								
	Turret indexing time	sec.	0.4								
	Max. rotary tool spindle speed	min <sup>-1</sup>	—			No.1: 3,500					
Feedrate	Rapid traverse rate	mm/min (ipm)	X-axis: 20,000 (787.4)    Z-axis: 24,000 (944.9)						X-axis: 20,000 (787.4)    Z-axis: 24,000 (944.9) Y-axis: 10,000 (393.7)		
		min <sup>-1</sup>	C-axis: 100								
	Jog feedrate	mm/min (ipm)	X, Y, Z-axis: 0-5,000 (0-196.9) <20 steps>								
Tailstock	Tailstock travel	mm (in.)	[1,000 (39.4)] </1000>    2,000 (78.7) </2000>    3,000 (118.1) </3000>								
	Tailstock spindle diameter	mm (in.)	[ $\phi$ 150 ( $\phi$ 5.9)] </1000> $\phi$ 150 ( $\phi$ 5.9) </2000, /3000>								
	Taper hole of tailstock spindle	mm (in.)	[ $\phi$ 150 ( $\phi$ 5.9), MT5 (Built-in center)] </1000> $\phi$ 150 ( $\phi$ 5.9), MT5 (Built-in center) </2000, /3000>								
	Tailstock spindle travel	mm (in.)	[150 (5.9)] </1000>, 150 (5.9) </2000, /3000>								
Motors	Spindle drive motor (30 min./cont)	kW (HP)	37/30 (50/40) [45/37 (60/50)] [75/55 (100/75) <Voltage 400 V>]								
	Rotary tool spindle drive motor (50%ED/cont)	kW (HP)	—			No.1: 11/7.5 (15/10)					
Power sources (Standard)	Electrical power supply (cont)	194130A16 (kVA)	A, B, C: 66.4			A, B, C: 78.9			A, B, C: 81.8		
	Compressed air supply	MPa (psi), L/mm (gpm)	0.5 (72.5), 400 (105.6) <ANR>								
Tank capacity	Coolant tank capacity	L(gal.)	620 (163.7) </1000>    900 (237.6) </2000>    1,180 (311.5) </3000>								
Machine size	Machine height (From floor)	mm (in.)	2,789 (109.8)								
	Floor space (Width×Depth)	mm (in.)	5,042×2,791 (198.5×109.9) </1000>    6,131×3,080 (241.4×121.3) </2000>								
	Mass of machine	kg (lb.)	23,100 (50,820) </1000>    26,500 (58,300) </2000>								

[ ] Option No.1: Turret 1 No.2: Turret 2

NZX4000 (130410)

● 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.

● ANR: ANR refers to a standard atmospheric state; i.e., temperature at 20°C (68°F); absolute pressure at 101.3 kPa (14.7 psi); and relative humidity at 65%.

● Power sources·Machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.

● Compressed air supply: Please be sure to supply clean compressed air <air pressure: 0.7 MPa (101.5 psi), pressure dew point: 10°C (50°F) or below>.

● A criterion capacity to select a compressor is 90 L/min (23.8 gpm) per 0.75 kW (1 HP).

However, this figure may differ depending on the type of compressors and options attached. For details, please check the compressor specifications.

● When the tool tip air blow is regularly used, air supply of more than 300 L/min (79.2 gpm) is separately required.

● The information in this catalog is valid as of July 2013.

Item			NZX6000					
			/1000L /2000L		/1000 /2000		/1000Y /2000Y	
Capacity	Swing over bed	mm (in.)	1,200 (47.2)					
	Swing over cross slide	mm (in.)	720 (28.3)					
	Max. turning diameter	mm (in.)	No.1: $\phi$ 900 ( $\phi$ 35.4)    No.2: $\phi$ 670 ( $\phi$ 26.3)					
	Max. turning length	mm (in.)	No.1: 1,000 (39.3)    No.2: 840 (33.0) </1000>		No.1: 2,000 (78.7)    No.2: 1,840 (72.4) </2000>			
Travel	X-axis travel	mm (in.)	No.1: 485 (19.1) <450+35 (17.7+1.4)>    No.2: 340 (13.4) <335+5 (13.2+0.20)>					
	Y-axis travel	mm (in.)	—				200 (7.9) < $\pm$ 100 ( $\pm$ 3.9)>	
	Z-axis travel	mm (in.)	No.1: 1,300 (51.2)    No.2: 1,000 (39.4) </1000>		No.1: 2,150 (84.6)    No.2: 1,990 (78.3) </2000>			
Spindle	Max. spindle speed	min	C: 1,000    D: 500    E: 350		C: 1,000    D: 500			
	Number of spindle speed ranges		C: 2    D: 1    E: 1		C: 2    D: 1			
	Spindle nose		C: A-20    D: A-20    E: $\phi$ 720 mm ( $\phi$ 28.3 in)		C: A-20    D: A-20			
	Through-spindle hole diameter	mm (in.)	C: $\phi$ 285 ( $\phi$ 11.2)    D: $\phi$ 375 ( $\phi$ 14.7)    E: $\phi$ 560 ( $\phi$ 22.0)		C: $\phi$ 285 ( $\phi$ 11.2)    D: $\phi$ 375 ( $\phi$ 14.7)			
	Min. spindle indexing increment		—		0.001°			
	Spindle bearing inner diameter	mm (in.)	C: 360 (14.1)    D: 451 (17.7)    E: 685.8 (27.0)		C: 360 (14.1)    D: 451 (17.7)			
	Chuck used		18-24 inch Solid & hollow, Air chuck					
Turret	Number of tool slides		2					
	Turret type		No.1: 12-station    No.2: 10-station					
	Number of tool stations		No.1: 12    No.2: 10		No.1: 12 (Rotary tool: 12)    No.2: 10			
	Shank height for square tool	mm (in.)	32 (1.3 )					
	Shank diameter for boring bar	mm (in.)	Max. 60 (2.4) [80 (3.1)]					
	Turret indexing time	sec.	0.4					
	Max. rotary tool spindle speed	min <sup>-1</sup>	—		No.1: 3,500			
	Rotary tool machining ability	mm (in.)	No.1: Max. $\phi$ 50 ( $\phi$ 1.9) <Drill>		Max. $\phi$ 40 ( $\phi$ 1.5) <End mill>		Max. $\phi$ 125 ( $\phi$ 4.9) <Milling>    Max. M36 <Tap>	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z-axis: 20,000 (787.4)				X, Z-axis: 20,000 (787.4)    Y-axis: 10,000 (393.7)	
		min <sup>-1</sup>	—		C-axis: 20			
	Jog feedrate	mm/min (ipm)	X, Y, Z-axis: 0-5,000 (0-196.9) <20 steps>					
Tailstock	Tailstock travel	mm (in.)	[1,000 (39.4)] </1000>    1,990 (78.3) </2000>					
	Tailstock spindle diameter	mm (in.)	[ $\phi$ 150 ( $\phi$ 5.9)] </1000> $\phi$ 150 ( $\phi$ 5.9) </2000>					
	Taper hole of tailstock spindle	mm (in.)	[ $\phi$ 150 ( $\phi$ 5.9), MT5 (Built-in center)] </1000> $\phi$ 150 ( $\phi$ 5.9), MT5 (Built-in center)    [ $\phi$ 180 ( $\phi$ 7.1), MT6 (Built-in center)] </2000>					
	Tailstock spindle travel	mm (in.)	150 (5.9)					
Motors	Spindle drive motor (30 min./cont)	kW (HP)	45/37 (60/50) [75/55 (100/75) <Voltage 400 V>]					
	Rotary tool spindle drive motor (30 min./cont)	kW (HP)	—		No.1: 15/11 (20/15)			
Power sources (Standard)	Electrical power supply (cont)	194130A16 (kVA)	C: 80.9    D, E: 84.2		C: 93.4    D: 96.7		C: 97.2    D: 100.5	
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 400 (105.6) <ANR>					
Tank capacity	Coolant tank capacity	L (gal.)	790 (208.6) </1000>    940 (248.2) </2000>					
Machine size	Machine height (From floor)	mm (in.)	3,280 (129.1) </1000>		3,282 (129.2) </2000>			
	Floor space (Width×Depth)	mm (in.)	5,550×3,081 (218.5×121.3) </1000>		6,540×3,312 (257.5×130.4) </2000>			
	Mass of machine	kg (lb.)	28,000 (61,600) </1000>    33,500 (73,700) </2000>					
Noise data	A-weighted, time-average radiated sound pressure level	dB	54-67 (measurement uncertainty is 4 dB)					

[ ] Option No.1: Turret 1 No.2: Turret 2

NZX6000 (130410)

- Only turning is possible with type E. Type E is available with distances between centers of 1,000 mm(39.4 in.) and 2,000 mm(78.7 in.) only.
- 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.
- ANR: ANR refers to a standard atmospheric state; i.e., temperature at 20°C (68°F); absolute pressure at 101.3 kPa (14.7 psi); and relative humidity at 65%.
- Power sources·Machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.
- Compressed air supply: Please be sure to supply clean compressed air <air pressure: 0.7 MPa (101.5 psi), pressure dew point: 10°C (50°F) or below>.
- A criterion capacity to select a compressor is 90 L/min (23.8 gpm) per 0.75 kW (1 HP).  
However, this figure may differ depending on the type of compressors and options attached. For details, please check the compressor specifications.
- When the tool tip air blow is regularly used, air supply of more than 300 L/min (79.2 gpm) is separately required.
- Noise data: the measurement was performed at the front of the machine with a maximum spindle speed of 1,000 min<sup>-1</sup>. For details, please consult with our sales representative.
- The information in this catalog is valid as of July 2013.

## Machine specifications

Item			NZX6000					
			/3000L /4000L		/3000 /4000		/3000Y /4000Y	
Capacity	Swing over bed	mm (in.)	1,200 (47.2)					
	Swing over cross slide	mm (in.)	720 (28.3)					
	Max. turning diameter	mm (in.)	No.1: $\phi$ 900 ( $\phi$ 35.4)		No.2: $\phi$ 670 ( $\phi$ 26.3)			
	Max. turning length	mm (in.)	No.1: 3,000 (118.1)		No.2: 2,840 (111.8) </3000>		No.1: 4,000 (157.5) No.2: 3,840 (151.1) </4000>	
Travel	X-axis travel	mm (in.)	No.1: 485 (19.1) <450+35 (17.7+1.4)>				No.2: 340 (13.4) <335+5 (13.2+0.20)>	
	Y-axis travel	mm (in.)	—				200 (7.9) < $\pm$ 100 ( $\pm$ 3.9)>	
	Z-axis travel	mm (in.)	No.1: 3,150 (124.0)		No.2: 2,990 (117.7) </3000>		No.1: 4,150 (163.4) No.2: 3,990 (157.1) </4000>	
Spindle	Max. spindle speed	min <sup>-1</sup>	C: 1,000 D: 500					
	Number of spindle speed ranges		C: 2 D: 1					
	Spindle nose		C: A <sub>1</sub> -20 D: A <sub>2</sub> -20					
	Through-spindle hole diameter	mm (in.)	C: $\phi$ 285 ( $\phi$ 11.2) D: $\phi$ 375 ( $\phi$ 14.7)					
	Min. spindle indexing increment		—		0.001°			
	Spindle bearing inner diameter	mm (in.)	C: 360 (14.1) D: 451 (17.7)					
	Chuck used		18-24 inch Solid & hollow, Air chuck					
Turret	Number of tool slides		2					
	Turret type		No.1: 12-station No.2: 10-station					
	Number of tool stations		No.1: 12 No.2: 10		No.1: 12 (Rotary tool: 12) No.2: 10			
	Shank height for square tool	mm (in.)	32 (1.3)					
	Shank diameter for boring bar	mm (in.)	Max. 60 (2.3) [80 (3.1)]					
	Turret indexing time	sec.	0.4					
	Max. rotary tool spindle speed	min <sup>-1</sup>	—		No.1: 3,500			
	Rotary tool machining ability	mm (in.)	No.1: Max. $\phi$ 50 ( $\phi$ 1.9) <Drill>		Max. $\phi$ 40 ( $\phi$ 1.5) <End mill>		Max. $\phi$ 125 ( $\phi$ 4.9) <Milling> Max. M36 <Tap>	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z-axis: 20,000 (787.4)				X, Z-axis: 20,000 (787.4) Y-axis: 10,000 (393.7)	
		min <sup>-1</sup>	—		C-axis: 20			
	Jog feedrate	mm/min (ipm)	X, Y, Z-axis: 0-5,000 (0-196.9) <20 steps>					
Tailstock	Tailstock travel	mm (in.)	2,990 (117.7) </3000> 3,990 (157.1) </4000>					
	Tailstock spindle diameter	mm (in.)	$\phi$ 180 ( $\phi$ 7.1)					
	Taper hole of tailstock spindle	mm (in.)	$\phi$ 180 ( $\phi$ 7.1), MT6 (Built-in center)					
	Tailstock spindle travel	mm (in.)	150 (5.9)					
Motors	Spindle drive motor (30 min./cont)	kW (HP)	45/37 (60/50) [75/55 (100/75) <Voltage: 400 V>]					
	Rotary tool spindle drive motor (30 min./cont)	kW (HP)	—		No.1: 15/11 (20/15)			
Power sources (Standard)	Electrical power supply (cont)	ID4130A16 (kVA)	C: 80.9 D: 84.2		C: 93.4 D: 96.7		C: 97.2 D: 100.5	
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 400 (105.6) <ANR>					
Tank capacity	Coolant tank capacity	L (gal.)	1,090 (287.8) </3000> 1,160 (306.2) </4000>					
Machine size	Machine height (From floor)	mm (in.)	3,277 (129.0)					
	Floor space (Width×Depth)	mm (in.)	7,700×3,404 (303.1×134.0) </3000> 9,830×3,073 (387.0×121.0) </4000>					
	Mass of machine	kg (lb.)	39,500 (86,900) </3000> 45,500 (100,100) </4000>					
Noise data	A-weighted, time-average radiated sound pressure level	dB	54-67 (measurement uncertainty is 4 dB)					

[ ] Option No.1: Turret 1 No.2: Turret 2

NZX6000 (130410)

- Only turning is possible with type E. Type E is available with distances between centers of 1,000 mm (39.4 in.) and 2,000 mm (78.7 in.) only.
  - 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.
  - ANR: ANR refers to a standard atmospheric state; i.e., temperature at 20°C (68°F); absolute pressure at 101.3 kPa (14.7 psi); and relative humidity at 65%.
  - Power sources: Machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.
  - Compressed air supply: Please be sure to supply clean compressed air <air pressure: 0.7 MPa (101.5 psi), pressure dew point: 10°C (50°F) or below>.
  - A criterion capacity to select a compressor is 90 L/min (23.8 gpm) per 0.75 kW (1 HP).
- However, this figure may differ depending on the type of compressors and options attached. For details, please check the compressor specifications.
- When the tool tip air blow is regularly used, air supply of more than 300 L/min (79.2 gpm) is separately required.
  - Noise data: the measurement was performed at the front of the machine with a maximum spindle speed of 1,000 min<sup>-1</sup>. For details, please consult with our sales representative.
  - The information in this catalog is valid as of July 2013.

# DMG MORI

**2-year warranty, twice the peace of mind.**

For machines delivered outside of Japan, parts relating to machine breakdown will be guaranteed free for 2 years from the date of installation, and labor costs to repair will be free for 1 year. Please contact our sales representative for details.



## <Precautions for Machine Relocation>

**EXPORTATION:** All contracts are subject to export permit by the Government of Japan. Customer shall comply with the laws and regulations of the exporting country governing the exportation or re-exportation of the Equipment, including but not limited to the Export Administration Regulations. The Equipment is subject to export restrictions imposed by Japan and other exporting countries and the Customer will not export or permit the export of the Equipment anywhere outside the exporting country without proper government authorization. To prevent the illegal diversion of the Equipment to individuals or nations that threaten international security, it may include a "Relocation Machine Security Function" that automatically disables the Equipment if it is moved following installation. If the Equipment is so-disabled, it can only be re-enabled by contacting DMG MORI SEIKI or its distributor representative. DMG MORI SEIKI and its distributor representative may refuse to re-enable the Equipment if it determines that doing so would be an unauthorized export of technology or otherwise violates applicable export restrictions. DMG MORI SEIKI and its distributor representative shall have no obligation to re-enable such Equipment. DMG MORI SEIKI and its distributor representative shall have no liability (including for lost profits or business interruption or under the limited service warranty included herein) as a result of the Equipment being disabled.

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- If you have any questions regarding the content, contact our sales representative.
- The information in this catalog is valid as of October 2013. 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 SEIKI is not responsible for differences between the information in the catalog and the actual machine.

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