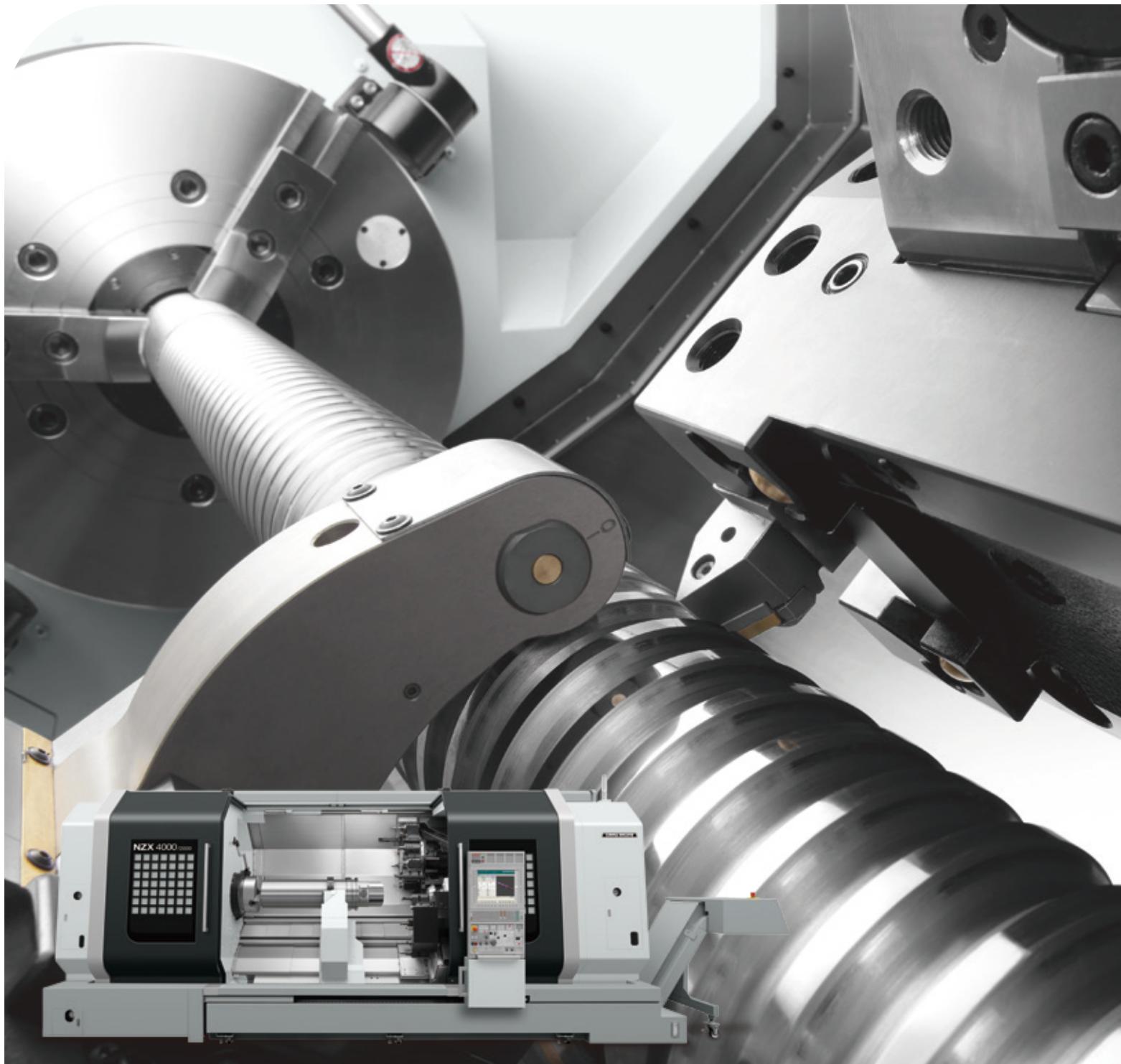


High-Precision, High-Efficiency Multi-Axis Turning Center

NZX4000
NZX6000

NZX4000 / NZX6000



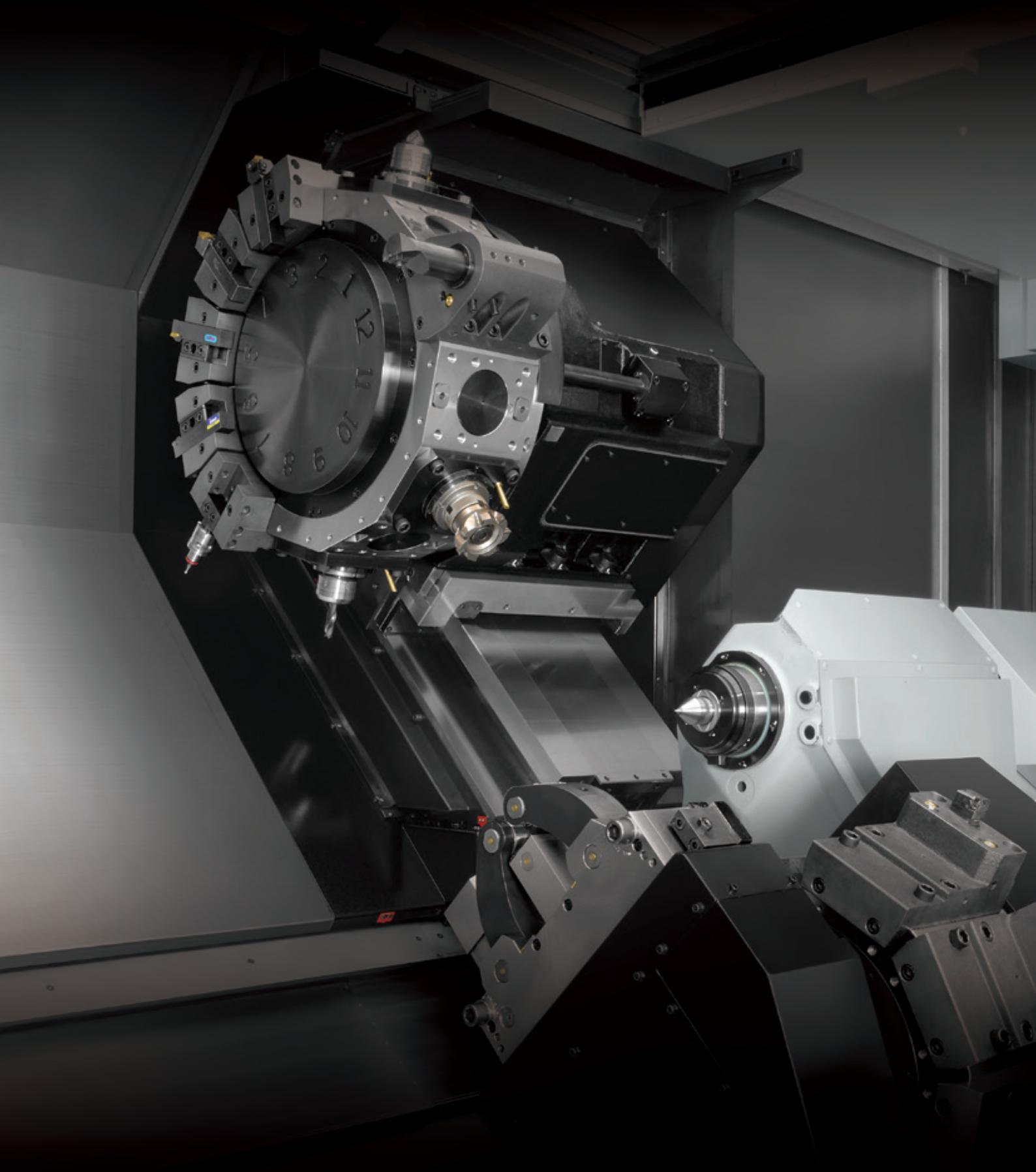
Large-scale high-efficiency 4-axis turning center that achieves the ultimate in productivity with long and large diameter workpieces

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.





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- 04 Main features
- 07 High precision
- 08 Machining ability

- 10 Improved workability, Maintenance/
Peripheral equipment
- 12 MAPPS IV

- 16 Environmental performance
- 17 Diagrams
- 28 Specifications

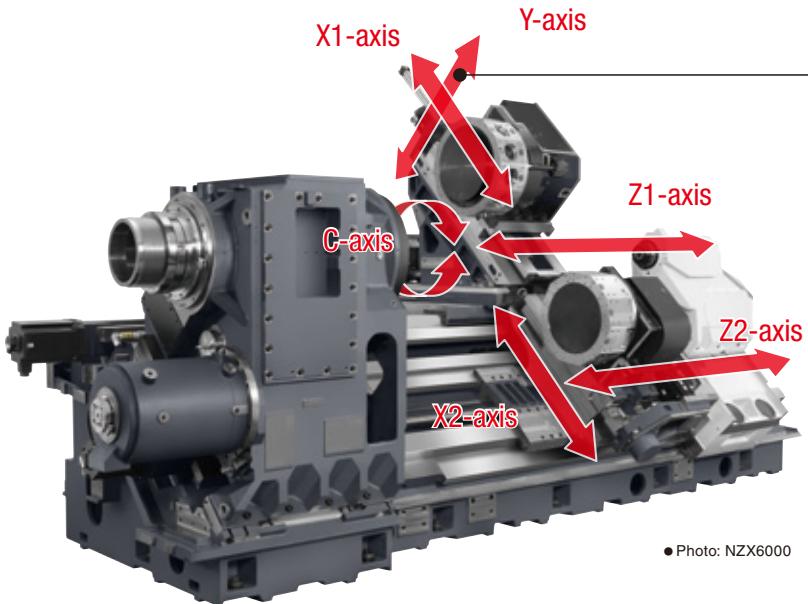
BMT: Built-in Motor Turret

MAPPS: Mori Advanced Programming Production System

• Figures in inches were converted from metric measurements.

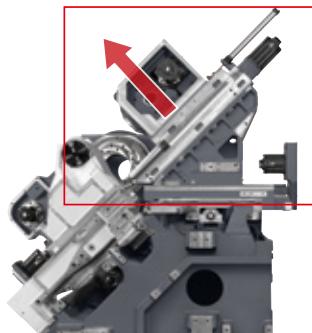
Main features

Basic structure



■ Y-axis (Y-axis specifications)

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

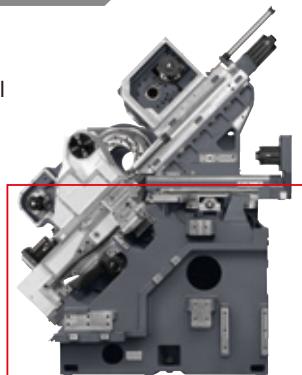


Travel

	NZX4000		NZX6000		
	/1000	/2000	/1000	/2000	/4000
X-axis	Turret 1	385 mm (15.1 in.)		485 mm (19.0 in.)	
	Turret 2	235 mm (9.2 in.)		340 mm (13.3 in.)	
Y-axis <Y-axis specifications>	Turret 1	±70 mm (±2.7 in.)		±100 mm (3.9 in.)	
	Turret 1	1,100 mm (43.3 in.)	2,100 mm (82.6 in.)	1,300 mm (51.1 in.)	2,150 mm (84.6 in.)
Z-axis	Turret 2	1,000 mm (39.3 in.)	2,000 mm (78.7 in.)	1,000 mm (39.3 in.)	1,990 mm (78.3 in.)
					3,990 mm (157.0 in.)

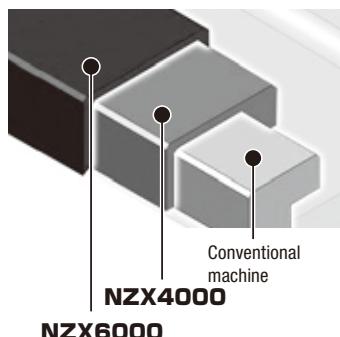
High-rigidity trapezoidal bed

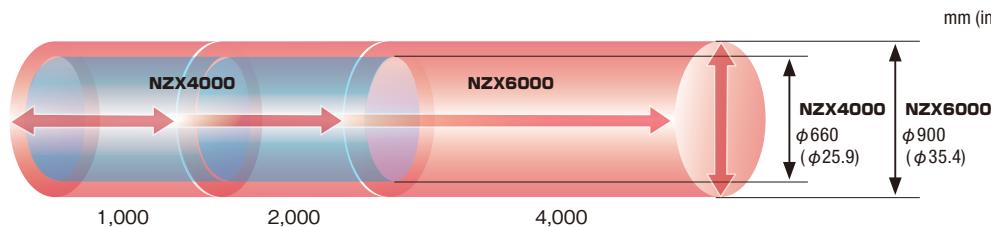
The basic structure using thick trapezoidal bed offers high torsional rigidity.



Guideway width

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



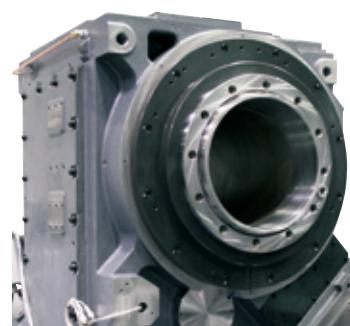
Workpiece size

	NZX4000		NZX6000		
	/1000	/2000	/1000	/2000	/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.)	1,000 mm (39.3 in.)	2,000 mm (78.7 in.)
	Turret 2	862 mm (33.9 in.)	1,862 mm (73.3 in.)	840 mm (33.0 in.)	1,840 mm (72.4 in.)
					4,000 mm (157.4 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
ϕ 145 mm (ϕ 5.7 in.)	Standard	37/30 kW (50/40 HP)
	High output [OP]	45/37 kW (60/50 HP)
ϕ 185 mm (ϕ 7.2 in.) [OP]	Standard	37/30 kW (50/40 HP)
	High output [OP]	45/37 kW (60/50 HP)
	High output [OP]	75/55 kW (100/75 HP)
ϕ 285 mm (ϕ 11.2 in.) [OP]	Standard	37/30 kW (50/40 HP)
	High output [OP]	45/37 kW (60/50 HP)
	High output [OP]	75/55 kW (100/75 HP)



● Photo: NZX4000

NZX6000

Through-spindle hole diameter	Spindle drive motor (30 min./cont)	Max. spindle speed
ϕ 285 mm (ϕ 11.2 in.)	Standard	45/37 kW (60/50 HP)
	High output [OP]	75/55 kW (100/75 HP)
ϕ 375 mm (ϕ 14.7 in.) [OP]	Standard	45/37 kW (60/50 HP)
	High output [OP]	75/55 kW (100/75 HP)
ϕ 560 mm (ϕ 22.0 in.) [OP]	Standard	45/37 kW (60/50 HP)
	High output [OP]	75/55 kW (100/75 HP)

Main features

Turret

Item	NZX4000			NZX6000		
	Turning specifications	Milling specifications	Y-axis specifications	Turning specifications	Milling specifications	Y-axis specifications
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⁻¹			3,500 min⁻¹	



● Photo: NZX6000

Built-in Motor Turret (Milling or Y-axis specifications)



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**

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 specifications	φ 145 mm (φ 5.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)	6 models	
		φ 185 mm (φ 7.2 in.)			
		φ 285 mm (φ 11.2 in.)			
	Milling specifications	φ 145 mm (φ 5.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)		
		φ 185 mm (φ 7.2 in.)			
		φ 285 mm (φ 11.2 in.)			
	Y-axis specifications (Milling+Y-axis)	φ 145 mm (φ 5.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)		
		φ 185 mm (φ 7.2 in.)			
		φ 285 mm (φ 11.2 in.)			
NZX6000	Turning specifications	φ 285 mm (φ 11.2 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/ 4,000 mm (157.5 in.)	8 models	
		φ 375 mm (φ 14.7 in.)			
		φ 560 mm (φ 22.0 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)		
	Milling specifications	φ 285 mm (φ 11.2 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/ 4,000 mm (157.5 in.)	6 models	
		φ 375 mm (φ 14.7 in.)			
		Y-axis specifications (Milling+Y-axis)	φ 285 mm (φ 11.2 in.)		
		φ 375 mm (φ 14.7 in.)	1,000 mm (39.4 in.)/2,000 mm (78.7 in.)/ 4,000 mm (157.5 in.)		

BMT: Built-in Motor Turret

High-precision equipment

Full closed loop control <Scale feedback> (X-axis)



An absolute magnetic linear scale (full closed-loop control) made by Magnescale 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 µm

Magnescale

- Optional for the Z-axis.

Coolant chiller (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 our sales representative.

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



High-accuracy data

Circularity (Turning)

Material: Brass

NZX4000/2000

<Through-spindle hole diameter: φ 285 mm (φ 11.2 in.), Y-axis specification>

0.9 µm <Actual results>

Tool	□20 Diamond tool
Cutting speed	314 m/min (1,030.2 fpm)
Spindle speed	1,000 min ⁻¹
Depth of cut	0.1 mm (0.004 in.)
Feedrate	0.05 mm/rev (0.002 ipr)

Surface roughness (Turning)

Material: Brass

NZX4000/2000

<Through-spindle hole diameter: φ 285 mm (φ 11.2 in.), Y-axis specification>

0.34 µm Ra <Actual results>

Tool	□20 Diamond tool
Cutting speed	314 m/min (1,030.2 fpm)
Spindle speed	1,000 min ⁻¹
Depth of cut	0.1 mm (0.004 in.)
Feedrate	0.05 mm/rev (0.002 ipr)

Circularity (Turning)

Material: Brass

NZX6000/2000

<Through-spindle hole diameter: φ 375 mm (φ 14.7 in.)>

1.3 µm <Actual results>

Tool	□20 Diamond tool
Cutting speed	188 m/min (616.8 fpm)
Spindle speed	300 min ⁻¹
Depth of cut	0.1 mm (0.004 in.)
Feedrate	0.05 mm/rev (0.002 ipr)

Surface roughness (Turning)

Material: Brass

NZX6000/2000

<Through-spindle hole diameter: φ 375 mm (φ 14.7 in.), Y-axis specification>

0.27 µm Ra <Actual results>

Tool	□20 Diamond tool
Cutting speed	377 m/min (1,236.9 fpm)
Spindle speed	600 min ⁻¹
Depth of cut	0.01 mm (0.0004 in.)
Feedrate	0.05 mm/rev (0.002 ipr)

● The cutting test results indicated in this catalog are provided as examples.

The results indicated in this catalog may not be obtained due to differences in cutting conditions and environmental conditions during measurement.

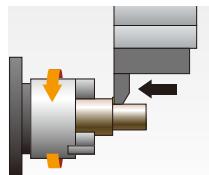
Cutting test

Turning

Material <JIS>: S45C*

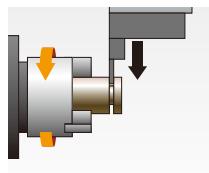
NZX4000/2000 <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ mm), Y-axis specification>

■ Heavy-duty cutting (O.D.)



Material removal rate	1,365.6 mL/min (83.3 in³./min)
Cutting speed	120 m/min (393.7 fpm)
Spindle speed	172 min⁻¹
Depth of cut	12 mm (0.5 in.)
Feedrate	0.9 mm/rev (0.04 ipr)

■ O.D. Grooving



Width of cut	9 mm (0.4 in.)
Cutting speed	100 m/min (328.1 fpm)
Spindle speed	107 min⁻¹
Feedrate	0.1 mm/rev (0.004 ipr)

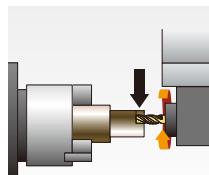
* 1045·1046 (ANSI)、C45·C45E·C45R (BS, DIN)、45 (GB)

Milling

Material <JIS>: S45C*

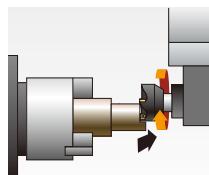
NZX4000/2000 <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ mm), Y-axis specification>

■ End mill



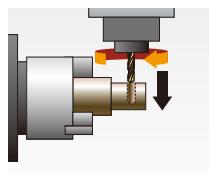
Material removal rate	86.4 mL/min (5.2 in³./min)
Tool diameter	$\phi 32$ mm ($\phi 1\frac{1}{4}$ in.)
Cutting speed	30 m/min (98.4 fpm)
Rotary tool spindle speed range	300 min⁻¹
Depth of cut	20 mm (0.8 in.)
Feedrate	135 mm/min (5.3 ipm)

■ Face mill (End face direction)



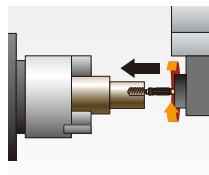
Material removal rate	179.2 mL/min (10.9 in³./min)
Tool diameter	$\phi 80$ mm ($\phi 3.1$ in.)
Rotary tool spindle speed range	1,000 min⁻¹
Cutting speed	250 m/min (820.3 fpm)
Feedrate	560 mm/min (22.0 ipm)
Depth of cut	4 mm (0.16 in.)

■ Drill (O.D. direction)



Tool diameter	$\phi 40$ mm ($\phi 1\frac{1}{2}$ in.)
Rotary tool spindle speed range	200 min⁻¹
Cutting speed	25 m/min (82.0 fpm)
Feedrate	40 mm/min (1.6 ipm)

■ Tap (End face direction)



Tool	M33×P3.5
Cutting speed	10 m/min (32.8 fpm)
Rotary tool spindle speed range	96 min⁻¹
Feedrate	336 mm/min (13.2 ipm)

* 1045·1046 (ANSI)、C45·C45E·C45R (BS, DIN)、45 (GB)

JIS: Japanese Industrial Standard

● The cutting test results indicated in this catalog are provided as examples.

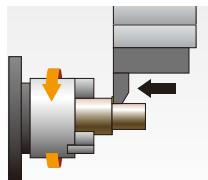
The results indicated in this catalog may not be obtained due to differences in cutting conditions and environmental conditions during measurement.

Turning

Material <JIS>: S45C*

NZX6000/2000 <Through-spindle hole diameter: $\phi 375$ mm ($\phi 14.7$ in.)>

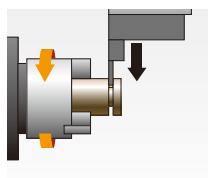
■ Heavy-duty cutting (O.D.)



Material removal rate **1,390 mL/min (84.8 in³/min)**

Cutting speed 120 m/min (393.7 fpm)
Spindle speed 244 min⁻¹
Depth of cut 12 mm (0.5 in.)
Feedrate 0.9 mm/rev (0.04 ipr)

■ O.D. Grooving



Width of cut **9 mm (0.4 in.)**

Cutting speed 100 m/min (328.1 fpm)
Spindle speed 159 min⁻¹
Feedrate 0.1 mm/rev (0.004 ipr)

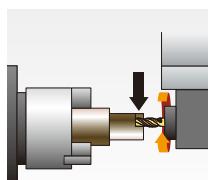
* 1045·1046 (ANSI), C45·C45E·C45R (BS, DIN), 45 (GB)

Milling

Material <JIS>: S45C*

NZX6000/2000 <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ mm), Y-axis specification>

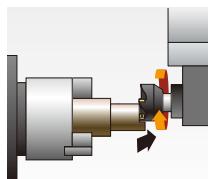
■ End mill



Material removal rate **129 mL/min (7.9 in³/min)**

Tool diameter $\phi 32$ mm ($\phi 1\frac{1}{4}$ in.)
Cutting speed 30 m/min (98.4 fpm)
Rotary tool spindle speed range 300 min⁻¹
Depth of cut 30 mm (1.2 in.)
Feedrate 135 mm/min (5.3 ipm)

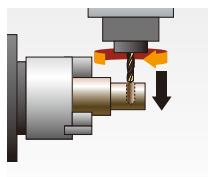
■ Face mill (End face direction)



Material removal rate **268.8 mL/min (16.4 in³/min)**

Tool diameter $\phi 80$ mm ($\phi 3.1$ in.)
Rotary tool spindle speed range 1,000 min⁻¹
Cutting speed 250 m/min (820.3 fpm)
Feedrate 1,050 mm/min (41.3 ipm)
Depth of cut 4 mm (0.16 in.)

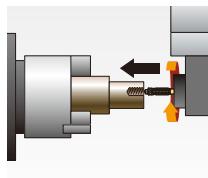
■ Drill (O.D. direction)



Tool diameter **$\phi 40$ mm ($\phi 1\frac{1}{2}$ in.)**

Rotary tool spindle speed range 200 min⁻¹
Cutting speed 25 m/min (82.0 fpm)
Feedrate 80 mm/min (3.1 ipm)

■ Tap (End face direction)



Tool **M36×P4.0**

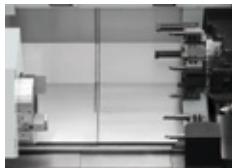
Cutting speed 10 m/min (32.8 fpm)
Rotary tool spindle speed range 88 min⁻¹
Feedrate 352 mm/min (13.9 ipm)

* 1045·1046 (ANSI), C45·C45E·C45R (BS, DIN), 45 (GB)

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 <NZX6000/4000>

OP

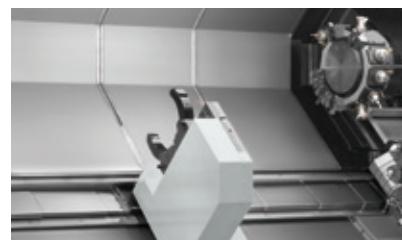
The long boring bar allows long, I.D. boring*.



Steady rests specifications

OP

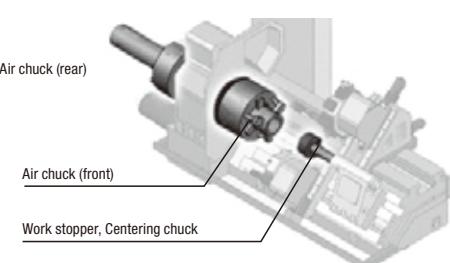
Up to two NC steady rests can be installed. The steady rests minimize run-out during machining of long workpieces, allowing high-precision machining.



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						
	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 ϕ 40 mm (ϕ 1.6 in.) or less
Long: bigger than the above

- The options table shows the general options when using coolant.
Changes may be necessary if you are not using coolant, or depending on the amount of coolant, compatibility with machines, or the specifications required.
- 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 our sales representative.
- Chip conveyors are available in various types for handling chips of different shape and material. For details, please consult our sales representative.

DMQP (DMG MORI Qualified Products) OP

Selected peripherals with superior quality, performance and maintainability.

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

Comprehensive support with machine + peripherals

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

Comprehensive support with machine + peripherals

DMQP

- Hydraulic steady rest
- Coolant chiller
- Mist collector

DMG MORI Service Center

■ Advantages of DMQP

- Qualified peripherals are arranged by DMG MORI
- Toll-free phone support is available 20 hours a day, 365 days a year
(Answering machine response: 3 am to 7 am <Japan Time>)
<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 chiller (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 DMQP items, please contact our sales representative.

MAPPS IV

High-Performance Operation System
for Multi-axis Turning Centers



● 19-inch operation panel

High-performance operation 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
- ▶ Cutting-edge 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'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.	Approx.
MAPPS IV	42 sec.	Reduced by 27%

* The reduction rate differs depending on the program.

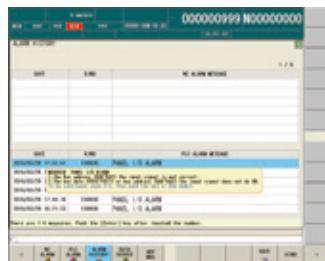
Main specifications

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

Improved ease of maintenance

Alarm help function

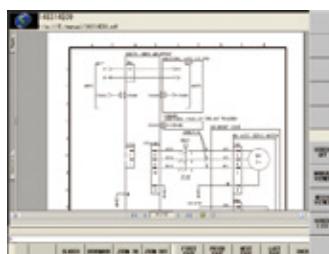
When an alarm occurs, MAPPS identifies the cause of the trouble and provides solutions.



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

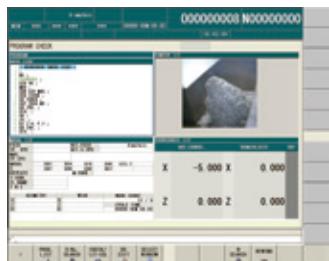
- PDF • TXT (Editable)
- Any file that can be displayed with Internet Explorer is available

Improved 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.



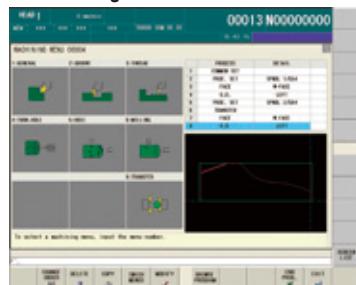
Examples of camera locations

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

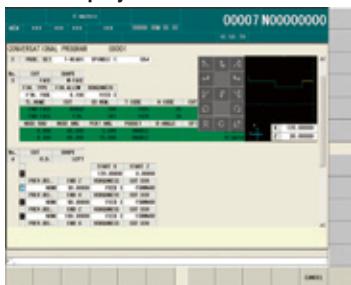
Conversational automatic programming

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.

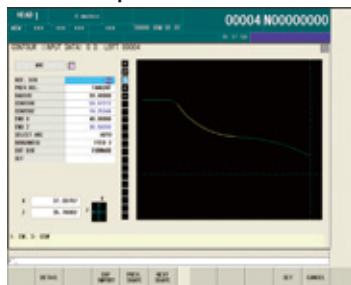
Machining menu



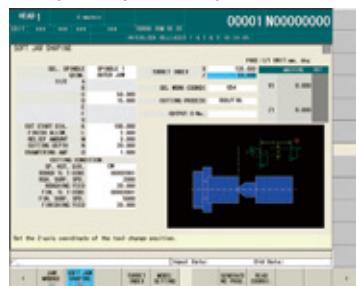
List display function



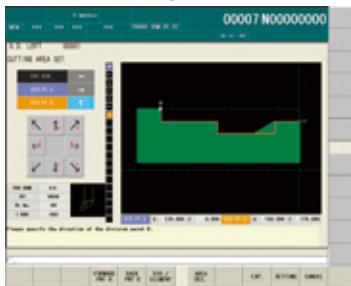
Contour input



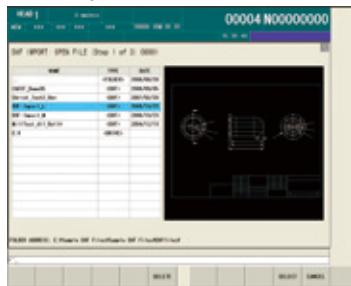
Simple soft jaw forming function



Relief machining



DXF import function



Application System

MORI Automatic Programming System for NZ/ZT

MORI-APNZ/ZT

OP

MORI-APNZ/ZT are application systems which let you create machining programs easily on your PC.

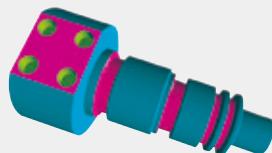


1. Simple programming



[Conversational automatic programming]

2. Reduce programming time



Simply enter the machining shape using conversational automatic programming and the machine automatically selects the necessary tools and cutting conditions.

3. Save costs



[On-line programming]

- Customers can easily convert conversational programs into NC programs.
- Cutting conditions can be changed on the MAPPS control.

- The photo shown may differ from actual machine.
- Information about the screen is current as of May 2019.

MORI-NETWORK

Network Application Systems

MORI-NET, MORI-SERVER, MORI-MONITOR, DMG MORI MESSENGER

For shorter total production time for all our customers

DMG MORI's software Line-up

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

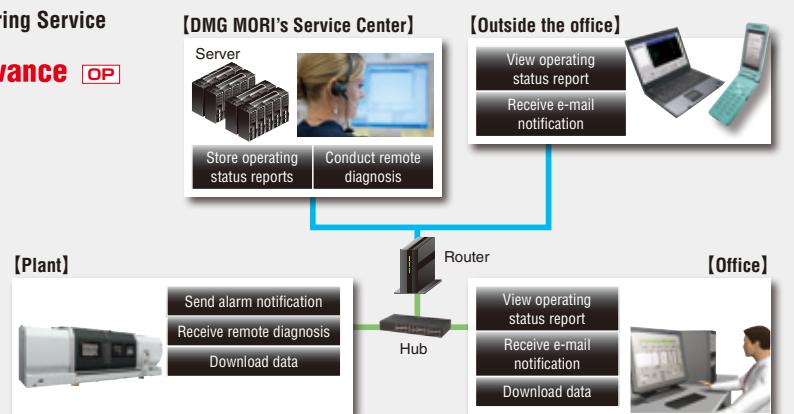
[Internet]
 [LAN]

Remote Maintenance/Machine Operation Monitoring Service

MORI-NET Global Edition Advance

■ Features

- Remote maintenance service by DMG MORI 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



■ Remote alarm support

When an alarm goes off, an alarm notification will be sent to the DMG MORI Service Center simply by pressing the "Send e-mail" button on MAPPS.

DMG MORI 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.

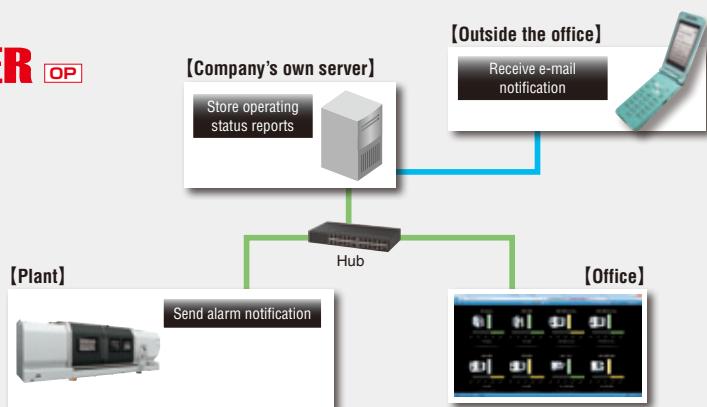


Machine Operation Monitoring System

DMG MORI MESSENGER

■ 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

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

Advanced Communication Technology

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

DMG MORI'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

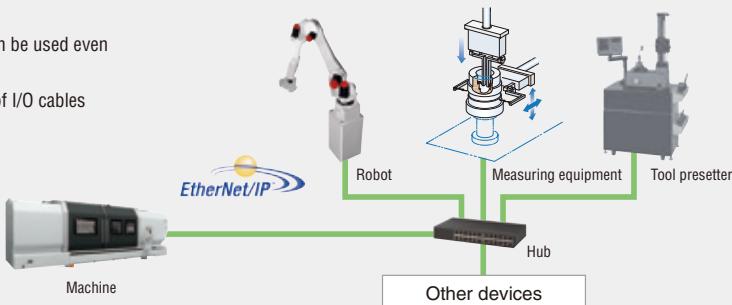
MAPPS EtherNet/IP I/F

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

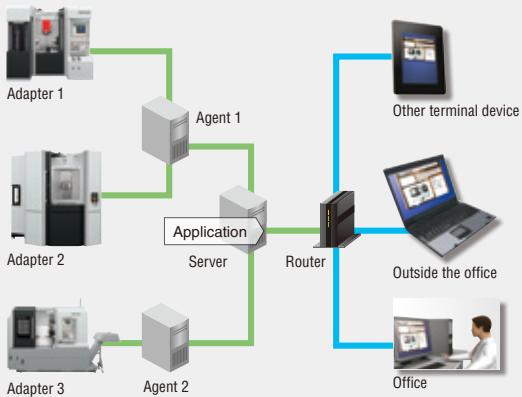
MAPPS MTConnect I/F

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

Operating efficiently, the machine reduces power consumption.



Automatic machine light function

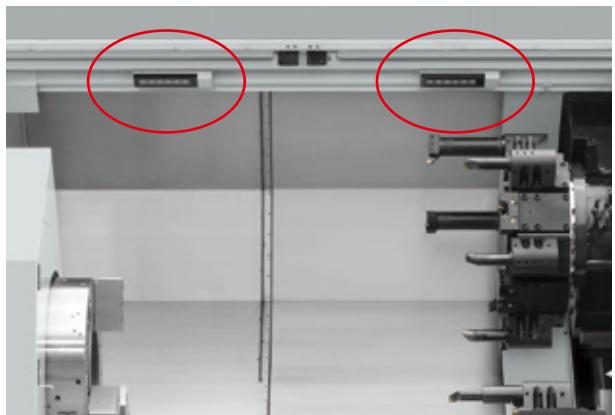
If the operation panel is not touched for a certain amount of time, the interior light automatically turns off. This saves energy and lengthens the life of the machine lights.

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.

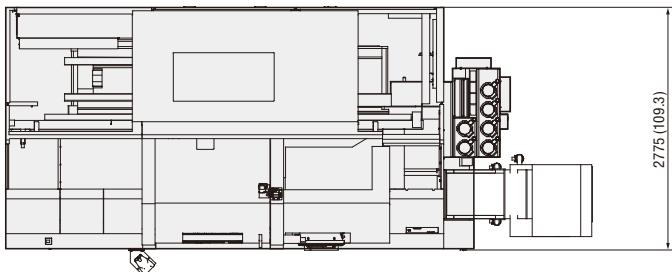


General view

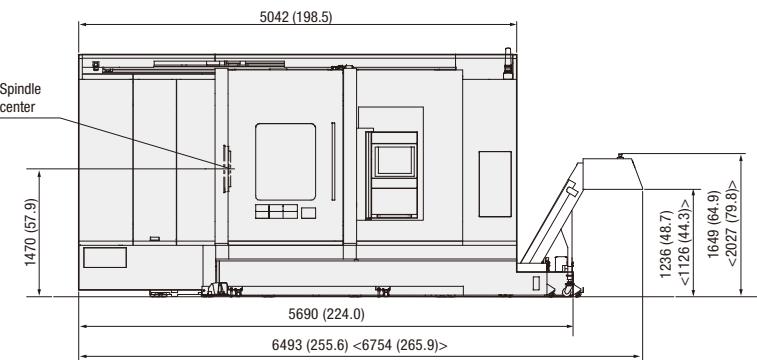
mm (in.)

NZX4000/1000

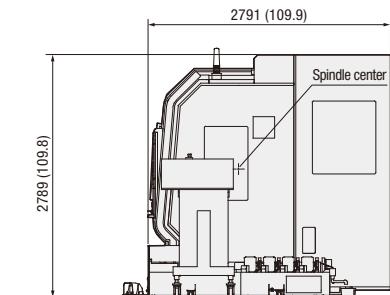
Plan view



Front view



Side view

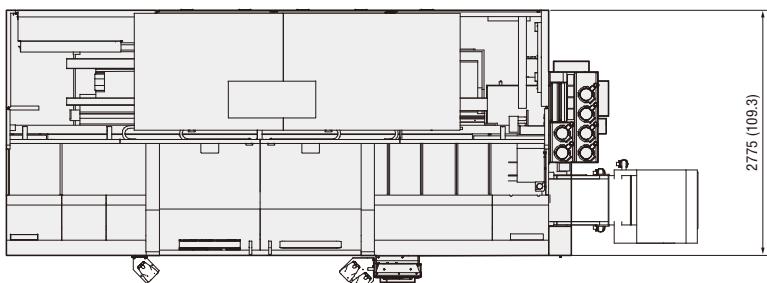


< > EN Standards

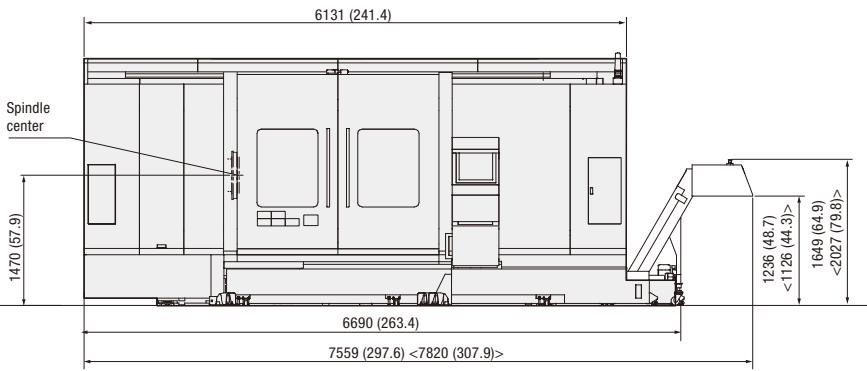
Q56102A02

NZX4000/2000

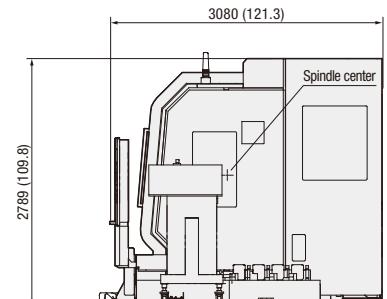
Plan view



Front view



Side view

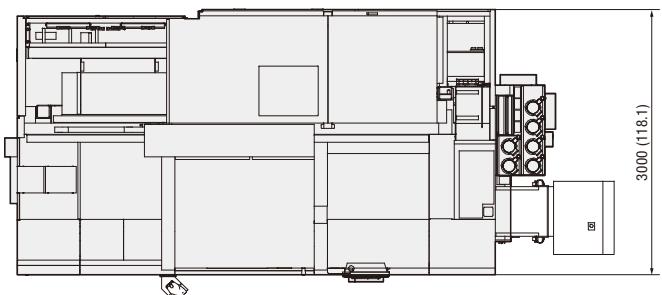
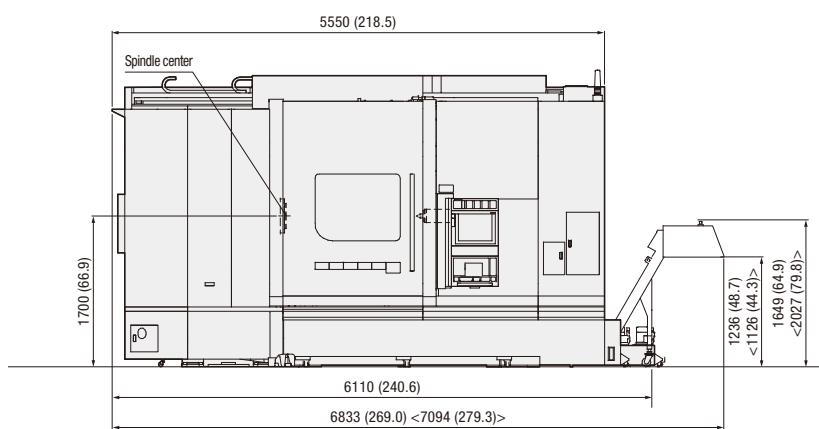
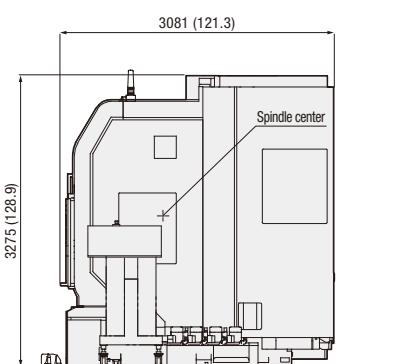
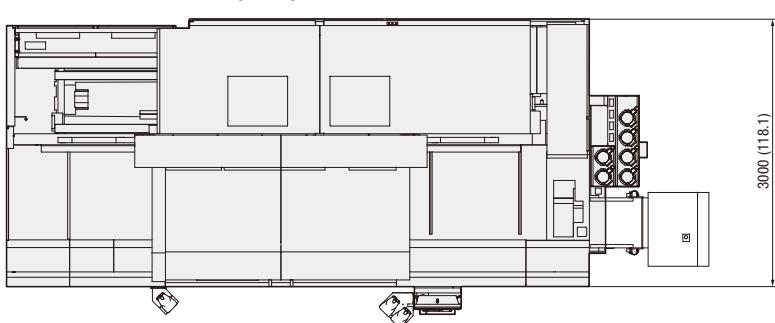
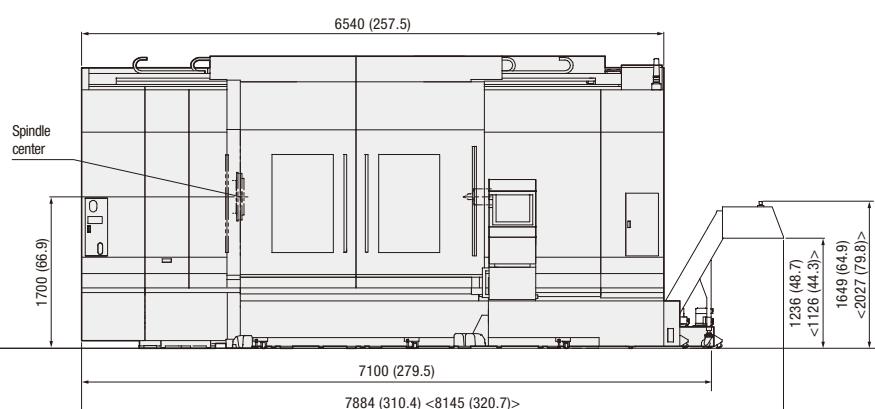
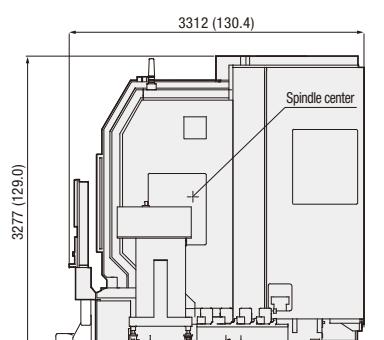


< > EN Standards

Q56091A02

● The machine width depends on the chuck cylinder model.

General view

NZX6000/1000**Plan view****Front view****Side view****NZX6000/2000****Plan view****Front view****Side view**

< > EN Standards

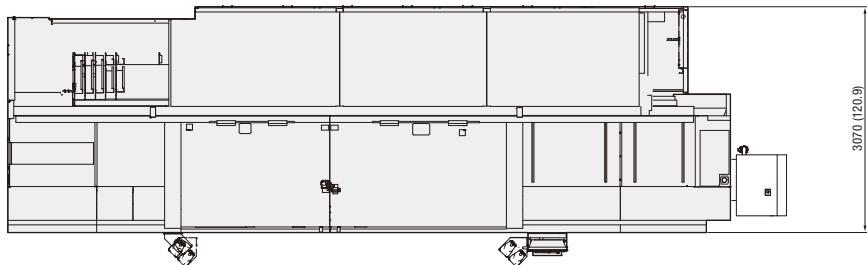
Q56009A04

● The machine width depends on the chuck cylinder model.

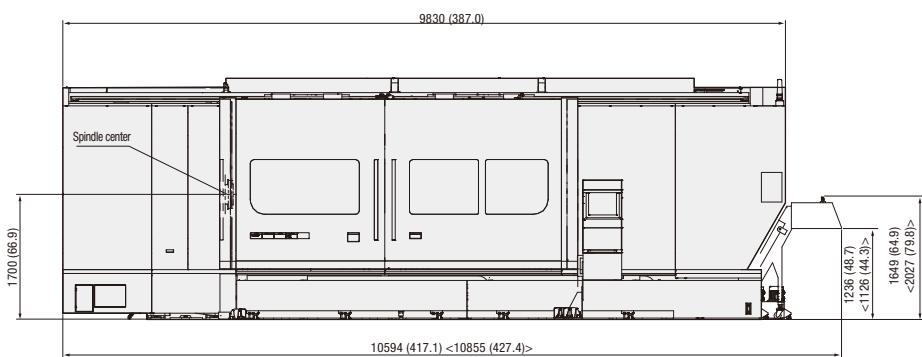
mm (in.)

NZX6000/4000

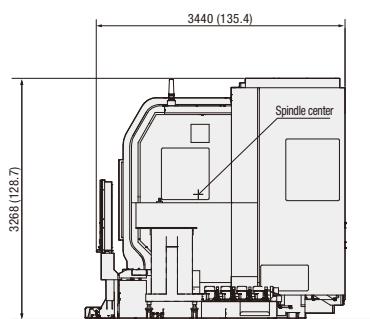
Plan view



Front view



Side view



< > EN Standards

Q56082A01

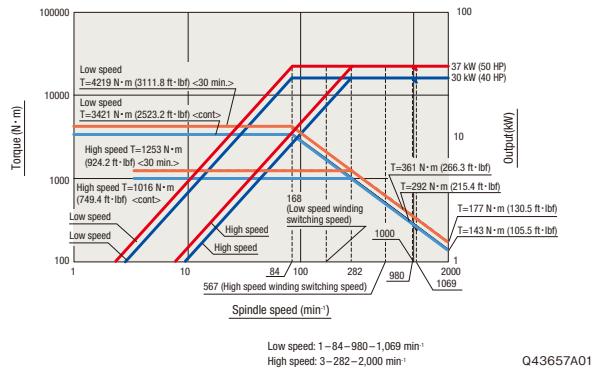
Spindle speed-torque/output-rotation speed diagram

NZX4000

■ Spindle <Through-spindle hole diameter: $\phi 145$ mm ($\phi 5.7$ in.)>

[Standard]

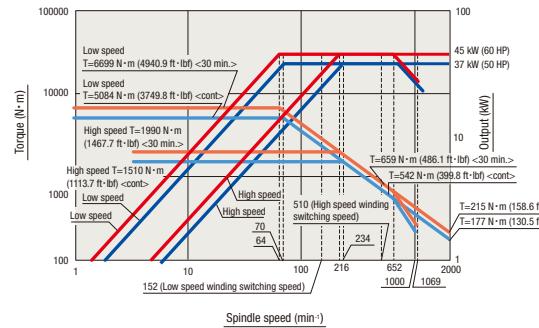
- Max. spindle speed: 2,000 min⁻¹
- Spindle drive motor: 37/30 kW (50/40 HP) <30 min./cont>
- Max. spindle torque: 4,219 N·m (3,111.8 ft-lbf) <30 min.>



Q43657A01

[High output OP]

- Max. spindle speed: 2,000 min⁻¹
- Spindle drive motor: 45/37 kW (60/50 HP) <30 min./cont>
- Max. spindle torque: 6,699 N·m (4,940.9 ft-lbf) <30 min.>

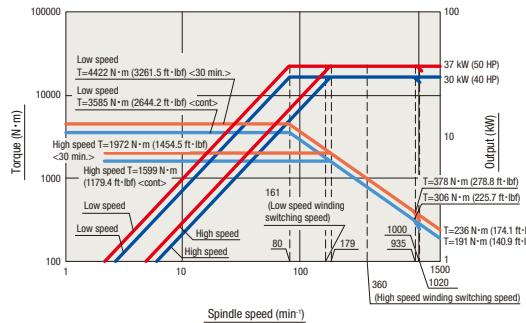


Q43656A01

■ Spindle <Through-spindle hole diameter: $\phi 185$ mm ($\phi 7.2$ in.)> [OP]

[Standard]

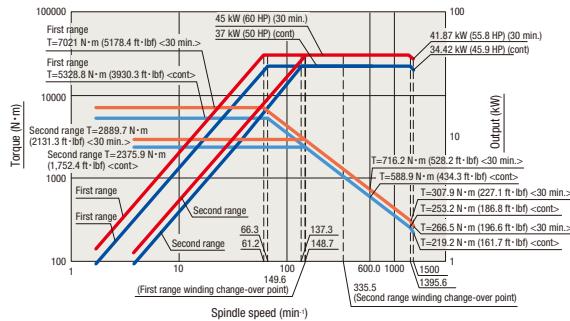
- Max. spindle speed: 1,500 min⁻¹
- Spindle drive motor: 37/30 kW (50/40 HP) <30 min./cont>
- Max. spindle torque: 4,422 N·m (3,261.5 ft-lbf) <30 min.>



Q43658A01

[High output OP]

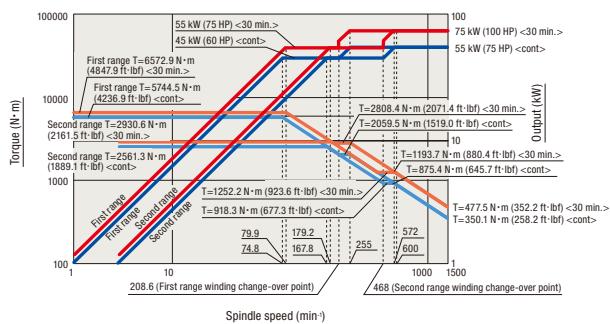
- Max. spindle speed: 1,500 min⁻¹
- Spindle drive motor: 45/37 kW (60/50 HP) <30 min./cont>
- Max. spindle torque: 7,021 N·m (5,178.4 ft-lbf) <30 min.>



Q43476A02

[High output OP]

- Max. spindle speed: 1,500 min⁻¹
- Spindle drive motor: 75/55 kW (100/75 HP) <30 min./cont>
- Max. spindle torque: 6,572.9 N·m (4,847.9 ft-lbf) <30 min.>

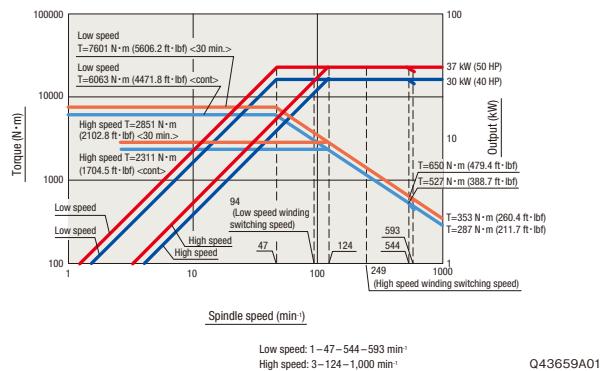


Q43477A02

■ Spindle <Through-spindle hole diameter: φ285 mm (φ11.2 in.)> [OP]

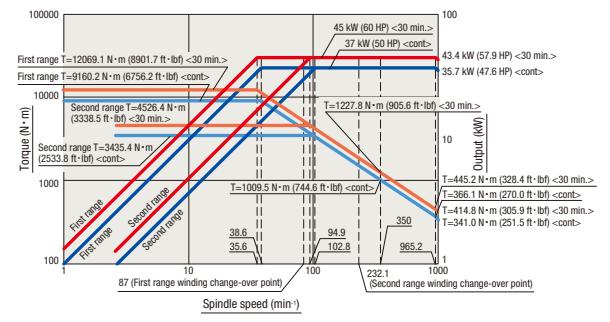
[Standard]

- Max. spindle speed: 1,000 min⁻¹
- Spindle drive motor: 37/30 kW (50/40 HP) <30 min./cont>
- Max. spindle torque: 7,601 N·m (5,606.2 ft-lbf) <30 min.>



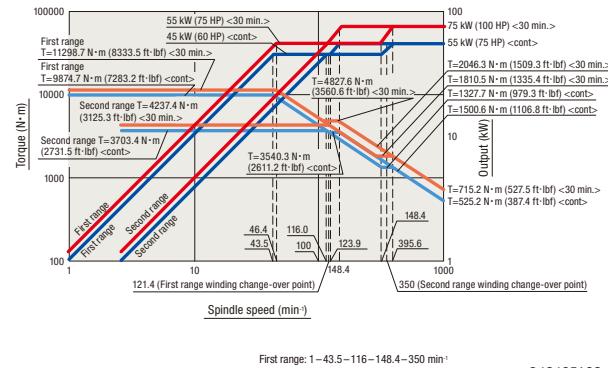
[High output [OP]]

- Max. spindle speed: 1,000 min⁻¹
- Spindle drive motor: 45/37 kW (60/50 HP) <30 min./cont>
- Max. spindle torque: 12,069.1 N·m (8,901.7 ft-lbf) <30 min.>



[High output [OP]]

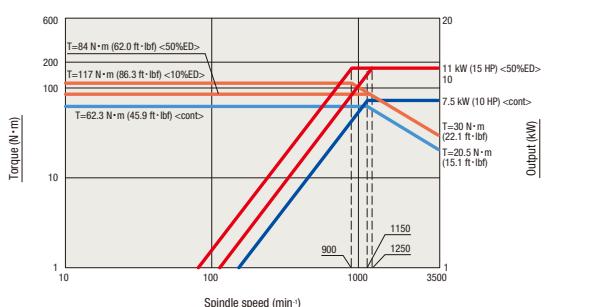
- Max. spindle speed: 1,000 min⁻¹
- Spindle drive motor: 75/55 kW (100/75 HP) <30 min./cont>
- Max. spindle torque: 11,298.7 N·m (8,333.5 ft-lbf) <30 min.>



■ Rotary tool spindle [OP]

[Milling or Y-axis specifications]

- Max. spindle speed: 3,500 min⁻¹
- Spindle drive motor: 11/7.5 kW (15/10 HP) <50%ED/cont>
- Max. spindle torque: 117 N·m (86.3 ft-lbf) <10%ED>



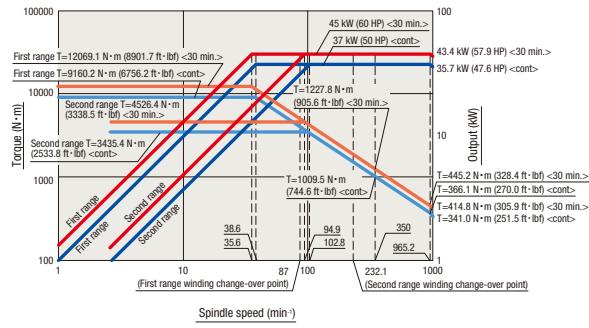
Spindle speed-torque/output-rotation speed diagram

NZX6000

■ Spindle <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ in.)>

[Standard]

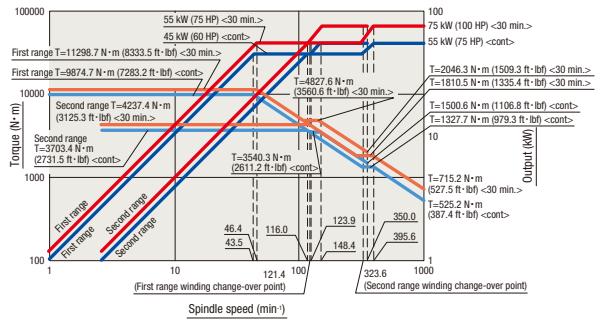
- Max. spindle speed: 1,000 min⁻¹
- Spindle drive motor: 45/37 kW (60/50HP) <30 min./cont>
- Max. spindle torque: 12,069.1 N·m (8,901.7 ft-lbf) <30 min.>



Q43464A02

[High output OP]

- Max. spindle speed: 1,000 min⁻¹
- Spindle drive motor: 75/55 kW (100/75HP) <30 min./cont>
- Max. spindle torque: 11,298.7 N·m (8,333.5 ft-lbf) <30 min.>

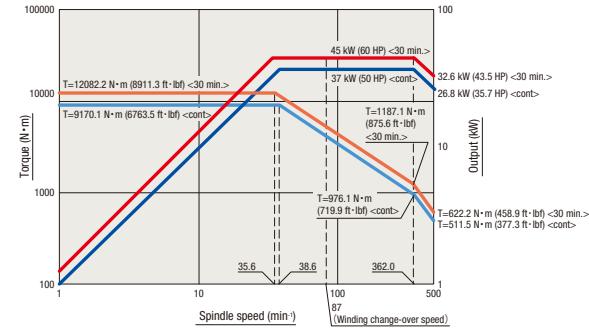


Q43465A02

■ Spindle <Through-spindle hole diameter: $\phi 375$ mm ($\phi 14.7$ in.)> OP

[Standard]

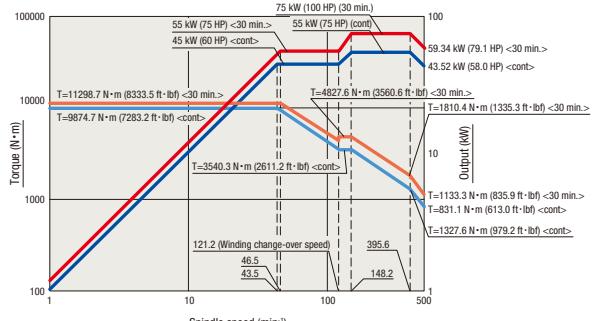
- Max. spindle speed: 500 min⁻¹
- Spindle drive motor: 45/37 kW (60/50HP) <30 min./cont>
- Max. spindle torque: 12,082.2 N·m (8,911.3 ft-lbf) <30 min.>



Q43458A02

[High output OP]

- Max. spindle speed: 500 min⁻¹
- Spindle drive motor: 75/55 kW (100/75HP) <30 min./cont>
- Max. spindle torque: 11,298.7 N·m (8,333.5 ft-lbf) <30 min.>

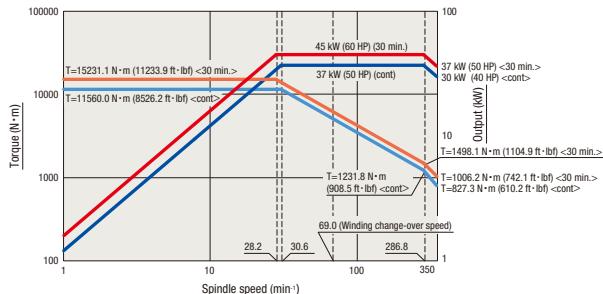


Q43462A02

■ Spindle <Through-spindle hole diameter: φ560 mm (φ22.0 in.)> [OP]

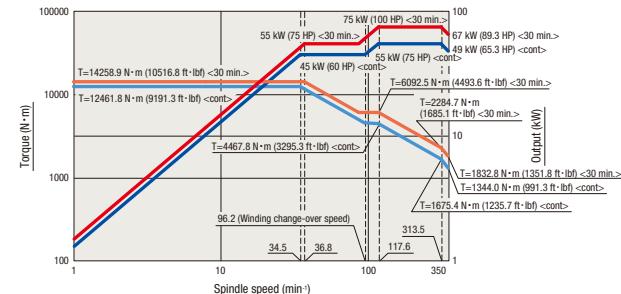
[Standard]

- Max. spindle speed: 350 min⁻¹
- Spindle drive motor: 45/37 kW (60/50HP) <30 min./cont>
- Max. spindle torque: 15,231.1 N·m (11,233.9 ft-lbf) <30 min.>



[High output [OP]]

- Max. spindle speed: 350 min⁻¹
- Spindle drive motor: 75/55 kW (100/75HP) <30 min./cont>
- Max. spindle torque: 14,258.9 N·m (10,516.8 ft-lbf) <30 min.>



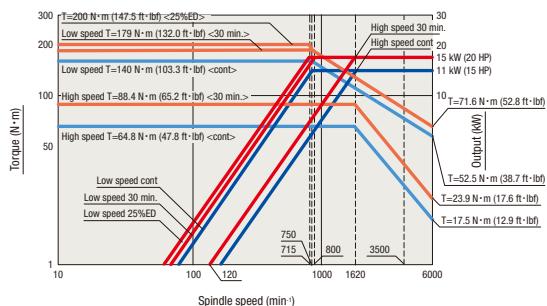
Q43678A01

Q43679A01

■ Rotary tool spindle [OP]

[Milling or Y-axis specifications]

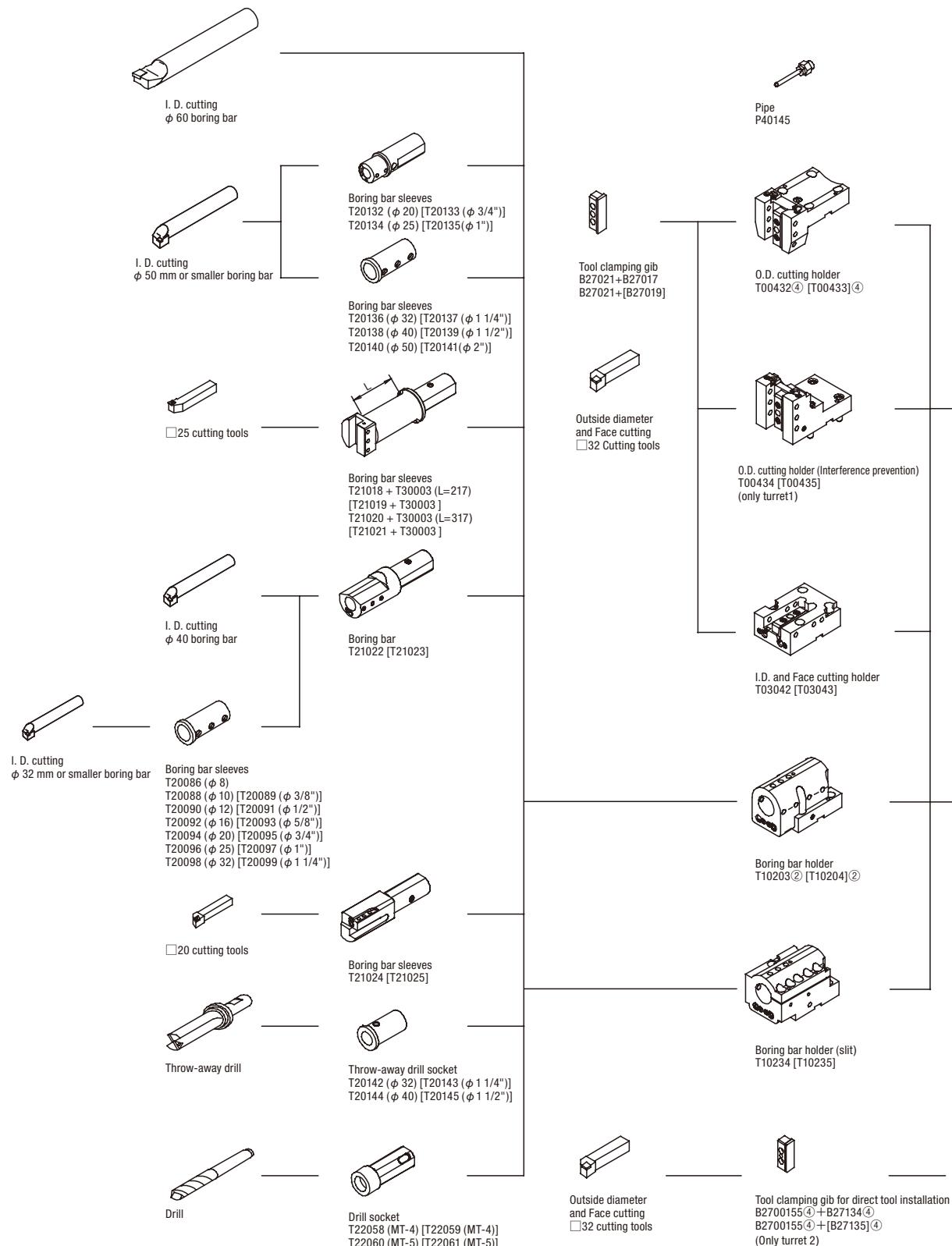
- Max. spindle speed: 6,000 min⁻¹
- Spindle drive motor: 15/11 kW (20/15HP) <30 min./cont>
- Max. spindle torque: 200 N·m (147.5 ft-lbf) <25%ED>



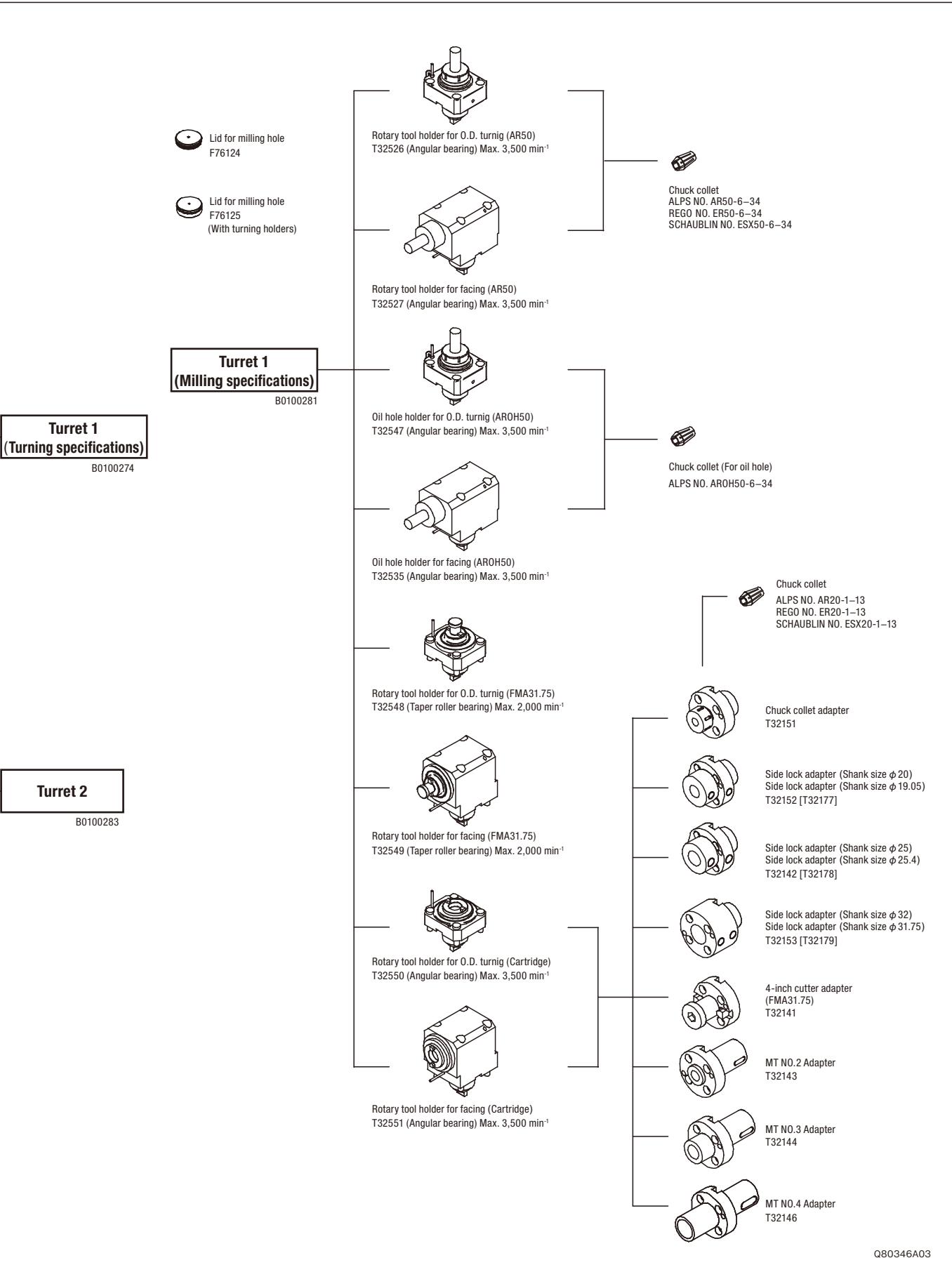
Q43471A01

Tooling system diagrams

NZX4000



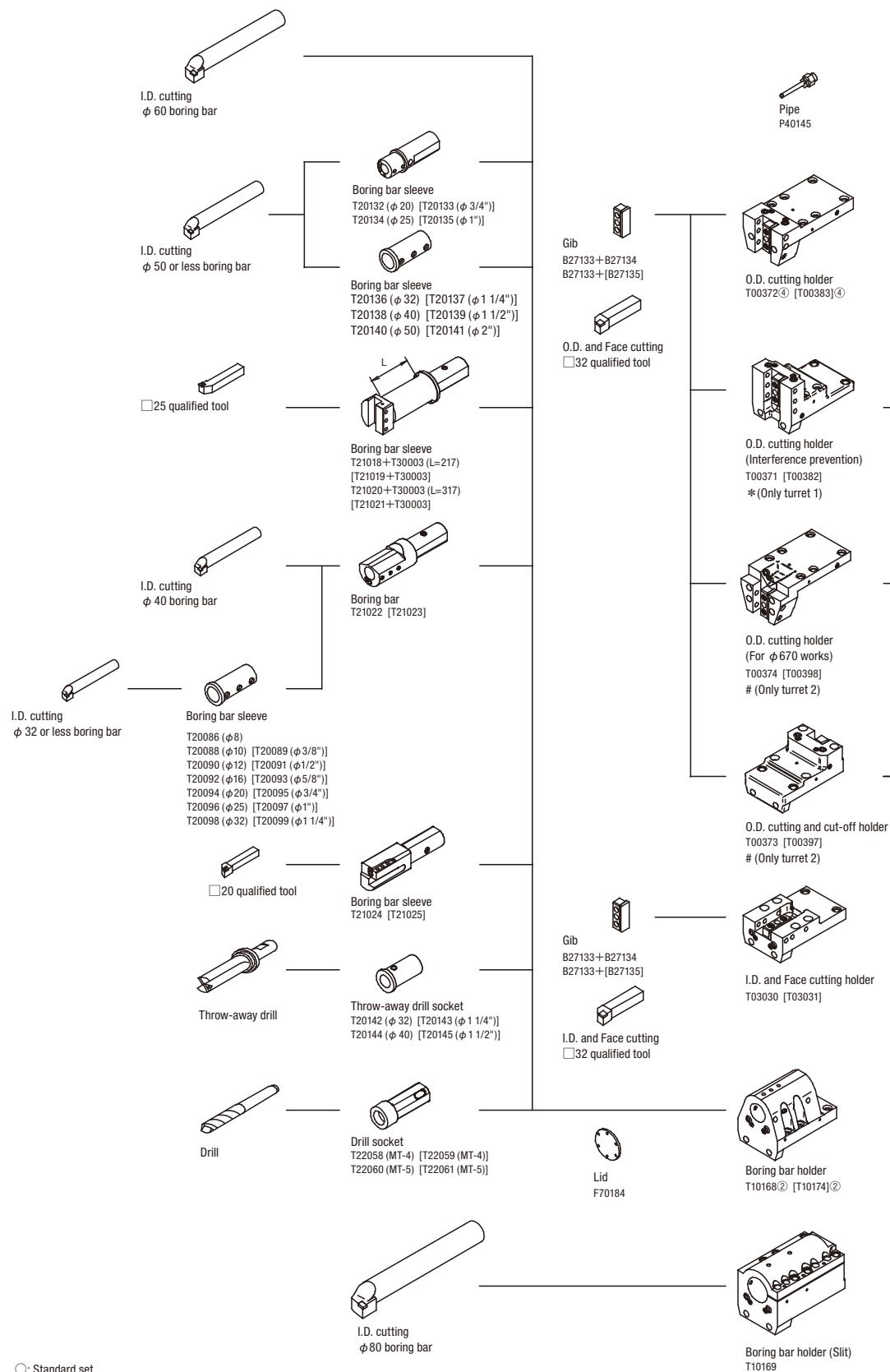
○: Standard set
[]: Inch type



Q80346A03

Tooling system diagrams

NZX6000



**Turret 1
(Turning specifications)**

B01254

**Turret 1
(Milling specifications)**

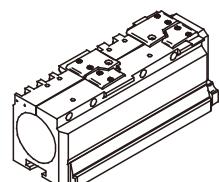
B01255



Lid
F83717

Turret 2

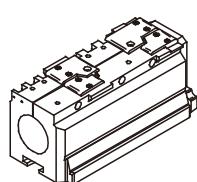
B01257



Long boring bar holder (ϕ 130)

T11049

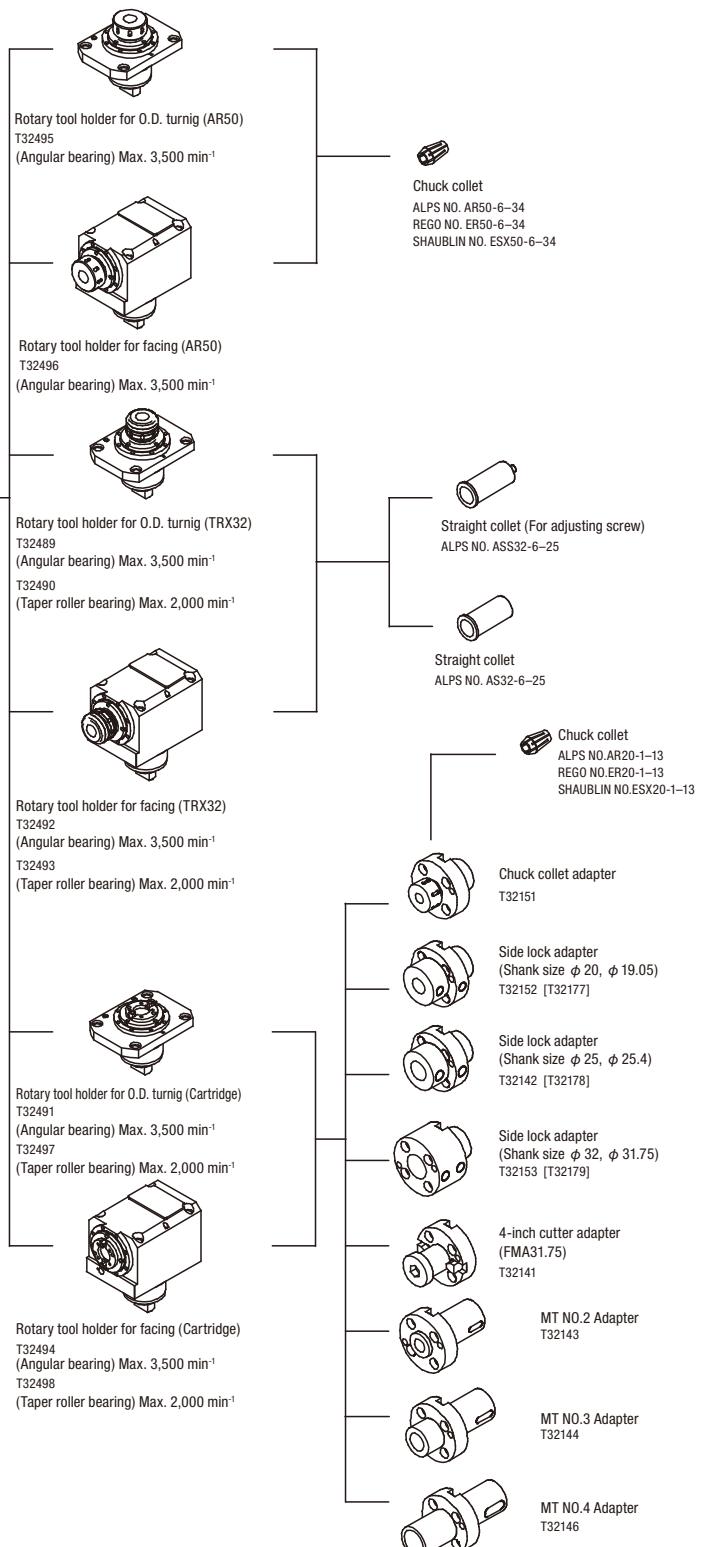
*Only the long boring bar specification



Long boring bar holder (ϕ 100)

T11050

*Only the long boring bar specification



Q80332A05

Standard & optional features (NZX4000/1000/2000)

●: Standard features ○: Option ☆: Consultation is required —: Not applicable

Spindle

NZX4000/2000		
Through-spindle hole diameter: φ145 mm (φ5.7 in.)	2,000 min⁻¹: 37/30 kW (50/40 HP) <30 min./cont>	●
	2,000 min⁻¹: 45/37 kW (60/50 HP) <30 min./cont> <High output>	○
Through-spindle hole diameter: φ185 mm (φ7.2 in.)	1,500 min⁻¹: 37/30 kW (50/40 HP) <30 min./cont> <Standard>	●
	1,500 min⁻¹: 45/37 kW (60/50 HP) <30 min./cont> <High output>	○
	1,500 min⁻¹: 75/55 kW (103/75 HP) <30 min./cont> <High output>	○
Through-spindle hole diameter: φ285 mm (φ11.2 in.)	1,000 min⁻¹: 37/30 kW (50/40 HP) <30 min./cont> <Standard>	●
	1,000 min⁻¹: 45/37 kW (60/50 HP) <30 min./cont> <High output>	○
	1,000 min⁻¹: 75/55 kW (100/75 HP) <30 min./cont> <High output>	○

Turret

12-station, bolt-tightened turret	Turret 1	●
8-station, bolt-tightened turret	Turret 2	●
Capo Specifications		○

Rotary tool spindle (turret 1)

3,500 min⁻¹: 11/7.5 kW (15/10 HP) <50%ED/cont>	Only for milling or Y-axis specifications	●
--	---	---

Tailstock

Tailstock spindle built-in center (MT5)	φ150 mm (φ5.9 in.)	○ ●
Programmable tailstock (servo motor driven)		○
Tailstock stroke check	1 position	○
Foot switch for tailstock	4 positions	○
Tailstock high/low pressure system		○
Work stopper	Including Programmable tailstock (servo motor driven).	○

Fixture/Steady rest

Steady rest	Servo-driven	— ○
	Carriage direct-coupled	— ○
Hydraulic steady rest SLU-X4Z	Servo-driven	— ○*
	Interface	— ○
Hydraulic steady rest SLU-X5Z	Carriage direct-coupled	— ○
	Servo-driven	— ○*
	Interface	— ○
Hydraulic steady rest SLU-X5.1Z	Carriage direct-coupled	— ○
	Servo-driven	— ○*
	Interface	— ○
Hydraulic steady rest SLU-X4Z	Without turret 2	— ○*
	Interface	— ○
Hydraulic steady rest SLU-X5Z	Without turret 2	— ○*
	Interface	— ○
Hydraulic steady rest SLU-X5.1Z	Without turret 2	— ○*
	Interface	— ○
Hydraulic steady rest SLU-X3Z	Turret 2 interface	○
Hydraulic chuck interface*		○
Index chuck interface for spindle 1	Electric parts only	○
Chuck high/low pressure system		○
Air chuck	Front/rear	☆
Centering unit for oil-well pipe	Centering chuck (Tailstock)	☆
Centering chuck	Clamping with both turret	☆
	Spindle	☆

*1 The hydraulic chuck interface is not included in the standard specification. So if the chuck is mounted at a customer's site, select the hydraulic chuck interface.

(If the hydraulic chuck set is selected, the hydraulic chuck interface is automatically included.)

Coolant

NZX4000/1000		
Coolant system		●
High pressure	800/1,100 W (50/60 Hz)	○
	1 MPa (145.0 psi) / 1.5 MPa (217.5 psi)	○
Super-high pressure coolant system (Separate type)	7.0 MPa (1,015.0 psi)	○*
	Interface	○
Coolant chiller (Separate type)		○*

* DMQP (DMG MORI Qualified Products)

● DMQP: Please see Page 11 for details.

● The information in this catalog is valid as of September 2023.

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

● Some options are not available in particular regions.

For details, please consult our sales representative.

Coolant

NZX4000/1000		
Mist collector	HVS-220*1 (including stand)	○* —
	HVS-300*1 (including stand)	— ○*
	AFS-1600*2 (including stand)	○*
	Interface <duct only, φ200 mm (φ7.9 in.)>	○
	Interface (Electric parts only)	○
Oil skimmer		○
Coolant gun		○
Coolant flow switch*3		○
Coolant float switch		○
Coolant in upper part of chuck		○

*1 For oil based coolant only (Not available in Europe)

*2 For water-soluble coolant

*3 It may not work properly in cases where coolant flow rate is too low.

(e.g., hole machining with a small-diameter drill)

Chip disposal

NZX4000/1000		
Chip conveyor	Right discharge, Hinge type	○
	Right discharge, Magnet scraper type	○
	Right discharge, Hinge type+Drum filter type	○
Chip conveyor interface	Right discharge, Hinge type	●
	Right discharge, Magnet scraper type	●
	Right discharge, Hinge type+Drum filter type	○
Chip bucket		○*
Air blow Chuck		○
Air blow Tailstock spindle		○
Air blow Tool tip	Turret 1	○
	Turret 2	○
Double slide seal (X, Z-axis)		○
Double slide seal (X, Z-axis)+Force-lubrication*1		○

*1 There is no forced lubrication at the positive side of the X1- and X2-axis.

Measurement

Manual in-machine tool presetter (Removable)	Turret 2	○
Manual in-machine tool presetter (Pivoting type)	Turret 1, 2	○
Automatic in-machine tool presetter (Pivoting type)	Turret 1, 2	○
In-machine measuring system wireless sensor	MARPOSS	○

Improved accuracy

Full closed loop control (Scale feedback)	Turret 1	●
<X-axis>	Turret 2	●
Full closed loop control (Scale feedback)	Turret 1	○
<Z-axis>	Turret 2	○
Full closed loop control (Scale feedback) <Y-axis>		○

Automation

Automatic door		○
Ethernet/IP interface		○
Robot interface	Ethernet/IP	○
Earth leakage breaker		○
Total counter		○
Workpiece counter		○

Other

•Built-in worklight	•Tool holders	•Hand tools	●
Signal light 3 layers		Red, Yellow, Green (LED type)	○
External M-code	5		○
	10		○
Manual pulse generator (separate type)			○
Power ON indicator			○
Chuck foot switch	1 foot switch		●
	2 foot switches		○
Normal anchor			○
Dry anchor			○
Danger sensing device Interface			○
Refrigerating type air dryer			○*
Tool cabinet			○*
Long boring bar specifications			—
Capo holder			☆
Operation panel height	1,570 mm–1,870 mm (61.8–73.6 in.)	● ○	● ○
	1,570 mm (61.8 in.)	—	● ○
Step	Inside machine		○
	Outside machine <height 300 mm (11.8 in.)>		○

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

Standard & optional features (NZX6000/1000/2000)

●: Standard features ○: Option ☆: Consultation is required —: Not applicable

Spindle

NZX6000/2000		NZX6000/1000
Through-spindle hole diameter: φ285 mm (φ11.2 in.)	1,000 min ¹ : 45/37 kW (60/50 HP) <30 min./cont>	●
	1,000 min ¹ : 75/55 kW (100/75 HP) <30 min./cont> <High output>	○
Through-spindle hole diameter: φ375 mm (φ14.7 in.)	500 min ¹ : 45/37 kW (60/50 HP) <30 min./cont> <Standard>	●
	500 min ¹ : 75/55 kW (100/75 HP) <30 min./cont> <High output>	○
Through-spindle hole diameter: φ560 mm (φ22.0 in.)	350 min ¹ : 45/37 kW (60/50 HP) <30 min./cont> <Standard>	●
	350 min ¹ : 75/55 kW (100/75 HP) <30 min./cont> <High output>	○

Turret

12-station, bolt-tightened turret	Turret 1	●
10-station, bolt-tightened turret	Turret 2	●
Capo Specifications		○

Rotary tool spindle (turret 1)

3,500 min ¹ : 15/11 kW (20/15 HP) <30 min./cont>	Only for milling or Y-axis specifications	●
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Tailstock

Tailstock spindle built-in center	MT5	○ ●
	MT6	○
Programmable tailstock (servo motor driven)		○
Tailstock stroke check	1 position	○
	4 positions	○
Foot switch for tailstock	○ ●	
Tailstock high/low pressure system		○
Work stopper	Including Programmable tailstock (servo motor driven).	○

Fixture/Steady rest

Steady rest	Servo-driven	○
Hydraulic steady rest SLU-X4Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X5Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X5.1Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X6Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X4Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X5Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X5.1Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X6Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X3.2Z	Turret 2 interface	○
Hydraulic steady rest SLU-X4Z	Turret 2 interface	○
Hydraulic chuck interface ¹		○
Index chuck interface for spindle 1	Electric parts only	○
Chuck high/low pressure system		○
Air chuck	Front/rear	☆
Centering unit for oil-well pipe	Centering chuck (Tailstock)	☆
Centering chuck	Clamping with both turret	☆
	Spindle	☆

*1 The hydraulic chuck interface is not included in the standard specification. So if the chuck is mounted at a customer's site, select the hydraulic chuck interface.

(If the hydraulic chuck set is selected, the hydraulic chuck interface is automatically included.)

Coolant

NZX6000/2000		NZX6000/1000
Coolant system		●
High pressure	800/1,100 W (50/60 Hz)	○
	1 MPa (145.0 psi) / 1.5 MPa (217.5 psi)	○
Super-high pressure coolant system (Separate type)	7.0 MPa (1,015.0 psi)	○*
	Interface	○
Coolant chiller (Separate type)		○*
	HVS-220 ¹ (including stand)	○* —
Mist collector	HVS-300 ¹ (including stand)	— ○*
	AFS-1600 ² (including stand)	○*
	Interface <duct only, φ200 mm (φ7.9 in.)>	○
	Interface (Electric parts only)	○

* DMQP (DMG MORI Qualified Products)

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Coolant

Oil skimmer	○
Coolant gun	○
Coolant flow switch ³	○
Coolant float switch	○
Coolant in upper part of chuck	○

*1 For oil based coolant only (Not available in Europe)

*2 For water-soluble coolant

*3 It may not work properly in cases where coolant flow rate is too low.
(e.g. hole machining with a small-diameter drill)

Chip disposal

Right discharge, Hinge type	○
Chip conveyor	○
Right discharge, Magnet scraper type	○
Right discharge, Hinge type + Drum filter type	○
Right discharge, Hinge type	●
Right discharge, Magnet scraper type	●
Right discharge, Hinge type + Drum filter type	○

Chip bucket

Air blow Chuck	○
Air blow Tailstock spindle	○
Air blow Tool tip	○
Turret 1	○
Turret 2	○

Double slide seal (X, Z-axis)

Double slide seal (X, Z-axis)+Force-lubrication ⁴	○
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*1 There is no forced lubrication at the positive side of the X1- and X2-axis.

Measurement

Manual in-machine tool presetter (Removable)	Turret 2	○
Manual in-machine tool presetter (Pivoting type)	Turret 1, 2	○
Automatic in-machine tool presetter (Pivoting type)	Turret 1, 2	○
In-machine measuring system wireless sensor	MARPOSS	○

Improved accuracy

Full closed loop control (Scale feedback)	Turret 1	●
<X-axis>	Turret 2	●
Full closed loop control (Scale feedback)	Turret 1	○
<Z-axis>	Turret 2	○
Full closed loop control (Scale feedback) <Y-axis>		○

Automation

Automatic door	○
Ethernet I/P interface	○
Robot interface	Ethernet I/P
Earth leakage breaker	○
Total counter	○
Workpiece counter	○

Other

•Built-in worklight	•Tool holders	•Hand tools	●
Signal light 3 layers	Red, Yellow, Green (LED type)		○
External M-code	5		○
	10		○
Manual pulse generator (separate type)			○
Power ON indicator			○
Chuck foot switch	1 foot switch		●
	2 foot switches		○

Normal anchor

Dry anchor	
Danger sensing device Interface	
Refrigerating type air dryer	○*
Tool cabinet	○*
Capto holder	☆

1,570 mm (61.8 in.)	—	●
1,570–1,820 mm (61.8–71.7 in.)	—	○
1,570–1,870 mm (61.8–73.6 in.)	●	—
1,820–2,070 mm (71.7–81.5 in.)	—	○
Step	Inside machine	○
	Outside machine <height 300 mm (11.8 in.)>	○
Electric winch (for tool setting)	Max. loading capacity 60 kg (132 lb.)	○

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

Standard & optional features (NZX6000/4000)

● : Standard features ○ : Option ☆ : Consultation is required — : Not applicable

Spindle

NZX6000/4000		
Through-spindle hole diameter: φ285 mm (φ11.2 in.)	1,000 min ¹ : 45/37 kW (60/50 HP) <30 min./cont>	●
	1,000 min ¹ : 75/55 kW (100/75 HP) <30 min./cont> <High output>	○
Through-spindle hole diameter: φ375 mm (φ14.7 in.)	500 min ¹ : 45/37 kW (60/50 HP) <30 min./cont> <Standard>	●
	500 min ¹ : 75/55 kW (100/75 HP) <30 min./cont> <High output>	○

Turret

12-station, bolt-tightened turret	Turret 1	●
10-station, bolt-tightened turret	Turret 2	●
Capo Specifications		○

Rotary tool spindle (turret 1)

3,500 min ¹ : 15/11 kW (20/15 HP) <30 min./cont>	Only for milling or Y-axis specifications	●
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Tailstock

Tailstock spindle built-in center	MT6	●
Programmable tailstock (servo motor driven)		○
Tailstock stroke check	1 position	○
	4 positions	○
Foot switch for tailstock		●
Tailstock high/low pressure system		○
Work stopper	Including Programmable tailstock (servo motor driven).	○

Fixture/Steady rest

Steady rest	Servo-driven	○
Hydraulic steady rest SLU-X4Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X5Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X5.1Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X6Z	Servo-driven	○*
	Interface	○
Hydraulic steady rest SLU-X4Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X5Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X5.1Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X6Z	Without turret 2	○*
	Interface	○
Hydraulic steady rest SLU-X3.2Z	Turret 2 interface	○
Hydraulic steady rest SLU-X4Z	Turret 2 interface	○
Hydraulic chuck interface ¹		○
Index chuck interface for spindle 1	Electric parts only	○
Chuck high/low pressure system		○
Air chuck	Front/rear	☆
Centering unit for oil-well pipe	Centering chuck (Tailstock)	☆
Centering chuck	Clamping with both turret	☆
	Spindle	☆

*1 The hydraulic chuck interface is not included in the standard specification. So if the chuck is mounted at a customer's site, select the hydraulic chuck interface.
(If the hydraulic chuck set is selected, the hydraulic chuck interface is automatically included.)

Coolant

NZX6000/4000		
Coolant system		●
High pressure	800/1,100 W (50/60 Hz)	○
	1 MPa (145.0 psi) / 1.5 MPa (217.5 psi)	○
Super-high pressure coolant system (Separate type)	7.0 MPa (1,015.0 psi)	○*
	Interface	○
Coolant chiller (Separate type)	HVS-300 ¹ (including stand)	○*
	AFS-1600 ² (including stand)	○*
Mist collector	Interface <duct only, φ200 mm (φ7.9 in.)>	○
	Interface (Electric parts only)	○

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Coolant

Oil skimmer	○
Coolant gun	○
Coolant flow switch ³	○
Coolant float switch	○
Coolant in upper part of chuck	○

*1 For oil based coolant only (Not available in Europe)

*2 For water-soluble coolant

*3 It may not work properly in cases where coolant flow rate is too low.
(e.g., hole machining with a small-diameter drill)

Chip disposal

Right discharge, Hinge type	○
Chip conveyor	Right discharge, Magnet scraper type
	Right discharge, Hinge type+Drum filter type
	Right discharge, Hinge type
Chip conveyor interface	Right discharge, Magnet scraper type
	Right discharge, Hinge type+Drum filter type

Chip bucket

Air blow Chuck	○
Air blow Tailstock spindle	○
Air blow Tool tip	Turret 1 Turret 2
Double slide seal (X, Z-axis)	○
Double slide seal (X, Z-axis)+Force-lubrication ⁴	○

*1 There is no forced lubrication at the positive side of the X1- and X2-axis.

Measurement

Manual in-machine tool presetter (Removable)	Turret 2
Manual in-machine tool presetter (Pivoting type)	Turret 1, 2
Automatic in-machine tool presetter (Pivoting type)	Turret 1, 2
In-machine measuring system wireless sensor	MARPOSS

Improved accuracy

Full closed loop control (Scale feedback) <X-axis>	Turret 1 Turret 2
Full closed loop control (Scale feedback) <Z-axis>	Turret 1 Turret 2 Turret 1+Turret 2
Full closed loop control (Scale feedback) <Y-axis>	○

Automation

Automatic door	○
Ethernet/IP interface	○
Robot interface	Ethernet/IP
Earth leakage breaker	○
Total counter	○
Workpiece counter	○

Other

•Built-in worklight	•Tool holders	•Hand tools	●
Signal light 3 layers		Red, Yellow, Green (LED type)	○
External M-code		5	○
		10	○
Manual pulse generator (separate type)			○
Power ON indicator			○
Chuck foot switch		1 foot switch 2 foot switches	●
Normal anchor			○
Dry anchor			○
Danger sensing device Interface			○
Refrigerating type air dryer			○*
Tool cabinet			○*
Long boring bar specifications			○
Long boring bar holder		φ100 mm (φ3.9 in.) φ130 mm (φ5.1 in.)	○
Capo holder		1,570 mm (61.8 in.)	☆
Operation panel height		1,570–1,820 mm (61.8–71.7 in.) 1,820–2,070 mm (71.7–81.5 in.)	○
Step		Inside machine Outside machine <height 300 mm (11.8 in.)>	○
Electric winch (for tool setting)		Max. loading capacity 60 kg (132 lb.)	○
Reassembly fee, on-site installation fee			○

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Numerical control unit specifications M730BM

● : Standard ○ : Option — : Not applicable

Controlled axes

Least input increment	X, Y, Z: 0.001 mm (0.0001 in.) C: 0.001°	●
Max. command value	±99,999.999 mm (±9,999.999 in.)	●
Stored stroke check 2		○
Stored stroke check 3 (prohibited area to enter: inside of set area)		●
Programming resolution multiplied by 1/10	X, Y, Z: 0.0001 mm (0.00001 in.) C: 0.0001°	○
Programming resolution multiplied by 10		○

Operation

Manual pulse handle feed	x1, x10, x100	●
Manual handle interruption		○
Program restart		○
Tool retract and recover		○
Sequence number comparison and stop		○

Interpolation functions

Threading, synchronous cutting	●
Multiple thread cutting	●
Thread cutting retract	●
Continuous thread cutting	●
External high-speed skip (Installation of high-speed skip terminal)	○
Variable lead threading	G34
Variable speed thread cutting	●
Circular threading	○
Hob cutting	○

Feed functions

Tangential speed constant control	●
Feedrate override	0-200% <10% increments>
Override cancel	●
Balance cutting	●

Program input

Program number	4 digits O code 8 digits O code Sequence change is required	● ○
Sequence number	5 digits N code	●
Decimal point input	Decimal point programming or electronic calculator type decimal point programming can be set using parameters	●
Plane selection	G17, G18, G19	●
Rotary axis roll-over		●
Workpiece coordinate system selection	G52, G53, G54-G59	●
Programmable data input	G10	●
Sub-program call	Up to 8 nestings	●
Interruption type custom macro		●
Single canned cycle		●
Multiple canned cycle		●
Multiple canned cycle II	Pocket profile, zigzag thread cutting	●
F15 format		●
Addition of optional block skip	Soft key type (2-9)	○
Additional workpiece coordinate systems	48 sets	○
Custom macro	Total 200 variables (#100-#199, #500-#599)	●
Addition of custom macro common variables	Total 300 variables (#100-#199, #500-#699)	○
	Total 600 variables (#100-#199, #500-#999)	○
Manual coordinate function		○
Relief machining <MAPPS>		○
DXF import function <MAPPS>		○
MORI-POST Advanced mode <MAPPS>		○
Efficient Production Package (High-speed canned cycle) <MAPPS>		○

Miscellaneous functions/Spindle speed functions

Multiple M cords in single block <Multi M code function>	Available for specific M code	●
Spindle speed override	50-150% (10% increments)	●
Load monitoring function		●
Synchronous tapping	Turning spindle Without lock function	●
Spindle orientation	Software lock Mechanical lock	○

Tool functions / Tool offset functions

Tool functions	4 digits T code	●
Number of tool offsets	80 sets	●
Tool nose radius offset	G40-G42	●
Tool geometry offset/Tool wear offset		●
Tool life management	80 sets	●
Automatic tool nose radius compensation	automatic determination of offset direction	○
Tool geometry offset	I-type	○
Groove width compensation		○

Editing

Part program storage length <in total>/Registerable programs <in total>	125 KB <320 m (1,050 ft)>/200 programs 230 KB <600 m (1,970 ft)>/400 programs 500 KB <1,280 m (4,200 ft)>/1,000 programs 1 MB <2,560 m (8,400 ft)>/1,000 programs 2 MB <5,120 m (16,800 ft)>/1,000 programs	● ○ ○ ○ ○
Background editing		●
Expanded tape editing		●
Undo/Redo function <MAPPS>		●
Line number display <MAPPS>		●

Setting and display

Status display		●
Clock function		●
Actual position display		●
Program comment display	Program name: 48 characters	●
Parameter setting display		●
Self-diagnosis	Includes alarm display, I/O signal diagnosis and ladder diagram	●
Alarm display		●
Alarm history display		●
Operation history display		●
Help function		●
Running time / Parts count display		●
Actual feedrate display		●
Operation panel / Display section	19-inch TFT color LCD	●
Multi-counter display <MAPPS>		○

Data input/output

I/O interface	USB memory RS-232-C	● ●
Ethernet	10/100/1000BASE-T Access to user memory area by Ethernet function with MORI-SERVER Software	● ●
6 GB Program storage area (for MAPPS-DNC operation, for data backup) <MAPPS>	Files up to 10 MB in size can be edited	●
External work number search (#1-#15)		○
Fast data server		○
Memory card for Data server *1		○
*1 SD card 2 GB		I95031A06

Available items by type

	Item	Turning specifications	Milling specifications	Y-axis specifications
Controlled axes	Controlled axes	Turret 1 Turret 2	X1, Z1, T1, B* X2, Z2, T2	X1, Z1, C1, T1, Y1, B*
	Simultaneously controlled axes	Turret 1 Turret 2	X1, Z1 X2, Z2	X1, Z1, C1, Y1
	Inclined axis control for arbitrary axis (Y-axis)	—	—	●
	Polar coordinate interpolation	G12.1, G13.1 (G112, G113)	—	●
Interpolation functions	Cylindrical interpolation	G7.1 (G107)	—	●
	Helical interpolation	—	—	●
	Polygon turning	—	○	○
	Absolute (incremental) programming	X (U), Z (W)	X (U), Z (W), C (H), B	X (U), Z (W), Y (V), C (H), B
Program input	Hole machining canned cycle	—	●	●
	Islands, open pockets <MAPPS>	—	○	○
	Text Engraving Function <MAPPS>	—	○	○
Miscellaneous functions/ Spindle speed functions	Multiple-spindle control	—	●	●
	Synchronous tapping (Rotary tool spindle)	—	●	●
Tool functions/Tool offset functions	Y-axis offset	—	—	●

● The information in this catalog is valid as of September 2023.

* When equipped with an optional programmable tailstock (servo motor driven)

Machine specifications

Item		NZX4000		
		Turning specifications	Milling specifications	Y-axis specifications
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>	
Travel	X-axis travel	mm (in.)	No.1: 385 (15.1) No.2: 235 (9.2)	
	Y-axis travel	mm (in.)	—	± 70 (± 2.7)
	Z-axis travel	mm (in.)	No.1: 1,100 (43.3) No.2: 1,000 (39.3) </1000> No.1: 2,100 (82.6) No.2: 2,000 (78.7) </2000>	
Spindle	Max. spindle speed	min ⁻¹	2,000 <Through-spindle hole diameter: $\phi 145$ mm ($\phi 5.7$ in.)> 1,500 <Through-spindle hole diameter: $\phi 185$ mm ($\phi 7.2$ in.)> 1,000 <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ in.)>	
	Number of spindle speed ranges		2	
	Spindle nose		A _z -11 <Through-spindle hole diameter: $\phi 145$ mm ($\phi 5.7$ in.)> A _z -15 <Through-spindle hole diameter: $\phi 185$ mm ($\phi 7.2$ in.)> A _z -20 <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ in.)>	
	Through-spindle hole diameter	mm (in.)	$\phi 145$ ($\phi 5.7$) $\phi 185$ ($\phi 7.2$) $\phi 285$ ($\phi 11.2$)	
	Min. spindle indexing increment		—	0.001°
	Spindle bearing inner diameter	mm (in.)	$\phi 200$ ($\phi 7.8$) <Through-spindle hole diameter: $\phi 145$ mm ($\phi 5.7$ in.)> $\phi 260$ ($\phi 10.2$) <Through-spindle hole diameter: $\phi 185$ mm ($\phi 7.2$ in.)> $\phi 360$ ($\phi 14.1$) <Through-spindle hole diameter: $\phi 285$ mm ($\phi 11.2$ in.)>	
	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	
Feedrate	Max. rotary tool spindle speed	min ⁻¹	—	No.1: 3,500
	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)
	Jog feedrate	mm/min (ipm)	C-axis: 100 X, Y, Z-axis: 0-5,000 (0-196.9) <20 steps>	
Tailstock	Tailstock travel	mm (in.)	[1,000 (39.3)] </1000> 2,000 (78.7) </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) </2000>	
	Tailstock spindle travel	mm (in.)	[150 (5.9)] </1000>, 150 (5.9) </2000>	
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)	i94130B03 (kVA)	66.3	78.7
	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>	
Machine size	Machine height (From floor)	mm (in.)	2,789 (109.8)	
	Floor space (Width×Depth)	mm (in.)	5,690×2,791 (224.0×109.9) </1000> 6,690×3,080 (263.4×121.3) </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

● 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 September 2023.

Item		NZX6000					
		Turning specifications	Milling specifications	Y-axis specifications			
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: ϕ 900 (ϕ 35.4) No.2: ϕ 670 (ϕ 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 (19.0) <450+35 (17.7+1.3)> No.2: 340 (13.3) <335+5 (13.1+0.19)>				
	Y-axis travel	mm (in.)	—	200 (7.8) < \pm 100 (\pm 3.9)>			
	Z-axis travel	mm (in.)	No.1: 1,300 (51.1) No.2: 1,000 (39.3) </1000> No.1: 2,150 (84.6) No.2: 1,990 (78.3) </2000>				
Spindle	Max. spindle speed	min ⁻¹	1,000 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)>	1,000 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 500 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>			
			500 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>				
			350 <Through-spindle hole diameter: ϕ 560 mm (ϕ 22.0 in.)>				
	Number of spindle speed ranges		2 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)>	2 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 1 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>			
			1 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>				
			1 <Through-spindle hole diameter: ϕ 560 mm (ϕ 22.0 in.)>				
	Spindle nose		A-20 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)>	A-20 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> A-20 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>			
			A-20 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>				
	Through-spindle hole diameter	mm (in.)	ϕ 285 (ϕ 11.2) ϕ 375 (ϕ 14.7) ϕ 560 (ϕ 22.0)	ϕ 285 (ϕ 11.2) ϕ 375 (ϕ 14.7)			
	Min. spindle indexing increment		—	0.001°			
Turret	Spindle bearing inner diameter	mm (in.)	360 (14.1) <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)>	360 (14.1) <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 451 (17.7) <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>			
			451 (17.7) <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>				
			685.8 (27.0) <Through-spindle hole diameter: ϕ 560 mm (ϕ 22.0 in.)>				
	Chuck used		18-24 inch Solid & hollow, Air chuck				
	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			
Feedrate	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 ⁻¹	—	No.1: 3,500			
	Rotary tool machining ability	mm (in.)	No.1: Max. ϕ 50 (ϕ 1.9) <Drill> Max. ϕ 40 (ϕ 1.5) <End mill> Max. ϕ 125 (ϕ 4.9) <Millng> Max. M36 <Tap>				
	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)		
	Jog feedrate	mm/min (ipm)	—	C-axis: 20			
Tailstock	Tailstock travel	mm (in.)	[1,000 (39.3)] </1000> 1,990 (78.3) </2000>				
	Tailstock spindle diameter	mm (in.)	[ϕ 150 (ϕ 5.9)] </1000> ϕ 150 (ϕ 5.9) </2000>				
	Taper hole of tailstock spindle	mm (in.)	[ϕ 150 (ϕ 5.9), MT5 (Built-in center)] </1000> ϕ 150 (ϕ 5.9), MT5 (Built-in center) [ϕ 180 (ϕ 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)	I94130B03 (kVA)	81.6 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 84.4 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)> 84.4 <Through-spindle hole diameter: ϕ 560 mm (ϕ 22.0 in.)>	94.1 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 96.9 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>	97.9 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 100.7 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>		
	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.)	3,275 (128.9) </1000> 3,277 (129.0) </2000>				
	Floor space (Width×Depth)	mm (in.)	6,110×3,081 (240.6×121.3) </1000> 7,100×3,312 (279.5×130.4) </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 No2: Turret 2

● 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⁻¹. For details, please consult our sales representative.

● The information in this catalog is valid as of September 2023.

Machine specifications

Item		NZX6000		
		Turning specifications	Milling specifications	Y-axis specifications
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: ϕ 900 (ϕ 35.4) No.2: ϕ 670 (ϕ 26.3)	
	Max. turning length	mm (in.)	No.1: 4,000 (157.5) No.2: 3,840 (151.1) </4000>	
Travel	X-axis travel	mm (in.)	No.1: 485 (19.0) <450+35 (17.7+1.3)> No.2: 340 (13.3) <335+5 (13.1+0.19)>	
	Y-axis travel	mm (in.)	—	200 (7.8) < \pm 100 (\pm 3.9)>
	Z-axis travel	mm (in.)	No.1: 4,150 (163.3) No.2: 3,990 (157.0) </4000>	
Spindle	Max. spindle speed	min ⁻¹	1,000 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 500 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>	
	Number of spindle speed ranges		2 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 1 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>	
	Spindle nose		A-20 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> A-20 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>	
	Through-spindle hole diameter	mm (in.)	ϕ 285 (ϕ 11.2) ϕ 375 (ϕ 14.7)	
	Min. spindle indexing increment		—	0.001°
	Spindle bearing inner diameter	mm (in.)	360 (14.1) <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 451 (17.7) <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>	
	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 ⁻¹	—	No.1: 3,500
Feedrate	Rotary tool machining ability	mm (in.)	No.1: Max. ϕ 50 (ϕ 1.9) <Drill> Max. ϕ 40 (ϕ 1.5) <End mill> Max. ϕ 125 (ϕ 4.9) <Millng> Max. M36 <Tap>	
	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)
	Jog feedrate	mm/min (ipm)	—	C-axis: 20
Tailstock	Tailstock travel	mm (in.)	3,990 (157.0) </4000>	
	Tailstock spindle diameter	mm (in.)	ϕ 180 (ϕ 7.1)	
	Taper hole of tailstock spindle	mm (in.)	ϕ 180 (ϕ 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)	i94130B03 (kVA)	81.6 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 84.4 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>	94.1 <Through-spindle hole diameter: ϕ 285 mm (ϕ 11.2 in.)> 96.9 <Through-spindle hole diameter: ϕ 375 mm (ϕ 14.7 in.)>
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 400 (105.6) <ANR>	
Tank capacity	Coolant tank capacity	L (gal.)	1,160 (306.2) </4000>	
Machine size	Machine height (From floor)	mm (in.)	3,268 (128.7)	
	Floor space (Width×Depth)	mm (in.)	9,830×3,440 (387.0×135.4) </4000>	
	Mass of machine	kg (lb.)	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

● 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.

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● 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⁻¹. For details, please consult our sales representative.

● The information in this catalog is valid as of September 2023.

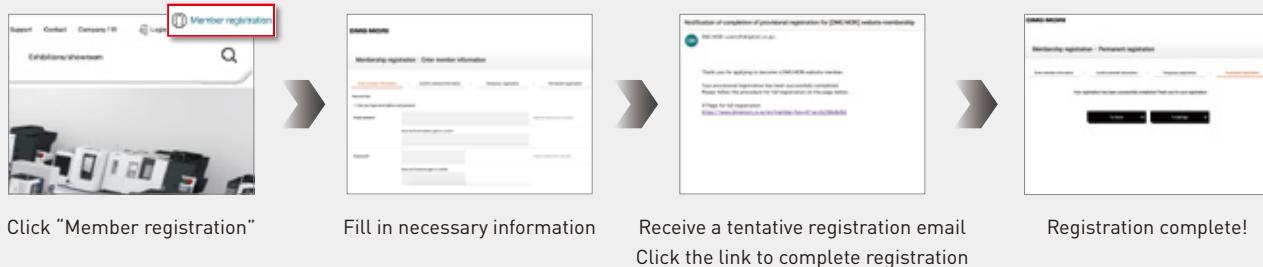
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