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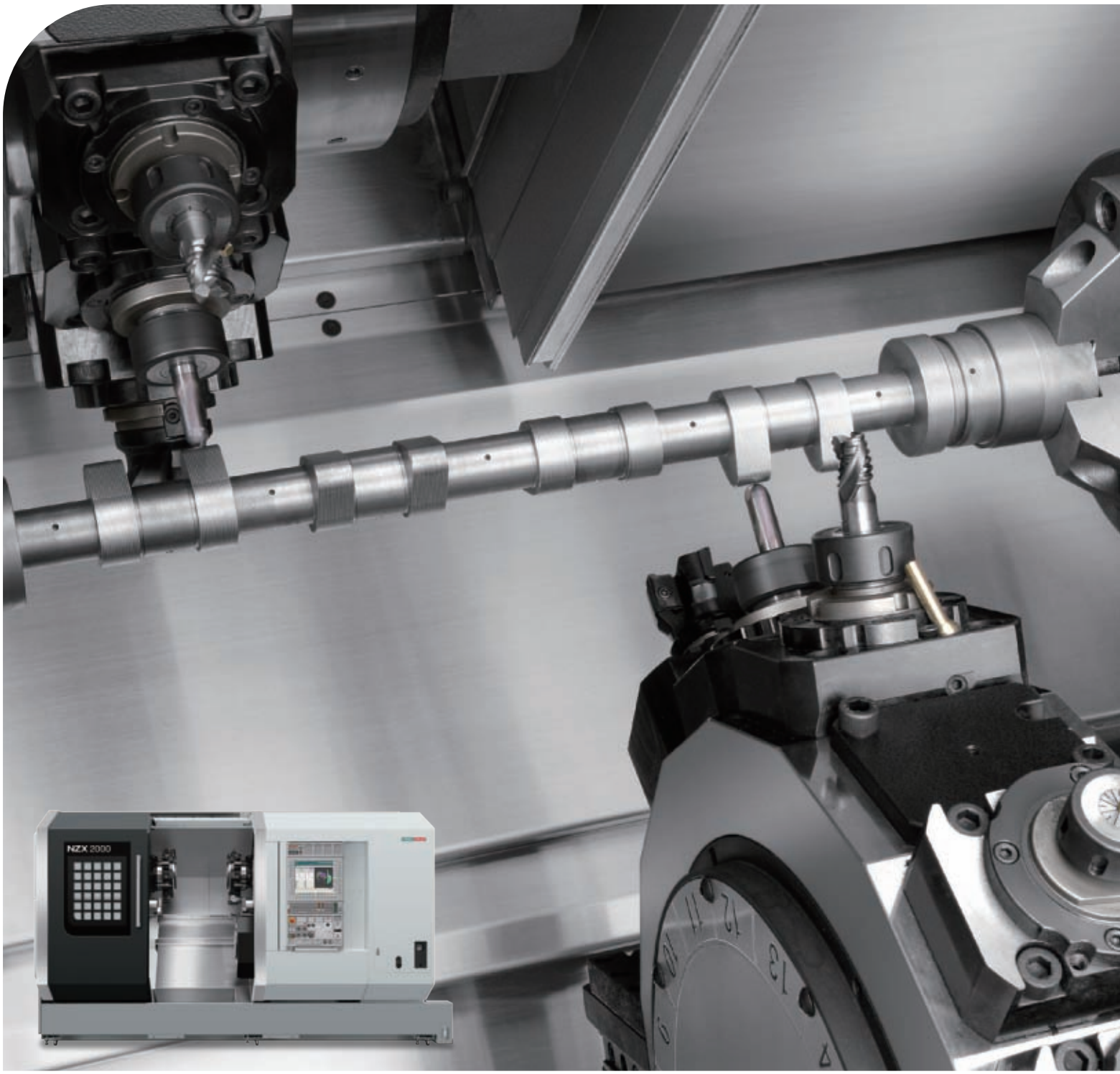
DMG MORI

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

NZX1500
NZX2000

NZX1500 / NZX2000



Seeking the last word in mass production machines High-efficiency multi-axis turning center enabling the ultimate in process integration with up to three turrets

Is it possible to achieve more accurate, efficient machining and to improve productivity for complex-shaped workpieces? For this dilemma facing the manufacturing industry, DMG MORI SEIKI has one answer. That answer is the NZX1500/NZX2000. Up to 3 turrets and the Y-axis structure can be installed, and the BMT (Built-in Motor Turret) is used for all turrets. Also, DMG MORI SEIKI's original technology, the ORC (Octagonal Ram Construction) is used for the Turret 2 Y-axis structure, controlling thermal displacement and improving chip disposal. The NZX1500/NZX2000, which is packed with features to increase productivity, offers unparalleled efficiency for bar work machining.

NZX2000

Main features

Basic structure

Travel

X1, X2, X3-axis 210 mm (8.3 in.)

Y1, Y3-axis 110 mm (4.3 in.)
<+65, −45 mm (+2.6, −1.8 in.)>

Y2-axis 110 mm (4.3 in.)
<+45, −65 mm (+1.8, −2.6 in.)>

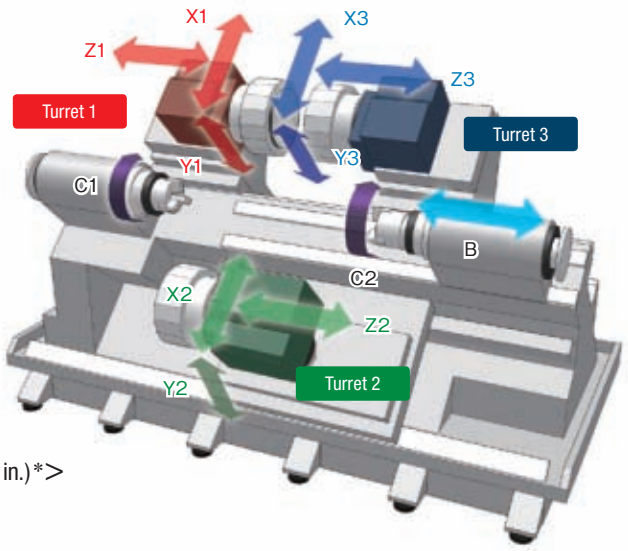
2-turret specifications <S/SY/SY2>

Z1, Z2-axis 810 mm (31.9 in.)

3-turret specifications <ST/STY2/STY3>

Z1, Z3-axis 300 mm (11.8 in.) <+100 mm(+3.9 in.)*>

Z2-axis 810 mm (31.9 in.)



● Photo: NZX2000/800STY3

Spindle 2

B-axis **NZX1500** 900 mm (35.4 in.)

NZX2000 870 mm (34.3 in.)

Rapid traverse rate

X1, X2, X3-axis 30 m/min (98.4 fpm)

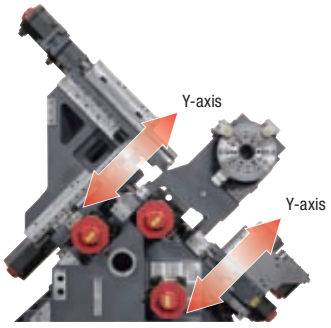
Y1, Y2, Y3-axis 20 m/min (65.6 fpm)

Z1, Z2, Z3-axis 50 m/min (164.1 fpm)

*When one turret is moving in the plus direction, another turret moves in the minus direction.

Orthogonal Y-axis

In the NZX1500/NZX2000, all the Y axes are orthogonal. This allows high-efficiency machining because of its excellent straightness and high-speed feed. Also, its extremely rigid structure offers high-precision machining equal to or better than a machining center. As a multi-axis machine, it boasts outstanding milling ability surpassing the best multi-axis lathe.



Working area

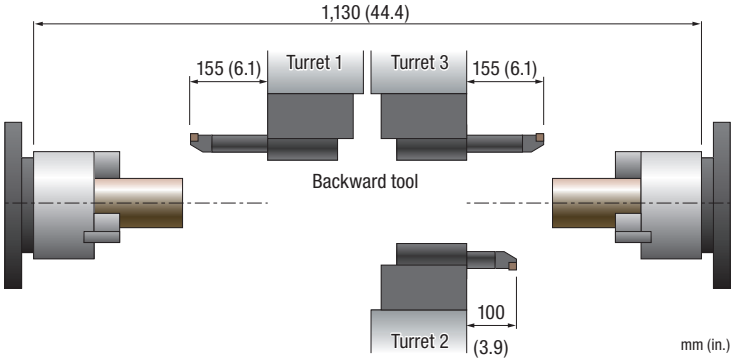
Wide work envelope

Distance between spindle large noses

1,130 mm (44.4 in.)

Backward tool max. tool length

155 mm (6.1 in.) <Turret 1, Turret 3>



Spindle

	NZX1500	NZX2000
Chuck size	6-inch	8-inch
Bar work capacity	ϕ 52 mm (ϕ2.0 in.)	ϕ 65 mm (ϕ2.5 in.)
Max. spindle speed	6,000 min-1	5,000 min-1
Spindle drive motor	22/18.5 kW (30/24.7 HP) (25%ED/30 min./cont) 25/22 kW (33.3/30 HP) (40%ED/30 min./cont) OP	25/22 kW (33.3/30 HP) (30 min./cont)

	NZX1500		NZX2000	
Chuck size	6-inch (Spindle 1)	6-inch (Spindle 2)	8-inch (Spindle 1)	8-inch (Spindle 2)
Spindle acceleration time	3.58 sec. (0→6,000 min-1)	3.65 sec. (0→6,000 min-1)	3.26 sec. (0→5,000 min-1)	3.18 sec. (0→5,000 min-1)
Spindle deceleration time	3.10 sec. (6,000→0 min-1)	3.10 sec. (6,000→0 min-1)	2.67 sec. (5,000→0 min-1)	2.65 sec. (5,000→0 min-1)

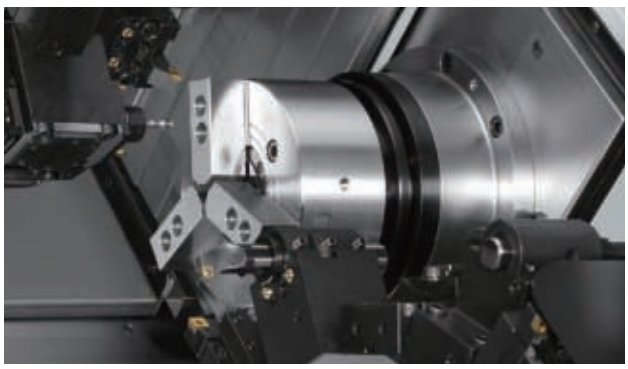
● Measurements are with a chuck fitted.

Bar work capacity ϕ80 mm (ϕ3.1 in) Specifications OP Consultation is required

	NZX2000
Chuck size	10-inch (Spindle 1)
Bar work capacity	ϕ 80 mm (ϕ 3.1 in.)
Max. spindle speed	4,000 min-1
Spindle drive motor	26/22 kW (34.7/30 HP) <30 min./cont>

● For T specifications: It is necessary to consider restrictions to make the tool tip go over the spindle center during I.D. boring with Turret 1 (upper left) on the Spindle 1 side. For boring with Turret 2 (lower), there is no restriction to be considered.

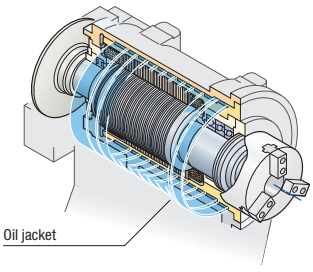
Spindle 1



Spindle 2

Spindle lubrication

A structure that maintains a uniform temperature around the spindle, the largest source of heat, has been adopted. In addition, the oil jacket coiled around the spindle fully to the rear suppresses spindle temperature rise.



Oil cooler

Temperature-controlled cooling oil is forcibly circulated into the spindle.

Main features

Turret

3 Turrets

The NZX1500/NZX2000, which can be equipped with up to 3 turrets, can do a wide variety of machining on one machine. Since no setup change is required, the series has various advantages such as reducing work-in-process inventory and transfer costs, and eliminating accuracy deterioration between processes.

Turret 2 X-axis drive

Twin drive is used for Turret 2's X-axis drive to achieve high speed and low vibration. Also, since the twin drive offers stable operation even with a wide saddle, the Y-axis which uses ORC can be located at the center.

Max. number of tools (Turret 3×16 tools) 48 tools

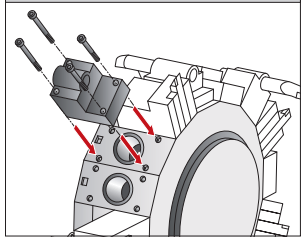
Max. rotary tool spindle speed	6,000 min^{-1}
	12,000 min^{-1} OP
Turret indexing time (1-station)	0.18 sec.
Rotary tool spindle output Largest in its class	7.5 kW/5.5 kW (10 HP/7.5 HP) <30 min./cont>
Rotary tool spindle acceleration time	0.09 sec. (0→6,000 min^{-1})
Rotary tool spindle deceleration time	0.09 sec. (6,000→0 min^{-1})

Tool changing

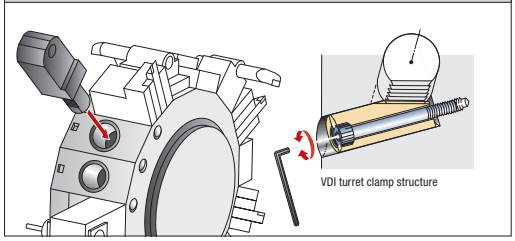
A bolt clamp type turret that provides higher rigidity is adopted for turrets 1, 2 and 3. Quick change type turrets compatible with VDI tools are available as an option. (For tool holders, please use DMG MORI SEIKI specified products.)

● The photo shows the bolt-tightened turret head

Bolt-tightened turret head

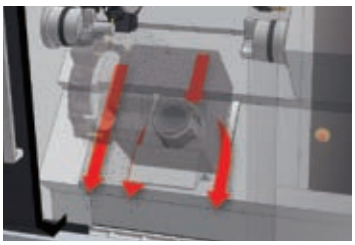


Quick-change type turret head <VDI> OP



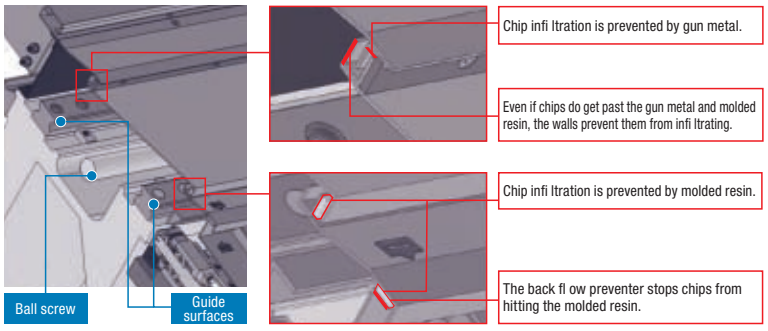
Turtleneck structure

By using an ORC (Octagonal Ram Construction) for Turret 2's Y-axis, we have been able to save space for the axis guides, eliminating chip accumulation. This structure offers excellent chip disposal.



The labyrinth structure for the bed cover

By completely eliminating gaps in the cover, we have prevented chips from infi ltrating inside. This protects the guide surfaces and the ball screws from chips. (fewer gaps)



Built-in Motor Turret

BMT® 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

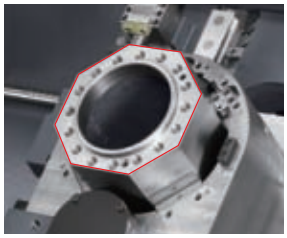
- Improved milling power
- Improved milling accuracy
- Controls the turret's heat and vibration
- Reduced energy loss

Octagonal Ram Construction

ORC® Octagonal Ram Construction

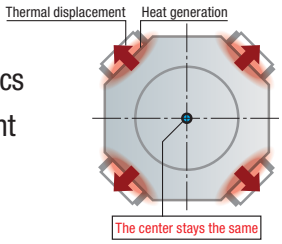
Original technology

The 4 guideways are located diagonally from each other, so they distort symmetrically in response to the heat generated by high-speed travel. This means that the center stays in the same position, offering high-speed, high-precision feed.

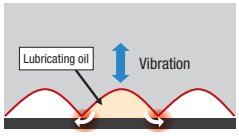


■ Effects of ORC

- Superior damping characteristics
- Controls thermal displacement
- Achieves high-speed, high-precision feed



Square guides' excellent damping characteristics



Lubricating oil outflow

Heat generated by friction

The lubricating oil in the oil pockets which were made by scraping is forced in and out through the gaps because of the contact pressure caused by vibration, generating heat.

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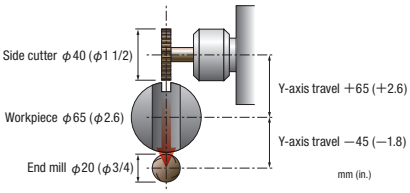
Vibration is reduced by converting vibrational energy into heat energy. This helps control chattering caused by vibration.

Y-axis control

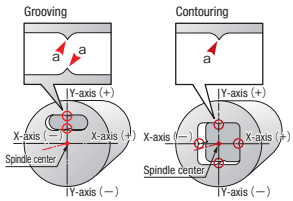


A ϕ20 mm (ϕ3/4 in.) end mill can cut right through the workpiece, without turning it over

Key way slotting is possible with a ϕ40 mm (ϕ1 1/2 in.) side cutter

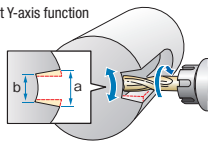
■ Comparison between polar coordinate interpolation and Y-axis control

Until now, slotting and contouring were done on turning centers by using polar coodinate interpolation, but the cutting conditions at the intersection point (a) of the workpiece center line and the machining line changed when the direction of travel on the X-axis was reversed. This affected the geometric accuracy. With the Y-axis control, however, the cutting conditions do not change, offering high geometric precision.



■ Key way milling using a turning center with the Y-axis function

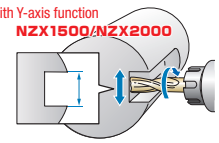
Without Y-axis function



Adjusting the key way width at the outside (a) and the inside (b) is diffi cult.

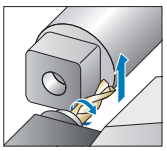
With Y-axis function

NZX1500/NZX2000

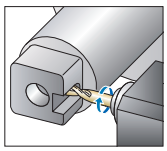


The key way width can be adjusted with the Y-axis function.

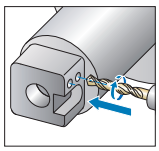
■ Bar machining with Y-axis control



1. Side milling



2. Off-center keyway milling



3. Off-center drilling

BMT: Built-in Motor Turret ORC: Octagonal Ram Construction

Main features

Center shutter specification

OP Consultation is required

Two setups can be performed separately in two independent work envelops, achieving greater productivity.

- The photo shows the machine outfitted with options.
- The machine shown in the photo may differ from the actual machine.

Highlights of the center shutter specification

- Two different machining processes can be performed simultaneously using both Spindle 1 and Spindle 2.
- While machining is performed with one spindle, setup work can be done with the other.
- Machining on both sides of a workpiece is possible by transferring the workpiece from Spindle 1 to Spindle 2.
- Machining can be performed with one spindle while workpiece loading or unloading is being carried out with the other.

Variations

2-turret specifications

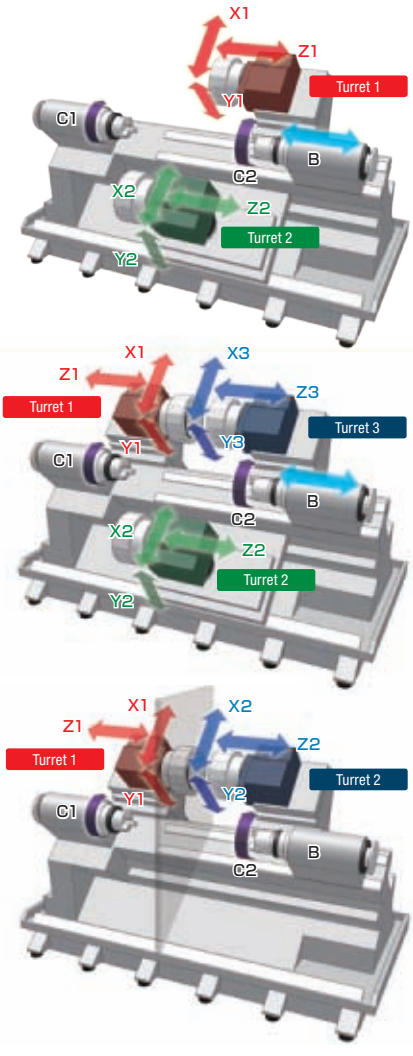
	Turret 1	Turret 2
NZX1500/800S **NZX2000**/800S	X1, Z1	X2, Z2
NZX1500/800SY **NZX2000**/800SY	X1, Z1, Y1	X2, Z2
NZX1500/800SY2 **NZX2000**/800SY2	X1, Z1, Y1	X2, Z2, Y2

3-turret specifications

	Turret 1	Turret 2	Turret 3
NZX1500/800ST **NZX2000**/800ST	X1, Z1	X2, Z2	X3, Z3
NZX1500/800STY2 **NZX2000**/800STY2	X1, Z1, Y1	X2, Z2, Y2	X3, Z3
NZX1500/800STY3 **NZX2000**/800STY3	X1, Z1, Y1	X2, Z2, Y2	X3, Z3, Y3

Center shutter specification

	Turret 1	Turret 2
NZX1500/800S DL **NZX2000**/800S DL	X1, Z1	X2, Z2
NZX1500/800SY2 DL **NZX2000**/800SY2 DL	X1, Z1, Y1	X2, Z2, Y2

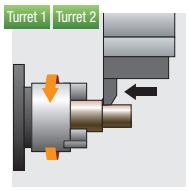


Machining variations

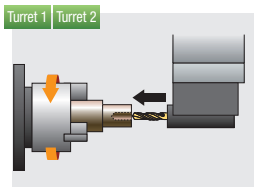
:Turret which can do machining

NZX2000/800STY3

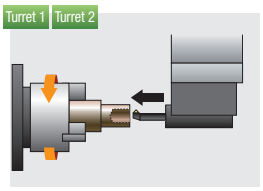
■ Spindle 1 (Turning)



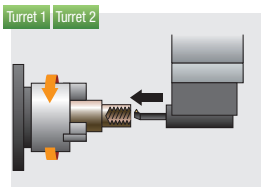
O. D. cutting



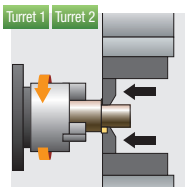
Drilling



I. D. cutting

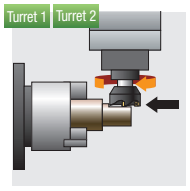


I. D. threading

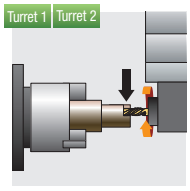


Balance cutting

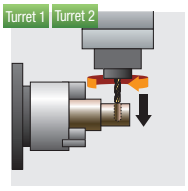
■ Spindle 1 (Milling)



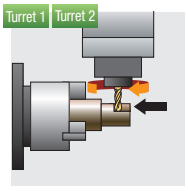
O. D. milling



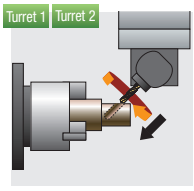
Face milling



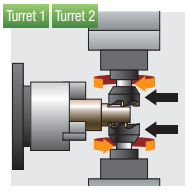
O. D. hole machining



Ball-end milling

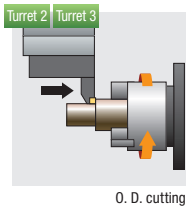


Angular machining

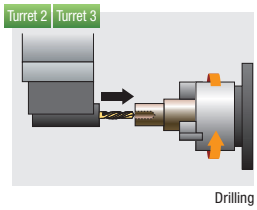


Simultaneous milling

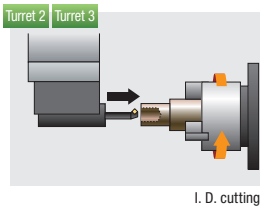
■ Spindle 2 (Turning)



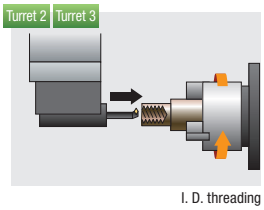
O. D. cutting



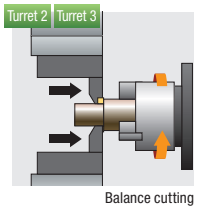
Drilling



I. D. cutting

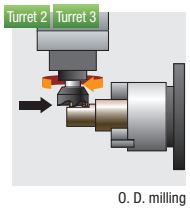


I. D. threading

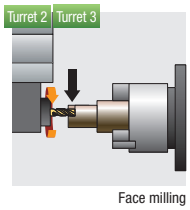


Balance cutting

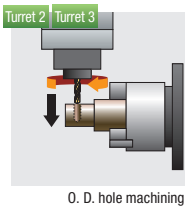
■ Spindle 2 (Milling)



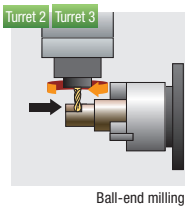
O. D. milling



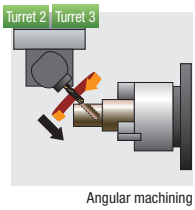
Face milling



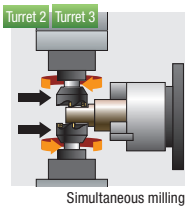
O. D. hole machining



Ball-end milling



Angular machining

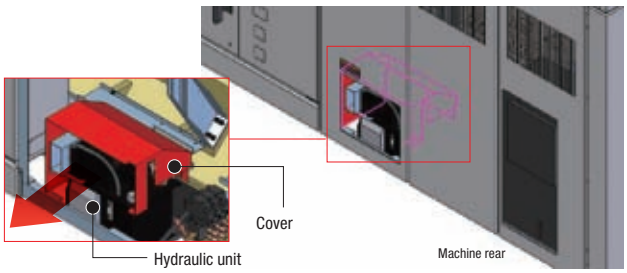


Simultaneous milling

High-precision equipment

Heat-shielding layout

Covering the hydraulic unit prevents heat from being transmitted to the machine.



Direct scale feedback (X-axis, Z-axis) OP

The absolute magnetic linear scale (full closed-loop control) made by Magnescale is effective for high-precision positioning, and is available as an option.

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

Resolution

0.01 μm

Magnescale

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.

Operability

Door opening width

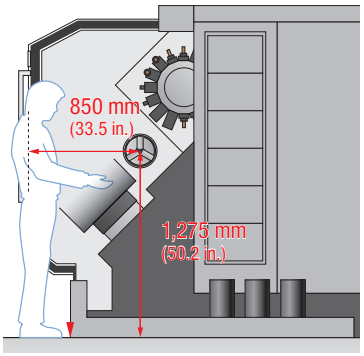
The door opens wide, allowing easy workpiece loading and unloading and maintenance inside the machine.

Swivel-type operation panel

The operation panel which swivels from 0 to 90 degrees improves visibility during operation.

Accessibility

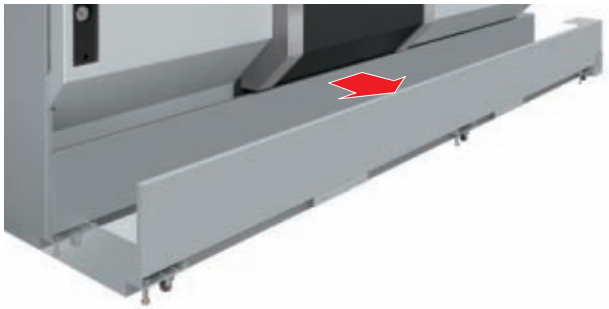
To make operations inside the machine easier, the distance from the front of the machine to the spindle is shorter.



Maintenance

The coolant tank pulls out to the front

The coolant tank, which can be pulled out to the front of the machine, offers better chip disposal in the tank and easier maintenance for the chip conveyor (option).



● Photo: NZX2000/800STY3

Lubricating oil tank (for slideways)

The supply port for the lubricating oil tank for the slideways is located in the front of the machine for easy refi lling.

Centralized layout of devices

Devices which require frequent inspection are placed on the right side of the machine, allowing faster maintenance and inspection.

Improved reliability

We have reduced the number of parts in conventional turrets by 50%. The simple yet sturdy structure makes it more reliable.

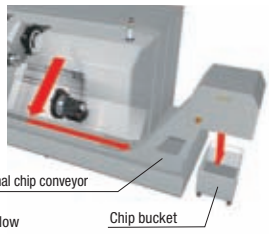
Peripheral equipment

External chip conveyor OP

Available 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+Drum filter type	○	○	○	○	○	○	○
Hinge type	○	×	×	×	○	×	×
Scraper type	×	○	○	○	×	×	×
Scraper type+Drum filter type Consultation is required	×	○*1	○	○	×	○	○
Magnet scraper type Consultation is required	×	○	○	○	×	×	×
Magnet scraper type+Drum filter type Consultation is required	×	○*1	○	○	×	○*2	○*2

*1 Please use a steel filter
*2 Effective for ferrous alloys
Chip size guidelines
Short: chips shorter than 50 mm (2.0 in.), blocks of chips smaller than ϕ40 mm (ϕ1.6 in.)
Long: bigger than the above.

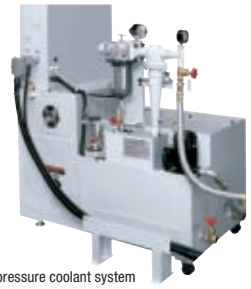
● The photo shows the Hinge type+Drum filter



- The options table shows the general options when using coolant. If you are not using coolant, or if the coolant system and the machine are combined, changes may be necessary depending on 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.

Super-high pressure coolant system (separate type) OP

This is effective for chip disposal, cooling the machining point and extending tool life.

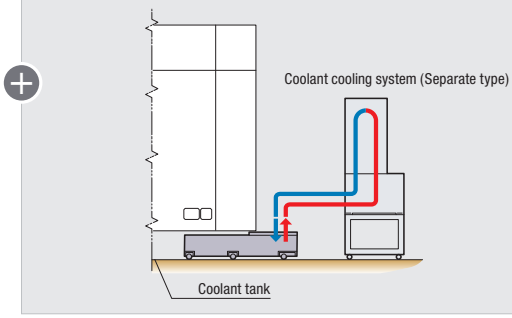


Super-high pressure coolant system

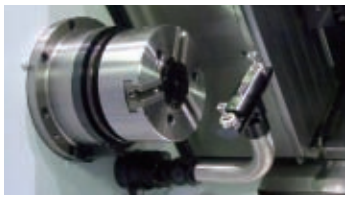
Discharge pressure	MPa (psi)	7.0 (1,015)
Discharge volume L/min (gpm)	50 Hz	20 (5.3)
	60 Hz	25 (6.6)

Recommended equipment **Coolant cooling system (Separate type)**

The super-high pressure coolant unit generates a lot of heat because it discharges coolant at high pressure. The coolant cooling unit controls the temperature of the coolant and suppresses temperature increases in the workpiece, tools and table, ensuring stable machining accuracy. This is essential equipment when using super-high pressure coolant. A unit with a heater will be customized.



Manual type in-machine tool presetter (Spindle 1 side/Headstock 2 side)

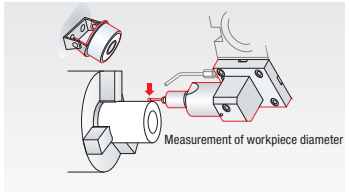


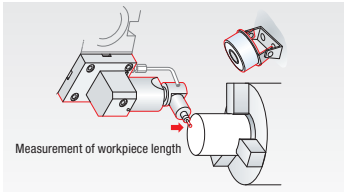
Spindle 1 side

Headstock 2 side

Collet chuck OP

In-machine workpiece measurement system OP





Mist collector OP

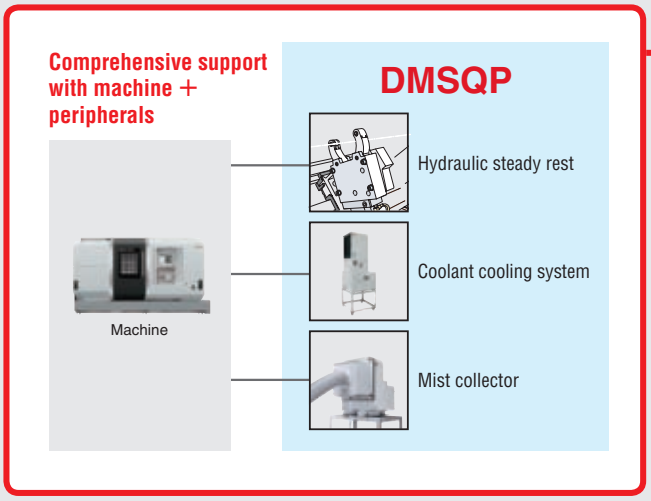
DMSQP (DMG Mori Seiki Qualified Products) OP

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.



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 (NZX1500/NZX2000)

☐ Hydraulic steady rest

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

☐ High-pressure coolant system <1.5 MPa (217.5 psi)>

☐ Super-high-pressure coolant system (separate type) <7.0 MPa (1,015 psi)>

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

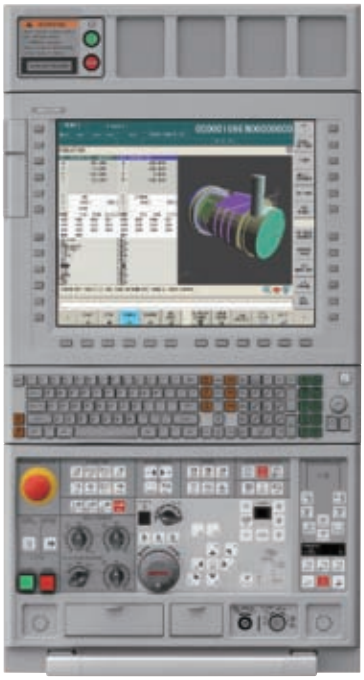
This unit removes moisture contained in the compressed air supplied by the compressor, preventing moisture-related problems in the pneumatic equipment.

☐ Tool cabinet

- For more details on DMSQP items, please contact your sales representative.

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**

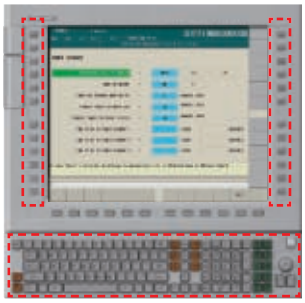
Outstanding operability

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.



Functions for multi-axis machining

3D interference checking function

Interference between items such as the spindle, workpiece, soft jaw, tool, holder and turret can be checked in 3D. If interference is detected, the machine will stop operation regardless of whether it is in the automatic or manual mode, providing the highest level of protection against interference.

Interference detected
↓
Machine stops automatically
↓
Collisions can be avoided not only during program operation but also during setup.

- The 3D interference checking function will check for interference accurately as long as the 3D model exactly matches the actual configuration of the spindles, workpieces, soft jaws, tools, holders and turrets.
- Customized design is required for special shape. For details, please refer to the description of "3D interference checking function" in the NC control unit specifications.
- A cutting simulation that shows how material is removed as machining proceeds cannot be carried out during a 3D interference check.

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.

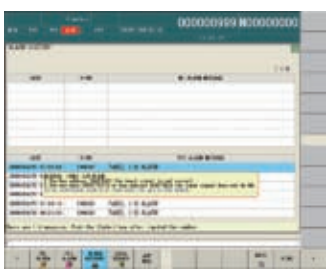
Viewable file types

- 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)

MAPPS: Mori Advanced Programming Production System

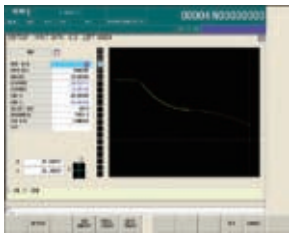
Conversational automatic programming

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

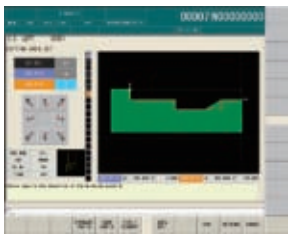
List display function

Contour input



Simple soft jaw forming function

Relief machining OP



DXF import function OP

MORI Automatic Programming System for NZ/ZT

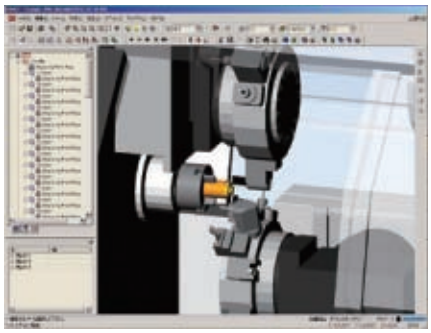
MORI-APNZ/ZT OP

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

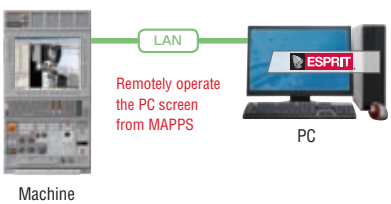
ESPRIT® allows you to create complex 3D programming with high-added value. By just installing the software on your PC with connection to LAN, you will be able to use it. (Once the software is started on the computer, it can be used for up to 7 days without LAN connection)



- **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 March 2013.

MORI-NETWORK

Network Application Systems
MORI-NET, MORI-SERVER, MORI-MONITOR

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.

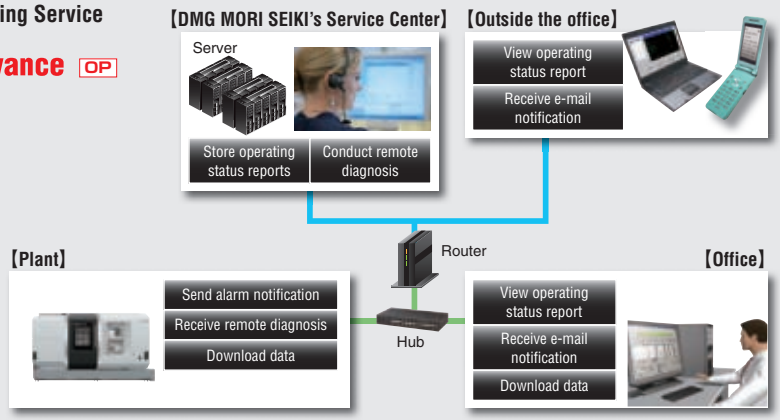
【Internet】
【LAN】

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.

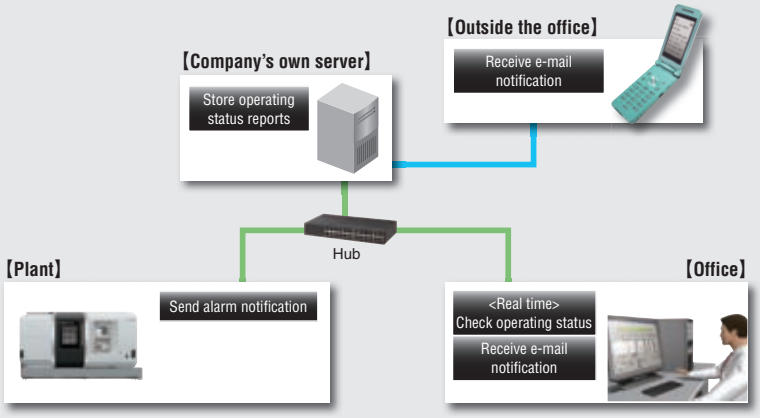
- This service may not be available in some areas. Please contact our sales representative for details.

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

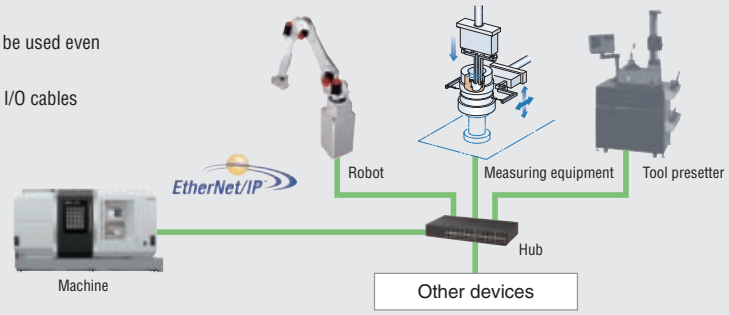
MAPPS EtherNet/IP I/F OP

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

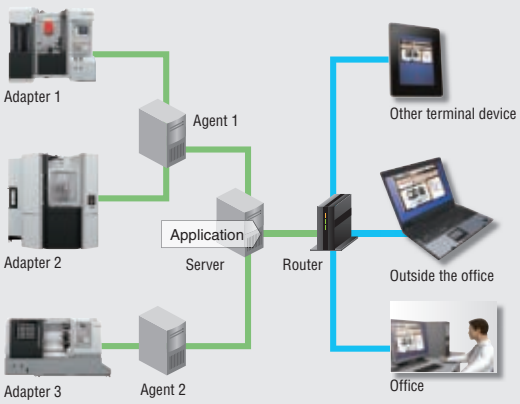
MAPPS MTConnect I/F

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 NZX1500/NZX2000 pursues a high “environmental performance” that is required of machine tools.

Power-saving function

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.

Function to reduce power consumption during standby

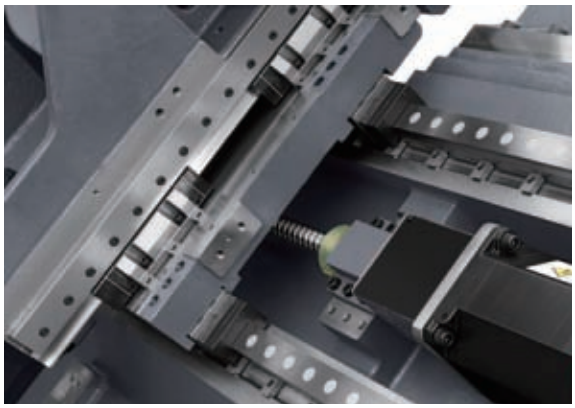
The inverter type hydraulic unit reduces power consumption during standby.

Automatic sleep function

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

Reduced consumption of lubricating oil

The amount of lubricating oil required for the slideways has been reduced, contributing to energy savings.



Machine specifications

Item			NZX1500/800S	NZX1500/800SY	NZX1500/800SY2
Capacity	Swing over bed	mm (in.)	800 (31.5)		
	Swing over cross slide	mm (in.)	800 (31.5)		
	Max. distance between spindle large noses	mm (in.)	1,130 (44.4)		
	Max. turning diameter	mm (in.)	320 (12.5) <Interference with the cover>		
	Standard turning diameter	mm (in.)	200 (7.9)		
	Max. workpiece delivery diameter	mm (in.)	300 (11.8)		
	Max. turning length	mm (in.)	810 (31.8) <Max. length workpiece which can be machined using O.D. tool (with the workpiece supported at both ends)>		
	Bar work capacity	mm (in.)	52 (2.0)		
Travel	X-axis travel	mm (in.)	X1, X2: 210 (8.3)		
	Y-axis travel	mm (in.)	—	Y1: 110 (4.3) <+65 (2.6), -45 (1.8)>	Y1: 110 (4.3) <+65 (2.6), -45 (1.8)> Y2: 110 (4.3) <+45 (1.8), -65 (2.6)>
	Z-axis travel	mm (in.)	Z1, Z2: 810 (31.9)		
	B-axis travel (Spindle 2)	mm (in.)	900 (35.4)		
Spindle 1	Max. spindle speed	min^{-1}	6,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_{2}-5		
	Through-spindle hole diameter	mm (in.)	61 (2.4)		
	Spindle bearing inner diameter	mm (in.)	100 (3.9)		
	Min. spindle indexing increment		0.001°		
Spindle 2	Max. spindle speed	min^{-1}	6,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_{2}-5		
	Through-spindle hole diameter	mm (in.)	61 (2.4)		
	Spindle bearing inner diameter	mm (in.)	100 (3.9)		
	Min. spindle indexing increment		0.001°		
Turret	Turret type		16-station×2		
	Number of tool stations		16×2=32		
	Shank height for square tool	mm (in.)	20 (0.8)		
	Height of boring bar shank part	mm (in.)	32 (1.3)		
	Turret indexing time (1-station)	sec.	0.18		
	Max. rotary tool spindle speed	min^{-1}	6,000 [12,000]		
	Rotary tool machining ability	mm (in.)	Tap: M16, Drill: ϕ16 (ϕ0.6)		
Feedrate	Rapid traverse rate	mm/min (ipm)	X1, X2: 30,000 (1,181.1) Z1, Z2: 50,000 (1,968.5)	X1, X2: 30,000 (1,181.1) Y1: 20,000 (787.4) Z1, Z2: 50,000 (1,968.5)	X1, X2: 30,000 (1,181.1) Y1, Y2: 20,000 (787.4) Z1, Z2: 50,000 (1,968.5)
	Jog feedrate	mm/min (ipm)	0—5,000 (196.9)		
Motors	Spindle 1 drive motor	kW (HP)	22/18.5 (30/24.7) <25%ED/30 min./cont> [25/22 (33.3/30) <40%ED/30 min./cont> <High output>]		
	Spindle 2 drive motor	kW (HP)	22/18.5 (30/24.7) <25%ED/30 min./cont> [25/22 (33.3/30) <40%ED/30 min./cont> <High output>]		
	Rotary tool spindle drive motor <30 min./cont>	kW (HP)	7.5/5.5 (10/7.5)		
	Feed motor	kW (HP)	X1: 3.0 (4.0) X2: 1.2 (1.6)×2 Z1, Z2: 4.0 (5.3)	X1: 3.0 (4.0), X2: 1.2 (1.6)×2 Y1: 4.0 (5.3) Z1, Z2: 4.0 (5.3)	X1: 3.0 (4.0), X2: 2.5 (3.3)×2 Y1: 4.0 (5.3), Y2: 2.5 (3.3) Z1, Z2: 4.0 (5.3)
	Hydraulic pump motor	kW (HP)	1.5 (2.0) or equivalent		
	Lubricanting oil pump motor	kW (HP)	0.017 (0.02)		
	Coolant pump motor	kW (HP)	0.325/0.520 (0.43/0.69)		
	Cooling oil motor <50/60 Hz>	kW (HP)	4.2/4.7 (5.6/6.2)		
Power sources (Standard)	Electrical power supply <cont>	I94103A09 kVA	73.5	77.0	81.4
	Compressed air supply	MPa, L/min (psi/gpm)	0.5, 200 (72.5, 52.8) <ANR>		
Tank capacity	Hydraulic oil tank capacity	L (gal.)	10 (2.6)		
	Lubricanting oil tank capacity	L (gal.)	4.2 (1.1)		
	Coolant tank capacity	L (gal.)	400 (105.6)		
	Oil cooler tank capacity	L (gal.)	52 (13.7)		
Machine size	Machine height <From floor>	mm (in.)	2,320 (91.3) <Without automatic door>		
	Floor space <Width×Depth>	mm (in.)	3,930 (154.7) <Machine: 3,680 (144.9)+Tank: 250 (9.8)> [chip conveyor right disposal: +1,190 (46.9)]×2,740 (107.9)		
	Mass of machine	kg (lb.)	8,000 (17,600)	8,100 (17,820)	8,300 (18,260)

[ ] Option

NZX1500_2000 (120302)

- Bar work capacity: Depending on the chuck cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- 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: 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℃ (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 March 2013.
- JIS: Japanese Industrial Standard

Machine specifications

Item			NZX1500/800ST	NZX1500/800STY2	NZX1500/800STY3
Capacity	Swing over bed	mm (in.)	800 (31.5)		
	Swing over cross slide	mm (in.)	800 (31.5)		
	Max. distance between spindle large noses	mm (in.)	1,130 (44.4)		
	Max. turning diameter	mm (in.)	320 (12.5) <Interference with the cover>		
	Standard turning diameter	mm (in.)	200 (7.9)		
	Max. workpiece delivery diameter	mm (in.)	300 (11.8)		
	Max. turning length	mm (in.)	810 (31.8) <Max. length workpiece which can be machined using O.D. tool on Turret 2 (with the workpiece supported at both ends)>		
	Bar work capacity	mm (in.)	52 (2.0)		
Travel	X-axis travel	mm (in.)	X1, X2, X3: 210 (8.3)		
	Y-axis travel	mm (in.)	—	Y1: 110 (4.3) <+65 (2.6), -45 (1.8)> Y2: 110 (4.3) <+45 (1.8), -65 (2.6)>	Y1, Y3: 110 (4.3) <+65 (2.6), -45 (1.8)> Y2: 110 (4.3) <+45 (1.8), -65 (2.6)>
	Z-axis travel	mm (in.)	Z1, Z3: 300 (11.8) <+100*(3.9)>, Z2: 810 (31.9)		
	B-axis travel (Spindle 2)	mm (in.)	900 (35.4)		
Spindle 1	Max. spindle speed	min^{-1}	6,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_{2}-5		
	Through-spindle hole diameter	mm (in.)	61 (2.4)		
	Spindle bearing inner diameter	mm (in.)	100 (3.9)		
	Min. spindle indexing increment		0.001°		
Spindle 2	Max. spindle speed	min^{-1}	6,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_{2}-5		
	Through-spindle hole diameter	mm (in.)	61 (2.4)		
	Spindle bearing inner diameter	mm (in.)	100 (3.9)		
	Min. spindle indexing increment		0.001°		
Turret	Turret type		16-station×3		
	Number of tool stations		16×3=48		
	Shank height for square tool	mm (in.)	20 (0.8)		
	Height of boring bar shank part	mm (in.)	32 (1.3)		
	Turret indexing time (1-station)	sec.	0.18		
	Max. rotary tool spindle speed	min^{-1}	6,000 [12,000]		
	Rotary tool machining ability	mm (in.)	Tap: M16, Drill: ϕ16 (ϕ0.6)		
Feedrate	Rapid traverse rate	mm/min (ipm)	X1, X2, X3: 30,000 (1,181.1) Z1, Z2, Z3: 50,000 (1,968.5)	X1, X2, X3: 30,000 (1,181.1) Y1, Y2: 20,000 (787.4) Z1, Z2, Z3: 50,000 (1,968.5)	X1, X2, X3: 30,000 (1,181.1) Y1, Y2, Y3: 20,000 (787.4) Z1, Z2, Z3: 50,000 (1,968.5)
	Jog feedrate	mm/min (ipm)	0—5,000 (196.9)		
Motors	Spindle 1 drive motor	kW (HP)	22/18.5 (30/24.7) <25%ED/30 min./cont> [25/22 (33.3/30) <40%ED/30 min./cont> <High output>]		
	Spindle 2 drive motor	kW (HP)	22/18.5 (30/24.7) <25%ED/30 min./cont> [25/22 (33.3/30) <40%ED/30 min./cont> <High output>]		
	Rotary tool spindle drive motor <30 min./cont>	kW (HP)	7.5/5.5 (10/7.5)		
	Feed motor	kW (HP)	X1, X3: 3.0 (4.0) X2: 1.2 (1.6)×2 Z1, Z2, Z3: 4.0 (5.3)	X1, X3: 3.0 (4.0), X2: 1.2 (1.6)×2 Y1: 4.0 (5.3), Y2: 2.5 (3.3) Z1, Z2, Z3: 4.0 (5.3)	X1, X3: 3.0 (4.0), X2: 1.2 (1.6)×2 Y1, Y3: 4.0 (5.3), Y2: 2.5 (3.3) Z1, Z2, Z3: 4.0 (5.3)
	Hydraulic pump motor	kW (HP)	1.5 (2.0) or equivalent		
	Lubricanting oil pump motor	kW (HP)	0.017 (0.02)		
	Coolant pump motor	kW (HP)	0.325/0.520 (0.43/0.69)		
	Cooling oil motor <50/60 Hz>	kW (HP)	4.2/4.7 (5.6/6.2)		
Power sources (Standard)	Electrical power supply <cont>	I94103A09 kVA	80.3	84.7	88.1
	Compressed air supply	MPa, L/min (psi/gpm)	0.5, 200 (72.5, 52.8) <ANR>		
Tank capacity	Hydraulic oil tank capacity	L (gal.)	10 (2.6)		
	Lubricanting oil tank capacity	L (gal.)	4.2 (1.1)		
	Coolant tank capacity	L (gal.)	400 (105.6)		
	Oil cooler tank capacity	L (gal.)	52 (13.7)		
Machine size	Machine height <From floor>	mm (in.)	2,320 (91.3) <Without automatic door>		
	Floor space <Width×Depth>	mm (in.)	3,930 (154.7) <Machine: 3,680 (144.9)+tank: 250 (9.8)> [chip conveyor right disposal: +1,190 (46.9)]×2,740 (107.9)		
	Mass of machine	kg (lb.)	8,900 (19,580)	9,200 (20,240)	9,300 (20,460)

[ ] Option

NZX1500_2000 (120302)

- Bar work capacity: Depending on the chuck cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- 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: 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℃ (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.

*When one turret is moving in the plus direction, another turret moves in the minus direction.

- The information in this catalog is valid as of March 2013.
- JIS: Japanese Industrial Standard

Item			NZX2000/800S	NZX2000/800SY	NZX2000/800SY2
Capacity	Swing over bed	mm (in.)	800 (31.5)		
	Swing over cross slide	mm (in.)	800 (31.5)		
	Max. distance between spindle large noses	mm (in.)	1,130 (44.4)		
	Max. turning diameter	mm (in.)	320 (12.5) <Interference with the cover>		
	Standard turning diameter	mm (in.)	200 (7.9)		
	Max. workpiece delivery diameter	mm (in.)	300 (11.8)		
	Max. turning length	mm (in.)	810 (31.8) <Max. length workpiece which can be machined using O.D. tool (with the workpiece supported at both ends)>		
	Bar work capacity	mm (in.)	65 (2.5)		
Travel	X-axis travel	mm (in.)	X1, X2: 210 (8.3)		
	Y-axis travel	mm (in.)	—	Y1: 110 (4.3) <+65 (2.6), -45 (1.8)>	Y1: 110 (4.3) <+65 (2.6), -45 (1.8)> Y2: 110 (4.3) <+45 (1.8), -65 (2.6)>
	Z-axis travel	mm (in.)	Z1, Z2: 810 (31.9)		
	B-axis travel (Spindle 2)	mm (in.)	870 (34.3)		
Spindle 1	Max. spindle speed	min^{-1}	5,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_2-6		
	Through-spindle hole diameter	mm (in.)	73 (2.9)		
	Spindle bearing inner diameter	mm (in.)	120 (4.7)		
	Min. spindle indexing increment		0.001°		
Spindle 2	Max. spindle speed	min^{-1}	5,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_2-6		
	Through-spindle hole diameter	mm (in.)	73 (2.9)		
	Spindle bearing inner diameter	mm (in.)	120 (4.7)		
	Min. spindle indexing increment		0.001°		
Turret	Turret type		16-station×2		
	Number of tool stations		16×2=32		
	Shank height for square tool	mm (in.)	20 (0.8)		
	Height of boring bar shank part	mm (in.)	32 (1.3)		
	Turret indexing time (1-station)	sec.	0.18		
	Max. rotary tool spindle speed	min^{-1}	6,000 [12,000]		
	Rotary tool machining ability	mm (in.)	Tap: M16, Drill: ϕ16 (ϕ0.6)		
Feedrate	Rapid traverse rate	mm/min (ipm)	X1, X2: 30,000 (1,181.1) Z1, Z2: 50,000 (1,968.5)	X1, X2: 30,000 (1,181.1) Y1: 20,000 (787.4) Z1, Z2: 50,000 (1,968.5)	X1, X2: 30,000 (1,181.1) Y1, Y2: 20,000 (787.4) Z1, Z2: 50,000 (1,968.5)
	Jog feedrate	mm/min (ipm)	0—5,000 (196.9)		
Motors	Spindle 1 drive motor <30 min./cont>	kW (HP)	25/22 (33.3/30) [25/22 (33.3/30) <High-torque>]		
	Spindle 2 drive motor <30 min./cont>	kW (HP)	25/22 (33.3/30) [25/22 (33.3/30) <High-torque>]		
	Rotary tool spindle drive motor <30 min./cont>	kW (HP)	7.5/5.5 (10/7.5)		
	Feed motor	kW (HP)	X1: 3.0 (4.0) X2: 1.2 (1.6)×2 Z1, Z2: 4.0 (5.3)	X1: 3.0 (4.0), X2: 1.2 (1.6)×2 Y1: 4.0 (5.3) Z1, Z2: 4.0 (5.3)	X1: 3.0 (4.0) X2: 2.5 (3.3)×2 Y1: 4.0 (5.3), Y2: 2.5 (3.3) Z1, Z2: 4.0 (5.3)
	Hydraulic pump motor	kW (HP)	1.5 (2.0) or equivalent		
	Lubricanting oil pump motor	kW (HP)	0.017 (0.02)		
	Coolant pump motor	kW (HP)	0.325/0.520 (0.43/0.69)		
	Cooling oil motor <50/60 Hz>	kW (HP)	4.2/4.7 (5.6/6.2)		
Power sources (Standard)	Electrical power supply <cont>	I94104A06 kVA	81.6	85.0	89.4
	Compressed air supply	MPa, L/min (psi/gpm)	0.5, 200 (72.5, 52.8) <ANR>		
Tank capacity	Hydraulic oil tank capacity	L (gal.)	10 (2.6)		
	Lubricanting oil tank capacity	L (gal.)	4.2 (1.1)		
	Coolant tank capacity	L (gal.)	400 (105.6)		
	Oil cooler tank capacity	L (gal.)	52 (13.7)		
Machine size	Machine height <From floor>	mm (in.)	2,320 (91.3) <Without automatic door>		
	Floor space <Width×Depth>	mm (in.)	3,930 (154.7) <Machine: 3,680 (144.9)+tank: 250 (9.8)> [chip conveyor right disposal: +1,190 (46.9)]×2,740 (107.9)		
	Mass of machine	kg (lb.)	8,200 (18,040)	8,300 (18,260)	8,500 (18,700)

[ ] Option

NZX1500_2000 (120302)

- Bar work capacity: Depending on the chuck cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- 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: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℃ (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 March 2012.
- JIS: Japanese Industrial Standard

Machine specifications

Item			NZX2000/800ST	NZX2000/800STY2	NZX2000/800STY3
Capacity	Swing over bed	mm (in.)	800 (31.5)		
	Swing over cross slide	mm (in.)	800 (31.5)		
	Max. distance between spindle large noses	mm (in.)	1,130 (44.4)		
	Max. turning diameter	mm (in.)	320 (12.5) <Interference with the cover>		
	Standard turning diameter	mm (in.)	200 (7.9)		
	Max. workpiece delivery diameter	mm (in.)	300 (11.8)		
	Max. turning length	mm (in.)	810 (31.8) (Max. length workpiece which can be machined using O.D. tool on Turret 2 <with the workpiece supported at both ends>)		
	Bar work capacity	mm (in.)	65 (2.5)		
Travel	X-axis travel	mm (in.)	X1, X2, X3: 210 (8.3)		
	Y-axis travel	mm (in.)	—	Y1: 110 (4.3) <+65 (2.6), -45 (1.8)> Y2: 110 (4.3) <+45 (1.8), -65 (2.6)>	Y1, Y3: 110 (4.3) <+65 (2.6), -45 (1.8)> Y2: 110 (4.3) <+45 (1.8), -65 (2.6)>
	Z-axis travel	mm (in.)	Z1, Z3: 300 (11.8) <+100*(3.9)>, Z2: 810 (31.9)		
	B-axis travel (Spindle 2)	mm (in.)	870 (34.3)		
Spindle 1	Max. spindle speed	min^{-1}	5,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_{2}-6		
	Through-spindle hole diameter	mm (in.)	73 (2.9)		
	Spindle bearing inner diameter	mm (in.)	120 (4.7)		
	Min. spindle indexing increment		0.001°		
Spindle 2	Max. spindle speed	min^{-1}	5,000		
	Number of spindle speed ranges	Stage	2		
	Spindle nose		JIS A_{2}-6		
	Through-spindle hole diameter	mm (in.)	73 (2.9)		
	Spindle bearing inner diameter	mm (in.)	120 (4.7)		
	Min. spindle indexing increment		0.001°		
Turret	Turret type		16-station×3		
	Number of tool stations		16×3=48		
	Shank height for square tool	mm (in.)	20 (0.8)		
	Height of boring bar shank part	mm (in.)	32 (1.3)		
	Turret indexing time (1-station)	sec.	0.18		
	Max. rotary tool spindle speed	min^{-1}	6,000 [12,000]		
	Rotary tool machining ability	mm (in.)	Tap: M16, Drill: ϕ16 (ϕ0.6)		
Feedrate	Rapid traverse rate	mm/min (ipm)	X1, X2, X3: 30,000 (1,181.1) Z1, Z2, Z3: 50,000 (1,968.5)	X1, X2, X3: 30,000 (1,181.1) Y1, Y2: 20,000 (787.4) Z1, Z2, Z3: 50,000 (1,968.5)	X1, X2, X3: 30,000 (1,181.1) Y1, Y2, Y3: 20,000 (787.4) Z1, Z2, Z3: 50,000 (1,968.5)
	Jog feedrate	mm/min (ipm)	0—5,000 (196.9)		
Motors	Spindle 1 drive motor <30 min./cont>	kW (HP)	25/22 (33.3/30) [25/22 (33.3/30) <High-torque>]		
	Spindle 2 drive motor <30 min./cont>	kW (HP)	25/22 (33.3/30) [25/22 (33.3/30) <High-torque>]		
	Rotary tool spindle drive motor <30 min./cont>	kW (HP)	7.5/5.5 (10/7.5)		
	Feed motor	kW (HP)	X1, X3: 3.0 (4.0) X2: 1.2 (1.6)×2 Z1, Z2, Z3: 4.0 (5.3)	X1, X3: 3.0 (4.0), X2: 1.2 (1.6)×2 Y1: 4.0 (5.3), Y2: 2.5 (3.3) Z1, Z2, Z3: 4.0 (5.3)	X1, X3: 3.0 (4.0), X2: 1.2 (1.6)×2 Y1, Y3: 4.0 (5.3), Y2: 2.5 (3.3) Z1, Z2, Z3: 4.0 (5.3)
	Hydraulic pump motor	kW (HP)	1.5 (2.0) or equivalent		
	Lubricanting oil pump motor	kW (HP)	0.017 (0.02)		
	Coolant pump motor	kW (HP)	0.325/0.520 (0.43/0.69)		
	Cooling oil motor <50/60 Hz>	kW (HP)	4.2/4.7 (5.6/6.2)		
Power sources (Standard)	Electrical power supply <cont>	I94104A06 kVA	88.3	92.7	96.1
	Compressed air supply	MPa, L/min (psi/gpm)	0.5, 200 (72.5, 52.8) <ANR>		
Tank capacity	Hydraulic oil tank capacity	L (gal.)	10 (2.6)		
	Lubricanting oil tank capacity	L (gal.)	4.2 (1.1)		
	Coolant tank capacity	L (gal.)	400 (105.6)		
	Oil cooler tank capacity	L (gal.)	52 (13.7)		
Machine size	Machine height <From floor>	mm (in.)	2,320 (91.3) <Without automatic door>		
	Floor space <Width×Depth>	mm (in.)	3,930 (154.7) <Machine: 3,680 (144.9)+tank: 250 (9.8)> [chip conveyor right disposal: +1,190 (46.9)]×2,740 (107.9)		
	Mass of machine	kg (lb.)	9,100 (20,020)	9,400 (20,680)	9,500 (20,900)

[ ] Option

NZX1500_2000 (120302)

- Bar work capacity: Depending on the chuck cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- 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: 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.

*When one turret is moving in the plus direction, another turret moves in the minus direction.

- The information in this catalog is valid as of March 2012.
- JIS: Japanese Industrial Standard

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.

- 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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	Nara No. 2 Plant	☐ 106 Kita-Koriyama-cho, Yamato-Koriyama City, Nara 639-1160, Japan	Phone: +81-743-53-1125
Iga Campus		☐ 201 Midai, Iga City, Mie 519-1414, Japan	Phone: +81-595-45-4151
Chiba Campus		☐ 488-19 Suzumi-cho, Funabashi City, Chiba 274-0052, Japan	Phone: +81-47-410-8800

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