
NTX1000

NTX1000 HSC

NTX2000

High-Precision, High-Efficiency Integrated Mill Turn Center

NTX Series



The Greatest Integrated Mill Turn Center

Perfect Integration of Turning and Milling

The NTX series responds to complex-shaped workpieces in a variety of industries including the aircraft, medical equipment, automobile, mold and die, precision equipment industries by integrating turning and milling processes. Three of our original technologies enable excellent machining with higher precision and higher efficiency. The NTX series, the best multi-axis machines deliver high-productivity ever achieved.



NTX2000/1500SZM

Main features

Basic structure

Travel

Tool spindle

NTX1000

X1-axis **380** mm (15.0 in.)

Y-axis **±105** mm (±4.1 in.)

Z1-axis

460 + 155^{*1} mm (18.1 + 6.1 in.)

B-axis **±120°**

Spindle 1/Spindle 2 <S, SZ, SZM>

C-axis **360°**

Turret 2 <Z specifications>

NTX1000

X2-axis **155** mm (6.1 in.)

Z2-axis **610** mm (24.0 in.)

NTX2000

X1-axis **495** mm (19.5 in.)

Y-axis **±125** mm (±4.9 in.)

Z1-axis

1,560 + 215^{*1} mm (61.4 + 8.5 in.)

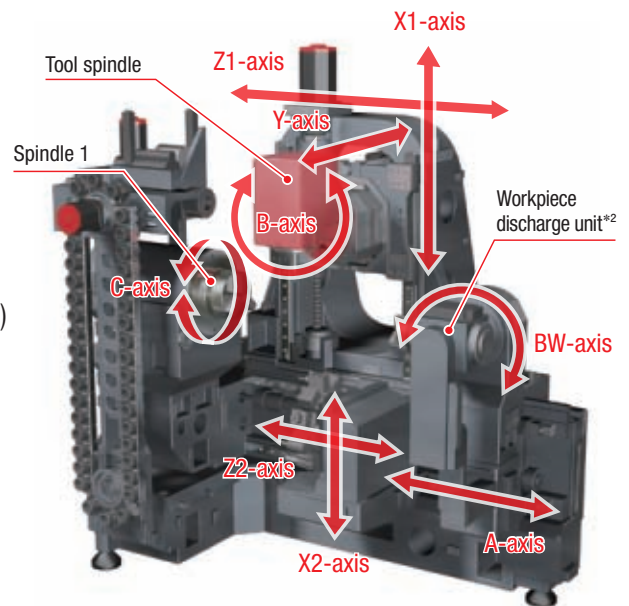
B-axis **±120°**

NTX2000

X2-axis **160** mm (6.3 in.)

Z2-axis **1,402** mm (55.2 in.)

● 1,302 mm (51.3 in.) for TZ and TZM types



● Photo: NTX1000/WZM

*1 For ATC

*2 Tailstock for T type

For the S, SZ and SZM types, the Spindle 2 is installed in this position.

Rapid traverse rate

Turret 1

NTX1000

X1/Y-axis **40** m/min
(131.2 fpm)

Z1-axis **50** m/min
(164.1 fpm)

NTX2000

X1/Y/Z1-axis **40** m/min
(131.2 fpm)

Turret 2 <Z specifications>

NTX1000

X2-axis **20** m/min
(65.6 fpm)

Z2-axis **36** m/min
(118.1 fpm)

NTX2000

X2-axis **30** m/min
(98.4 fpm)

Z2-axis **38** m/min
(124.7 fpm)

Tool spindle

A DDS (Direct Drive Spindle) motor is used to turn the spindle directly. A spindle motor placed inside the spindle headstock enables the spindle to be smaller/lighter, and to offer high output while controlling vibration.

Max. tool spindle speed

NTX1000

12,000 min⁻¹

NTX2000

12,000 min⁻¹

NTX1000 HSC

20,000 min⁻¹

Tool-clamping force

NTX1000

28,000 N (6,294.3 lbf)
(Capto C5)

NTX2000

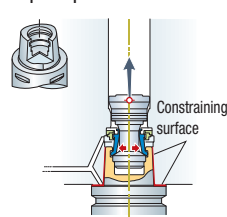
36,000 N (8,092.7 lbf)
(Capto C6)

● Please use a two-face contact tool when using a BT40 taper spindle at 15,000 min⁻¹ or higher.

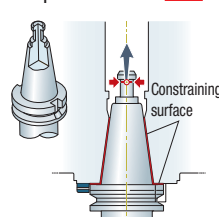
Dual contact specifications

Tool rigidity has been improved by contact of both the spindle taper and the tool flange. This extends the useful life of a tool, raises cutting power and improves the machining precision.

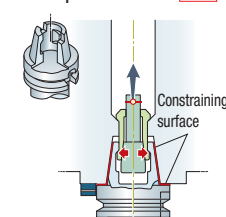
Capto Specifications



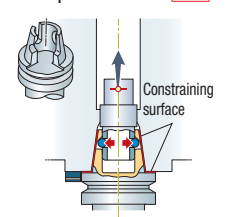
BT specifications* OP



HSK Specifications OP



KM Specifications OP

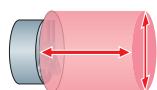


* NTX2000 only. When selecting the two-face contact tool specification, be sure to use a two-face contact tool.

● All DMG MORI SEIKI spindles are made in-house to better meet our customer needs. For details, please consult with our sales representative.

Workpiece size

NTX1000



NTX2000



Max. turning diameter

NTX1000

φ 370 mm (φ 14.5 in.)

Max. turning length

NTX1000

424 mm (16.6 in.)

Bar work capacity

NTX1000

φ 52 mm (φ 2.0 in.)

φ 65 mm (φ 2.5 in.) **OP**

NTX2000

φ 65 mm (φ 2.5 in.)

φ 80 mm* (φ 3.1 in.) **OP**

* Spindle 1 only.

Direct Drive Motor



The world's fastest rotary axis drive system, with zero backlash.

Original technology

Transmitting the drive power directly to the rotary axes without using gears eliminates backlash. Compared with conventional worm gear systems, this dramatically improves transmission efficiency and offers high-speed feed.

B-axis indexing time (90°)

NTX1000

0.49 sec.

NTX2000

0.55 sec.

• Indexing time: clamping, unclamping time are not included.

B-axis rotational speed

100 min⁻¹

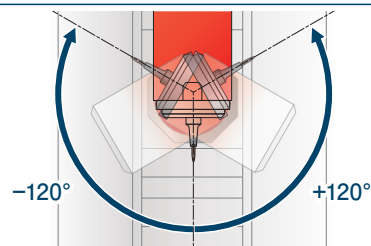
Min. indexing increment

0.0001°

Effects of DDM

- High-speed rotation
- High-precision indexing
- Less maintenance
- Longer product life

High-Flexibility B-axis



B-axis rotation range

±120°

• Full indexing specification B-axis: with the F31iB, up to four axes can be controlled simultaneously. For simultaneous 5-axis control, please use the F31iB5.

Feature



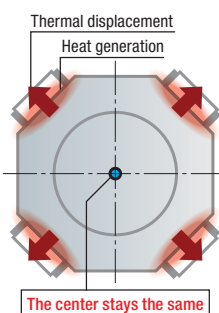
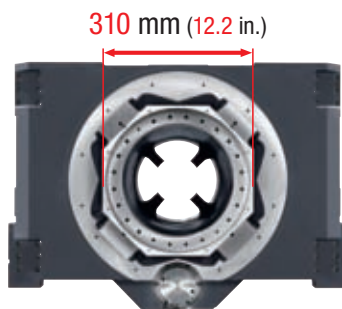
Octagonal Ram Construction



A revolutionary structure which controls thermal displacement and offers outstanding straightness.

Original technology

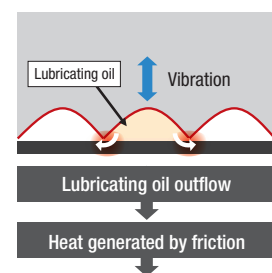
The 4 guideways are located diagonally from each other, so they distort symmetrically in response to the heat generated by high-speed travel. This means that the center stays in the same position, offering high-speed, high-precision feed.



Effects of the ORC

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

Square guides' excellent damping characteristics



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

Main features

ATC/Tool magazine

Tool storage capacity

38 tools
76 tools **OP**

Tool-to-tool

NTX1000 1.2 sec.
NTX2000 1.25 sec.

Tool changing time (Including axis travel)

NTX1000 4.4 sec.
NTX2000 6.0 sec.

- The time it takes the tool spindle with the X, Y, and Z axes located at the zero points and the B-axis located at -90° to move and return to the original position.

Spindle 1/Spindle 2 <S, SZ, SZM>



Zero-center-displacement spindle

The center of Spindle 1 always stays in the same position when the heat is generated.

Max. spindle speed (Spindle 1/Spindle 2 <S, SZ, SZM>)

NTX1000 6,000/6,000 min⁻¹
NTX2000 5,000/5,000 min⁻¹
4,000 min⁻¹* **OP**

* For $\phi 80$ mm ($\phi 3.1$ in.) bar work capacity specifications.

Chuck size

Spindle 1		Spindle 2 <S, SZ, SZM>	
NTX1000	NTX2000	NTX1000	NTX2000
6-inch	8-inch	5-inch	8-inch
8-inch OP	10-inch OP	6-inch OP	10-inch OP



Workpiece discharge unit <NTX1000/W specifications>

Allowable rotational speed

(The unit rotates dependently on the rotation of Spindle 1)

1,000 min⁻¹
• Only one specified position to stop.

Max. gripping diameter

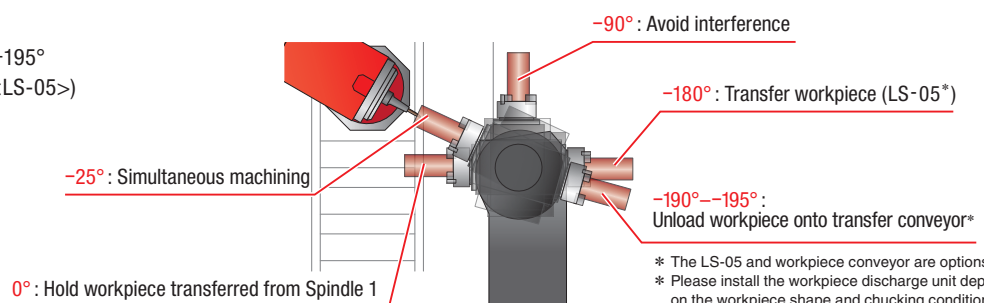
ϕ **100** mm (ϕ 3.9 in.)



BW-axis positioning angle (Workpiece discharge unit, Spindle 2) <NTX1000>

4 positioning angles

0°, -25°, -90°, -190°--195°
(0°, -25°, -90°, -180° <LS-05>)



- * The LS-05 and workpiece conveyor are options.
- * Please install the workpiece discharge unit depending on the workpiece shape and chucking condition.

Turret 2 <Z specifications>

Number of tool stations

10 tools

Max. rotary tool spindle speed <WZM, ZM, TZM>

6,000 min⁻¹

Turret indexing time (1-station)

0.19 sec.



Built-in Motor Turret <WZM, SZM, TZM>



**With a built-in structure,
milling ability is dramatically improved.**

Original technology

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

Turret temperature increases

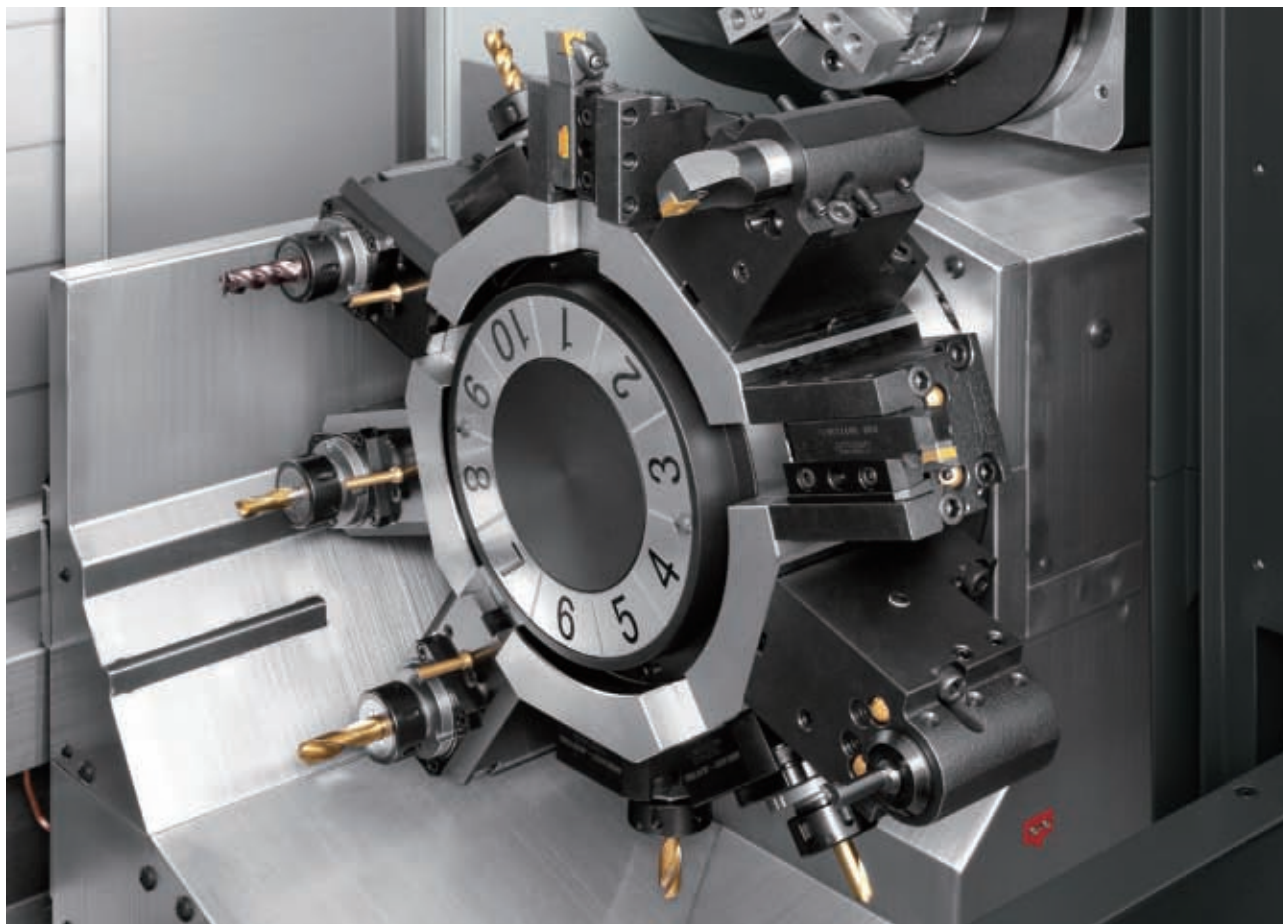
Compared with conventional machine **1/10 or less**

Vibration amplitude

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

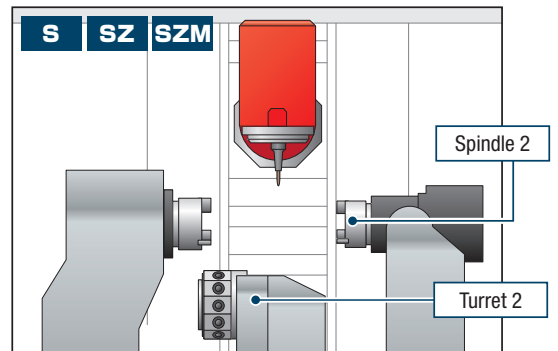
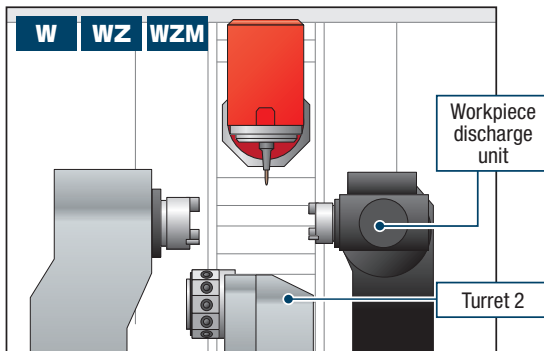
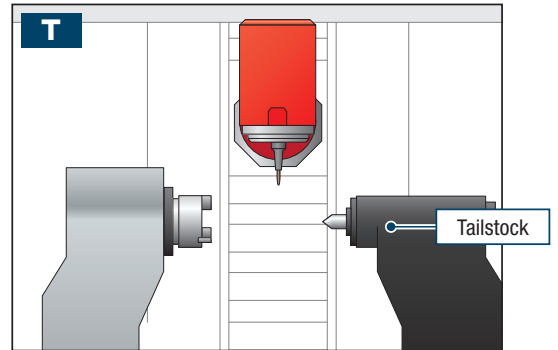
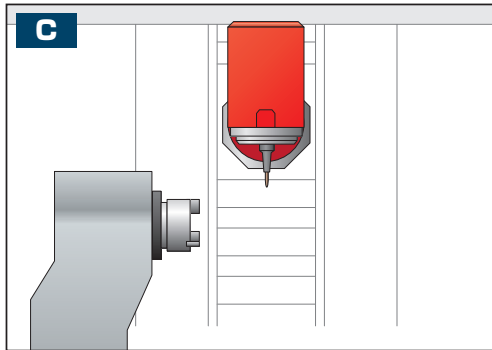
Effects of the BMT

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



Variations

NTX1000



●: Standard features ×: Not applicable

Specifications	C	T	W	WZ	WZM	S	SZ	SZM
Tool spindle/Spindle 1	●	●	●	●	●	●	●	●
Workpiece discharge unit	×	×	●	●	●	×	×	×
Spindle 2	×	×	×	×	×	●	●	●
Turret 2	×	×	×	●	●	×	●	●
Turret 2 (Milling)	×	×	×	×	●	×	×	●
Tailstock	×	●	×	×	×	×	×	×

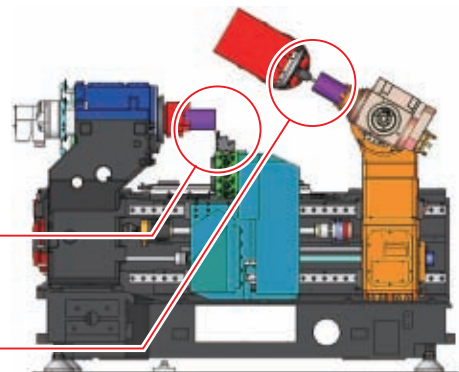


Simultaneous machining <WZ, WZM, SZ, SZM>

It is possible to perform machining simultaneously with the tool spindle and Turret 2. The interference between the workpiece on the Spindle 1 side and the tool spindle can be avoided by turning the workpiece discharge unit.

Spindle 1 and
Turret 2 for Process 1

Tool spindle and workpiece
discharge unit for Process 2

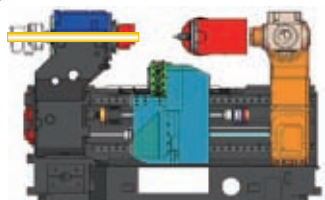


Feature



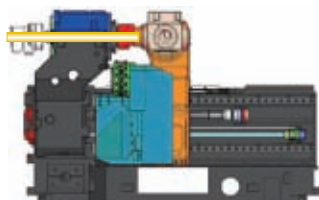
Machining process from bar stock to the finished workpiece <W, WZ, WZM, S, SZ, SZM>

1 Bar feed/machining



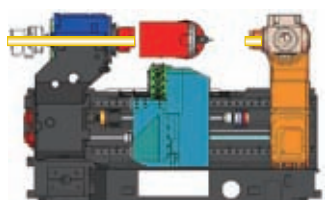
Feed a workpiece from the Spindle 1 side, and perform machining.

2 Transfer/cut-off



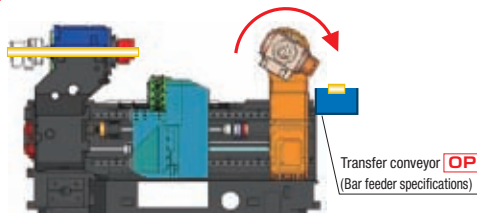
Transfer the workpiece to the workpiece discharge unit, and perform cutting-off.

3 Back side milling

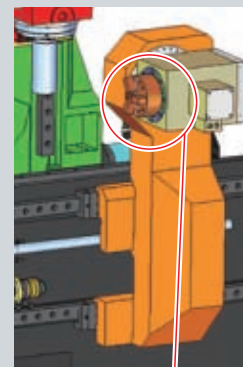


Back side milling on the workpiece ejector.

4 Eject workpiece to chuter



After milling is completed, turn the workpiece discharge unit, and eject the workpiece to the chuter.



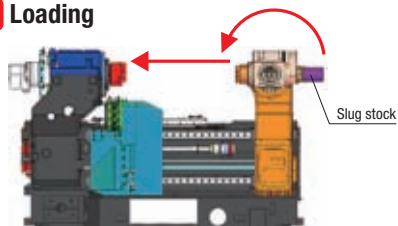
Workpiece discharge unit for back side milling

Feature



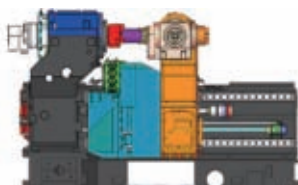
Replacement of slug stock <W, WZ, WZM, S, SZ, SZM>

1 Loading



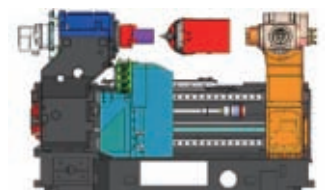
Turn the workpiece discharge unit, and load a workpiece.

2 Supply workpiece to Spindle 1



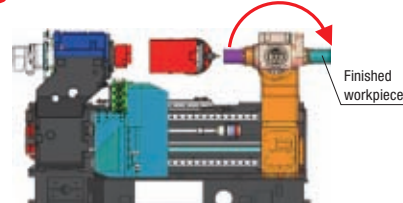
Transfer the workpiece from the workpiece discharge unit to Spindle 1.

3 Machining on the Spindle 1 side



Machine the workpiece with the tool spindle and Turret 2 on the Spindle 1 side.

4 Back side milling/Unload workpiece



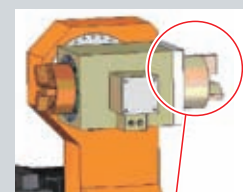
Transfer the workpiece from Spindle 1 to the workpiece discharge unit, and machine the back side of the workpiece. After that, turn the workpiece discharge unit, and unload the workpiece.



Slug stock



Finished workpiece

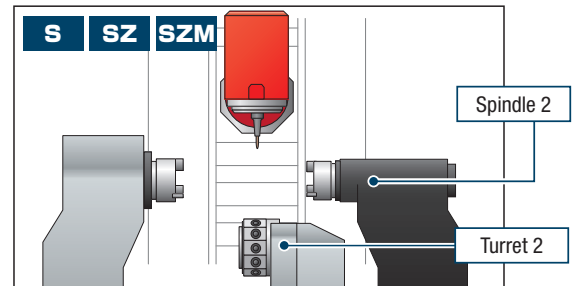
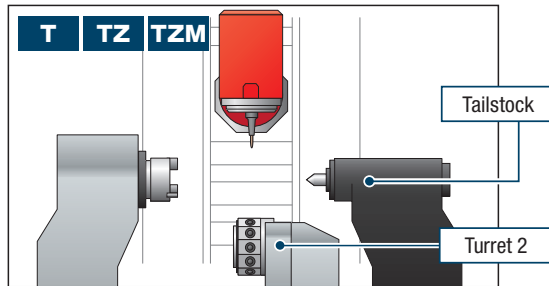


Back end hand* OP

* Available only for W specifications equipped with LS-05.

Variations

NTX2000



●: Standard features ×: Not applicable

Specifications	T	TZ	TZM	S	SZ	SZM
Tool spindle/Spindle 1	●	●	●	●	●	●
Spindle 2	×	×	×	●	●	●
Turret 2	×	●	●	×	●	●
Turret 2 (Milling)	×	×	●	×	×	●
Tailstock	●	●	●	×	×	×

Space-saving

NTX2000/1500SZ
Approx. 12.1 m²
(130.2 ft²)

Conventional machine
Approx. 17.3 m²
(186.2 ft²)

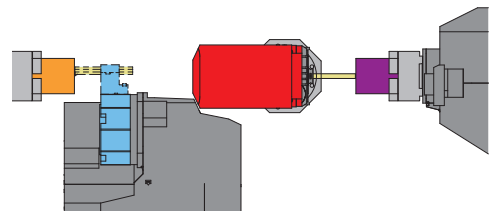
Compared with conventional machine

Approx. 30% smaller



Simultaneous machining <SZ, SZM>

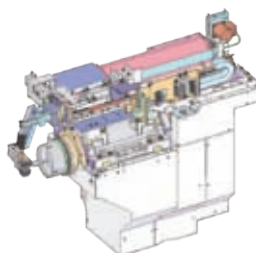
It is possible to use the tool spindle on the Spindle 2 side and Turret 2 on the Spindle 1 side simultaneously.



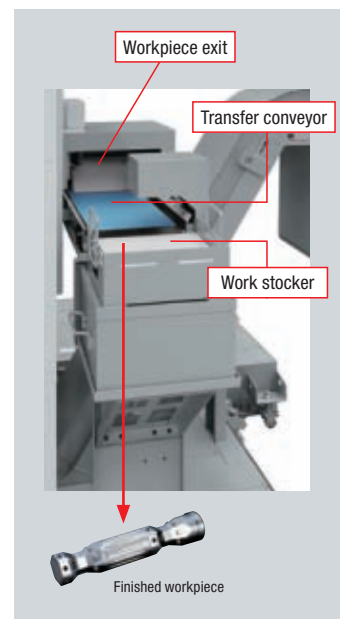
Workpiece unloader <S, SZ, SZM> **OP**

■ Device to promptly and securely unload a workpiece

■ Available for both Spindle 1 and Spindle 2 (The workpiece at Spindle 1 is transferred to Spindle 2 to be unloaded.)



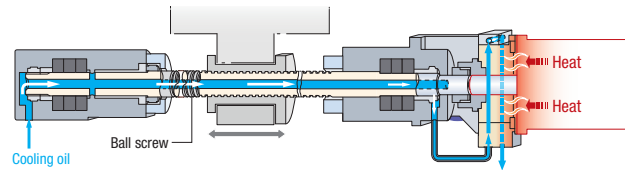
Specifications	Hand type	Bucket type
Max. turning diameter	φ 75 mm (φ 2.9 in.)	
Max. turning length	180 mm (7.0 in.)	
Max. loading capacity	4 kg (8.8 lb.)	



High-precision equipment

Ball screw core cooling

Ball screw core cooling installed on the machine as standard offers high-precision machining.



Feature



Direct scale feedback

OP



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

Magnescape

Resolution

0.01 μm

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

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.



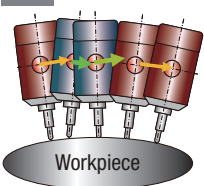
SVC function

(standard features for F31iB5)

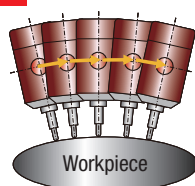
The SVC function, in which the program commands for tool tip control are read in advance and compensation is automatically applied to achieve smooth tool feed, is equipped as standard. By combining this function with DDM (Direct Drive Motor), the machine offers greatly improved surface quality and reduced cycle time during 5-axis machining.

Motion of the SVC function

OFF



ON

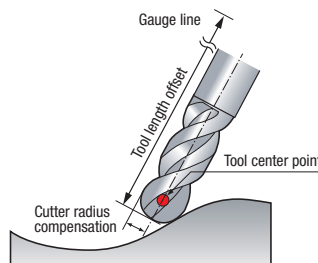


The SVC function includes the following functions:

- AI contour control II
- Nano smoothing II
- Smooth TCP
- Machining mode selection
- G332 tolerance command

Tool center point control/Cutting point command

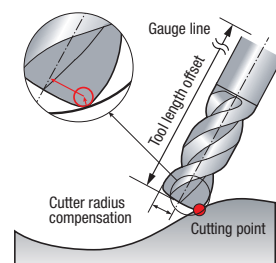
(standard features for F31iB5)



Tool center point control

Main features

- The tool path can be controlled from the tool center point.
- No reprogramming is needed when the tool length and the tool diameter are changed.
- NC automatically calculates cutter radius compensation and tool length offsets based on the program commands for tool tip control.



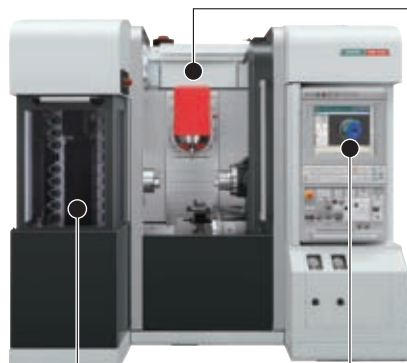
Cutting point command

Main features

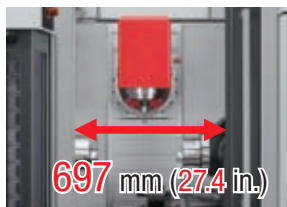
- The tool path can be controlled from the cutting point.
- By using cutting point commands, machining using radius end mills or square end mills can be performed without reprogramming when tool length, cutter radius or tool tip corner R are changed.

Operability·Maintenance

Operability <NTX1000>

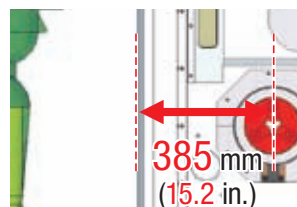


■ Door opening width



The wide door opening 697 mm (27.4 in.) allows easier loading and unloading of workpieces and maintenance inside the machine.

■ Access to the spindle



The machine offers much better access to the workpiece, with the distance from the front of the machine to the spindle center of 385 mm (15.2 in.).

Magazine



The tool magazine is placed on the front side of the machine so that the operator can check and exchange tools at the operating position.

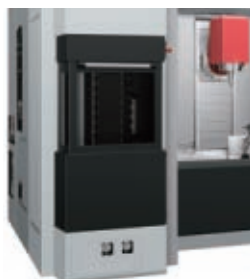
Swivel-type operation panel



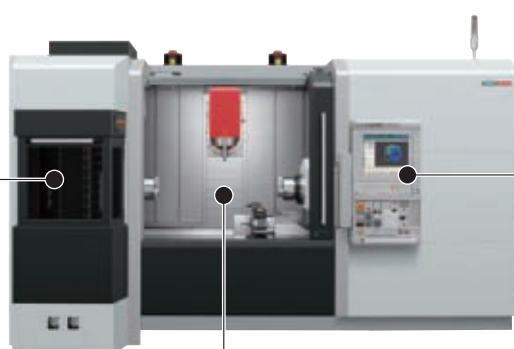
A swivel-type operation panel provides easier setup.

Operability·Maintenance <NTX2000>

Magazine

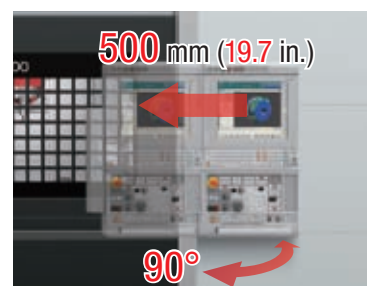


The tool magazine is placed on the front side of the machine so that the operator can check and exchange tools at the operating position.

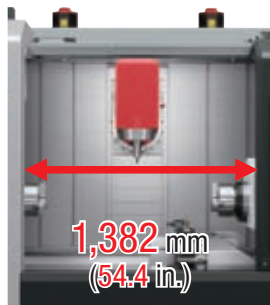


Movable+Swivel-type operation panel

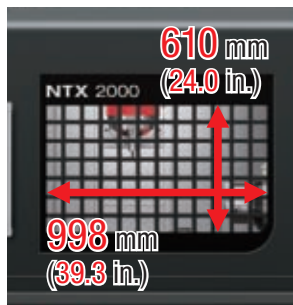
The operation panel moves from side to side, so that it is always close to the operator during setup.



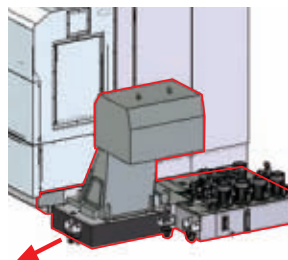
■ Door opening width



■ Size of front door window

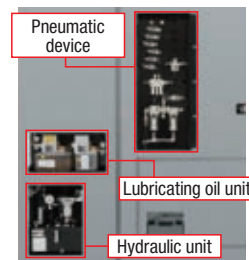


■ Coolant tank



The coolant tank can be pulled toward the front side of the machine.

■ Equipment layout



The equipment layout is designed for daily operation and maintenance.

Peripheral equipment



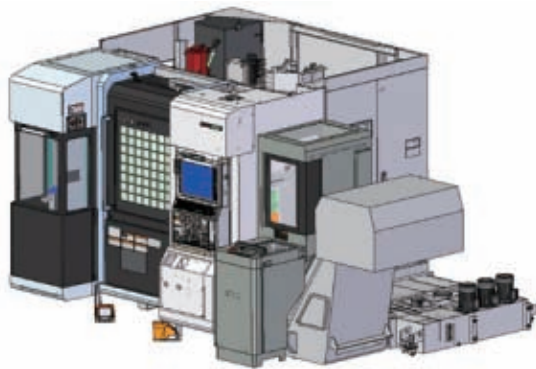
Loader type <NTX1000>

OP

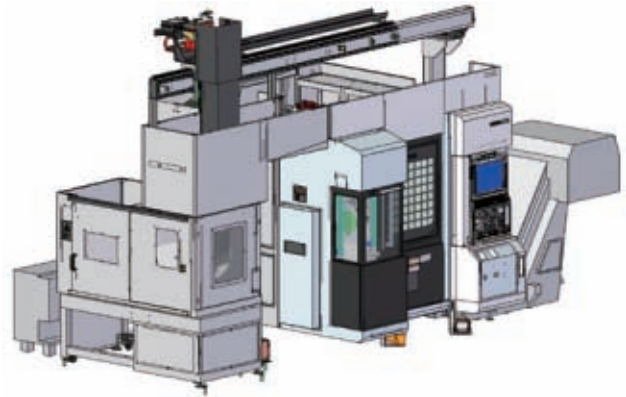
Consultation is required

Loader specifications are available in two types: an integrated type LS-05, and a separate type LG-10. The LS-05 offers loading and unloading functions using the workpiece discharge unit, and its workpiece stocker is integrated with the machine. The LS-05 achieves space savings because the specifications do not require space for a loader.

■ LS-05 (Smart loader)



■ LG-10 (Gantry loader)



			LS-05	LG-10
Workpiece diameter	Min.	mm (in.)	φ 20 (φ 0.8)* ¹	φ 40 (φ 1.6)
	Max.	mm (in.)	φ 100 (φ 3.9)	φ 200 (φ 7.8)
Workpiece length	Min.	mm (in.)	20 (0.8)	20 (0.8)
	Max.	mm (in.)	120 (4.7)	110 (4.3)* ²
Max. transfer weight		kg (lb.)	5 (11.0)	10 (22.0)×2
Workpiece stocker			10 pallets	Stackable 10 pallets
Type of hand			Single hand <2 jaws>	Back end hands <3 jaws>
Jaw stroke		mm (in.)	70 (2.8) <Diameter>	20 (0.8) <Diameter>

*1 If a workpiece diameter is smaller than φ 50 mm (φ 2.0 in.), it is necessary to change hand jaw setups.

*2 If a workpiece length is more than 80 mm (3.1 in.), there will be restrictions on the operation.

● Please consult with our sales representative in the case that a workpiece diameter is less than 40 mm (1.6 in.), or a workpiece length is less than 20 mm (0.8 in.).

External chip conveyor

OP

Two types of chip conveyor have been made available for selection based upon chip shape and material.

Please choose one suited to the type of machining you conduct.

Specifications	Workpiece material and chip size ○: Suitable ×: Not suitable						
	Steel			Cast iron	Aluminum, non-ferrous metal		
	Long	Short	Powdery	Short	Long	Short	Powdery
Hinge type	○	×	×	×	○	×	×
Hinge type + Scraper type + Drum filter 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 chip conveyor is right disposal only.

● The options table below the general options when using coolant. Changes may be necessary if you are not using coolant, or depending on the amount of coolant, compatibility with machines, or the specifications required.

● Please select a chip conveyor to suit the shape of your chips. When using special or difficult-to-cut material (chip hardness HRC45 or higher), please consult with our sales representative.

● We have prepared several options for different chip shapes and material. For details, please consult with our sales representative.



DMSQP (DMG Mori Seiki Qualified Products) OP

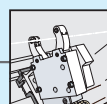
Selected peripherals with superior quality, performance and maintainability.

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

Comprehensive support with machine+peripherals

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

Comprehensive support with machine+peripherals



Hydraulic steady rest

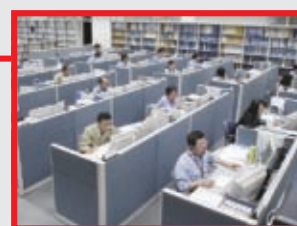


Coolant cooling system



Mist collector

DMSQP



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 (NTX1000/NTX2000)

☐ Hydraulic steady rest

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

☐ Super high-pressure coolant unit

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

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.

☐ Temperature conditioner in electrical cabinet

This prevents temperature rise and dew condensation inside the electrical cabinet.

☐ 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.

☐ Live center

☐ Tool wagon

☐ Tool cabinet

☐ Basic tooling kit

☐ Gear machining package

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

MAPPS IV

A New High-Performance Operating System
for Integrated Mill Turn Centers



MAPPS IV + ESPRIT®



● 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

Checks for interference in 3D for spindles, workpieces, soft jaws, tools, holders and turrets. Since the machine will stop when interference is detected either in manual or in automatic mode, we have achieved the world's safest system against interference.

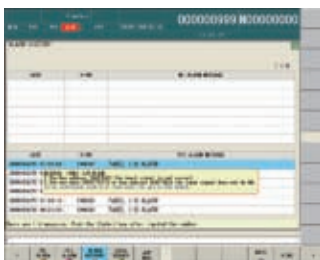


- The 3D interference checking function will check for interference accurately as long as the 3D model exactly matches the actual configuration of the spindles, workpieces, soft jaws, tools, holders and turrets.
- Customized design is required for special shape. For details, please refer to the description 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 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.

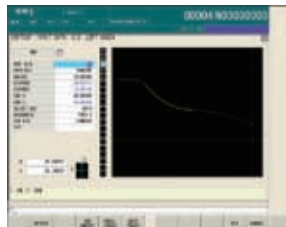
Machining menu



List display function



Contour input



B-axis command function



Relief machining **OP**



DXF import function **OP**



MORI Automatic Programming System for NT

MORI-APNT **OP**

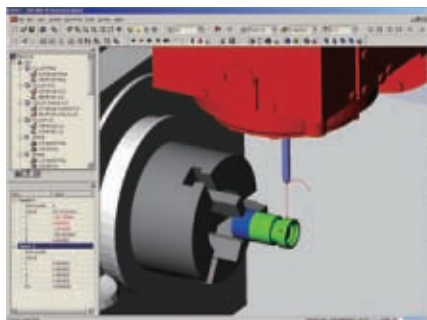
Application systems which let you create machining programs easily on your PC.

- 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

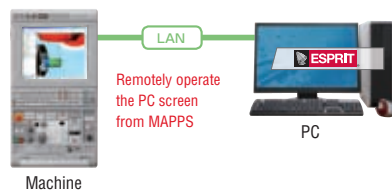
ESPRIT® allows you to create complex 3D programming with high-added value. By just installing the software on your PC with connection to LAN, you will be able to use it. (Once the software is started on the computer, it can be used for up to 7 days without LAN connection)



- 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)

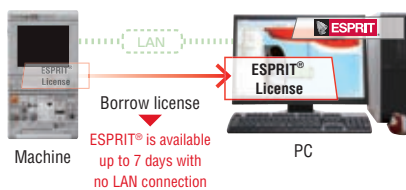
Remote Desktop <Patent pending>

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

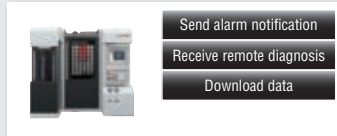
[DMG MORI SEIKI's Service Center]



[Outside the office]



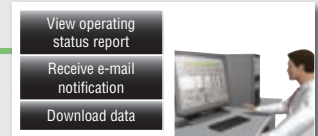
[Plant]



Router

Hub

[Office]



■ 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.



Upon receiving the alarm, the Service Center will contact the customer by phone. (Manual or Automatic alarm sending is selectable)

If recovery is not possible by remote operation, service personnel will quickly visit the customer's factory.



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

[Company's own server]



[Outside the office]

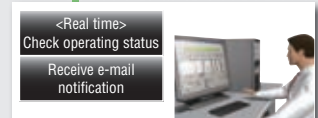


[Plant]



Hub

[Office]



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

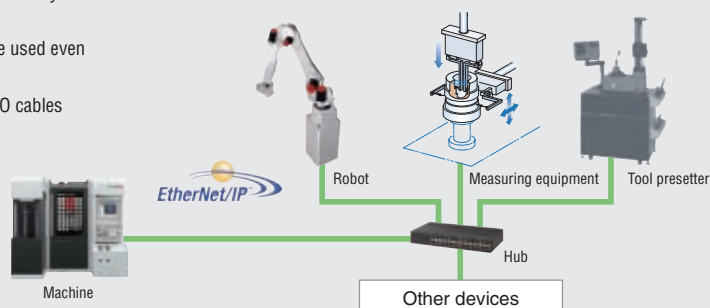
MAPPS EtherNet/IP I/F OP

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

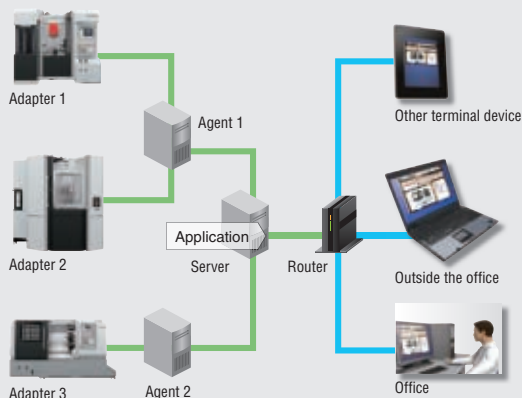
MAPPS MTConnect I/F

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.

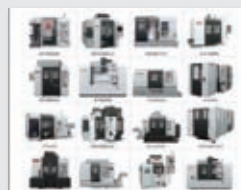
■ Features

- 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 NTX Series pursues a high "environmental performance" that is required of machine tools.



Power-saving function

Power consumption is reduced while operating the machine efficiently.



Automatic machine light function

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

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 off to the servo motor, the spindle, the coolant pump and the chip conveyor, thereby saving energy.

LED lighting

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



Machine specifications

Item			NTX1000/NTX1000 HSC					
			C	T	W	WZ	WZM	
Capacity	Max. swing of workpiece	mm (in.)	φ 370 (φ 14.5)					
	Swing over cross slide	mm (in.)	φ 370 (φ 14.5)				φ 370 (φ 14.5) <Turret 2: φ 300 (φ 11.8)>	
	Max. turning diameter	mm (in.)	φ 370 (φ 14.5)				φ 370 (φ 14.5) <Turret 2: φ 270 (φ 10.6)>	
	Max. turning length	mm (in.)	424 (16.6)					
	Bar work capacity	mm (in.)	φ 52 (φ 2.0) [φ 65 (φ 2.5)]*					
Travel	X-axis (Tool spindle)	mm (in.)	380 (15.0) <330 (13.0)+50 (2.0)>					
	Y-axis (Tool spindle)	mm (in.)	±105 (±4.1)					
	Z-axis (Tool spindle)	mm (in.)	460+155 (18.1+6.1) <for ATC>					
	B-axis (Tool spindle)		±120°					
	X2-axis (Turret 2)	mm (in.)	-				155 (6.1)	
	Z2-axis (Turret 2)	mm (in.)	-				610 (24.0)	
	BW-axis		4 positioning angles <0°, -25°, -90°, -180° (LS-05)/-190°--195° (Transfer conveyor)>					
	Spindle 1	Max. spindle speed	min ⁻¹	6,000 [5,000]*				
Number of spindle speed ranges			2 <Winding change-over>					
Spindle nose			JIS A ₂ -5 [JIS A ₂ -6]*					
Through-spindle hole diameter		mm (in.)	φ 61 (φ 2.4) [φ 73 (φ 2.9)]*					
Min. spindle indexing increment			0.0001°					
Spindle bearing inner diameter		mm (in.)	φ 100 (φ 3.9) [φ 110 (φ 4.3)]*					
Spindle torque (40%ED/30min./cont)		N·m (ft·lbf)	223/172/158 (164.5/126.9/116.5)					
Workpiece discharge unit	Allowable rotational speed	min ⁻¹	-				1,000	
	Bearing I.D.	mm (in.)	-				φ 70 (φ 2.7)	
Tool spindle (Turret 1)	Number of tool stations		1					
	Min. B-axis indexing increment		0.0001°					
	Max. tool spindle speed	min ⁻¹	NTX1000: 12,000 NTX1000 HSC: 20,000					
	Taper hole of rotary tool spindle		Capto C5 [HSK-A50 (T50)] [KM-50]					
	Type of retention knob		-					
	Inner diameter of rotary Tool spindle bearing	mm (in.)	φ 65 (φ 2.5)					
	Tool storage capacity		38 [76]					
	Max. tool diameter	With adjacent tools mm (in.) Without adjacent tools mm (in.)	φ 70 (φ 2.7) φ 130 (φ 5.1)					
	Max. tool length	mm (in.)	250 (9.8) <Tool diameter smaller than φ 70 mm (φ 2.7 in.)>/210 (8.2) <Tool diameter larger than φ 70 mm (φ 2.7 in.)>					
	Max. tool mass	kg (lb.)	5 (11.0)					
	Max. tool mass moment (from spindle gauge line)	N·m (ft·lbf)	3.9 (2.9) <A tool with a mass moment greater than the maximum tool mass moment may cause problems during ATC operations even if it satisfies other conditions>					
	Tool changing time (Tool-to-tool)	sec.	1.2					
	Spindle torque (15%ED/25%ED/cont)	N·m (ft·lbf)	49/37/22 (36.1/27.3/16.2)					
Turret 2	Number of tool stations		-				10	
	Turret indexing time (1-station)	sec.	-				0.19	
	Shank height for square tool	mm (in.)	-				20 (0.8)	
	Shank diameter for boring bar	mm (in.)	-				Max. φ 32 (φ 1.2)	
	Max. rotary tool spindle speed	min ⁻¹	-					6,000
	Spindle torque (15%ED/cont)	N·m (ft·lbf)	-					4.8/2.3 (3.5/1.7)
Tailstock	Tailstock spindle diameter	mm (in.)	-	φ 90 (φ 3.5)	-			
	Taper hole of tailstock spindle		-	Live center <MT4> [Built-in center <MT3>]	-			
	Tailstock travel	mm (in.)	-	815 (32.1)	-			
Feedrate	Rapid traverse rate	mm/min (ipm)	Tool spindle X, Y: 40,000 (1,574.8) Z: 50,000 (1,968.5)		Tool spindle X, Y: 40,000 (1,574.8) Z: 50,000 (1,968.5) Workpiece discharge unit A: 36,000 (1,417.3)	Tool spindle X, Y: 40,000 (1,574.8) Z: 50,000 (1,968.5) Workpiece discharge unit A: 36,000 (1,417.3) Turret 2 X2: 20,000 (787.4), Z2: 36,000 (1,417.3)		
		min ⁻¹	B: 100 C: 250					
Motors	Motor for Spindle 1 (40%ED/30 min./cont)	kW (HP)	11/11/7.5 (15/15/10)					
	Tool spindle drive motor (25%ED/cont)	kW (HP)	9/5.5 (12.0/7.5)					
	Turret 2 rotary tool spindle drive motor (15%ED/cont)	kW (HP)	-					1.5/1.2 (2/1.6)
Power sources (Standard)	Electrical power supply (cont)	kVA	28.4	28.6	28.4	34.8		
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 650 (171.6) <ANR>					
Tank capacity	Coolant tank capacity	L (gal)	450 (118.8)					
Machine size	Machine height	mm (in.)	2,397 (94.4)					
	Floor space (Width×Depth)	mm (in.)	2,554×2,701 (100.6×106.3) <excluding chip conveyor>					
	Mass of machine	kg (lb.)	8,200 (18,040)	8,450 (18,590)	8,950 (19,690)	9,000 (19,800)		
Noise data	A-weighted, time-average radiated sound pressure level	dB	61–80 (measurement uncertainty is 4 dB)					

[] Option

NTX1000 (120509)

HSC: High Speed Cutting

* For φ 65 mm (φ 2.5 in.) bar work capacity specifications.

● 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.

● Please use a dual contact tool when using a No. 40 taper spindle at 15,000 min⁻¹ or higher.

● 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 Capto C5 tool spindle taper, a maximum tool spindle speed of 12,000 min⁻¹, and a maximum spindle speed of 6,000 min⁻¹ (Spindle 1).

For details, please consult with your sales representative.

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

Machine specifications

Item			NTX1000/NTX1000 HSC			
			S	SZ	SZM	
Capacity	Max. swing of workpiece	mm (in.)	φ 370 (φ 14.5)			
	Swing over cross slide	mm (in.)	φ 370 (φ 14.5)	φ 370 (φ 14.5) <Turret 2: φ 300 (φ 11.8)>		
	Max. turning diameter	mm (in.)	φ 370 (φ 14.5)	φ 370 (φ 14.5) <Turret 2: φ 270 (φ 10.6)>		
	Max. turning length	mm (in.)	424 (16.6)			
	Bar work capacity	mm (in.)	φ 52 (φ 2.0) [φ 65 (φ 2.5)]*			
Travel	X-axis (Tool spindle)	mm (in.)	380 (15.0) <330 (13.0)+50 (2.0)>			
	Y-axis (Tool spindle)	mm (in.)	±105 (±4.1)			
	Z-axis (Tool spindle)	mm (in.)	460+155 (18.1+6.1) <for ATC>			
	B-axis (Tool spindle)		±120°			
	X2-axis (Turret 2)	mm (in.)	—	155 (6.1)		
	Z2-axis (Turret 2)	mm (in.)	—	610 (24.0)		
	BW-axis		4 positioning angles <0°, -25°, -90°, -180° (LS-05)/-190°--195° (Transfer conveyor)>			
Spindle 1	Max. spindle speed	min ⁻¹	6,000 [5,000]*			
	Number of spindle speed ranges		2 <Winding change-over>			
	Spindle nose		JIS A ₁ -5 [JIS A ₁ -6]*			
	Through-spindle hole diameter	mm (in.)	φ 61 (φ 2.4) [φ 73 (φ 2.9)]*			
	Min. spindle indexing increment		0.0001°			
	Spindle bearing inner diameter	mm (in.)	φ 100 (φ 3.9) [φ 110 (φ 4.3)]*			
	Spindle torque (40%ED/30min./cot)	N·m (ft·lbf)	223/172/158 (164.5/126.9/116.5)			
Spindle 2	Max. spindle speed	min ⁻¹	6,000			
	Number of spindle speed ranges		1			
	Spindle nose		φ 80 (φ 3.1) g6 flat nose			
	Through-spindle hole diameter	mm (in.)	φ 38 (φ 1.5)			
	Min. spindle indexing increment		0.0001°			
	Spindle bearing inner diameter	mm (in.)	φ 70 (φ 2.7)			
	Spindle torque (25%ED/cont)	N·m (ft·lbf)	37/22 (27.3/16.2)			
Tool spindle (Turret 1)	Number of tool stations		1			
	Min. B-axis indexing increment		0.0001°			
	Max. tool spindle speed	min ⁻¹	NTX1000: 12,000 NTX1000 HSC: 20,000			
	Taper hole of rotary tool spindle		Capto C5 [HSK-A50 (T50)] [KM-50]			
	Type of retention knob		—			
	Inner diameter of rotary Tool spindle bearing	mm (in.)	φ 65 (φ 2.5)			
	Tool storage capacity		38 [76]			
	Max. tool diameter	With adjacent tools mm (in.) Without adjacent tools mm (in.)	φ 70 (φ 2.7) φ 130 (φ 5.1)			
	Max. tool length	mm (in.)	250 (9.8) <Tool diameter smaller than φ 70 mm (φ 2.7 in.)>/210 (8.2) <Tool diameter larger than φ 70 mm (φ 2.7 in.)>			
	Max. tool mass	kg (lb.)	5 (11.0)			
	Max. tool mass moment (from spindle gauge line)	N·m (ft·lbf)	3.9 (2.9)			
	Tool changing time (Tool-to-tool)	sec.	1.2			
	Spindle torque (15%ED/25%ED/cont)	N·m (ft·lbf)	49/37/22 (36.1/27.3/16.2)			
	Turret 2	Number of tool stations		—	10	
		Turret indexing time (1-station)	sec.	—	0.19	
Shank height for square tool		mm (in.)	—	20 (0.8)		
Shank diameter for boring bar		mm (in.)	—	Max. φ 32 (φ 1.2)		
Max. rotary tool spindle speed		min ⁻¹	—	6,000		
Spindle torque (15%ED/cont)		N·m (ft·lbf)	—	4.8/2.3 (3.5/1.7)		
Feedrate	Rapid traverse rate	mm/min (ipm)	Tool spindle X, Y: 40,000 (1,574.8) Z: 50,000 (1,968.5) Spindle 2 A: 36,000 (1,417.3)	Tool spindle X, Y: 40,000 (1,574.8) Z: 50,000 (1,968.5) Turret 2 X2: 20,000 (787.4), Z2: 36,000 (1,417.3) Spindle 2 A: 36,000 (1,417.3)		
		min ⁻¹	B: 100 C: 250			
Motors	Motor for Spindle 1 (40%ED/30 min./cont)	kW (HP)	11/11/7.5 (15/15/10)			
	Spindle 2 drive motor (25%ED/cont)	kW (HP)	7.5/5.5 (10/7.5)			
	Tool spindle drive motor (25%ED/cont)	kW (HP)	9/5.5 (12.0/7.5)			
	Turret 2 rotary tool spindle drive motor (15%ED/cont)	kW (HP)	—	1.5/1.2 (2/1.6)		
Power sources (Standard)	Electrical power supply (cont)	kVA	35.1	41.2		
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 650 (171.6) <ANR>			
Tank capacity	Coolant tank capacity	L (gal)	450 (118.8)			
Machine size	Machine height	mm (in.)	2,397 (94.4)			
	Floor space (Width×Depth)	mm (in.)	2,554×2,701 (100.6×106.3) <excluding chip conveyor>			
	Mass of machine	kg (lb.)	8,450 (18,590)	8,950 (19,690)	9,000 (19,800)	
Noise data	A-weighted, time-average radiated sound pressure level	dB	61–80 (measurement uncertainty is 4 dB)			

[] Option

NTX1000 (120509)

HSC: High Speed Cutting

* For φ 65 mm (φ 2.5 in.) bar work capacity specifications.

● 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.

● Please use a dual contact tool when using a No. 40 taper spindle at 15,000 min⁻¹ or higher.

● 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 Capto C5 tool spindle taper, a maximum tool spindle speed of 12,000 min⁻¹, and a maximum spindle speed of 6,000 min⁻¹ (Spindle 1). For details, please consult with your sales representative.

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

Item			NTX2000/1500T	NTX2000/1500TZ	NTX2000/1500T2M
Capacity	Max. swing of workpiece	mm (in.)	φ 660 (φ 25.9)		
	Swing over cross slide	mm (in.)	φ 660 (φ 25.9)	φ 660 (φ 25.9) <Turret 2 φ 300 (φ 11.8)>	
	Max. turning diameter	mm (in.)	φ 610 (φ 24.0) <φ 660 (φ 25.9)*1> <Turret 2 φ 274 (φ 10.7)>		
	Max. turning length	mm (in.)	1,540 (60.6)		
	Bar work capacity	mm (in.)	φ 65 (φ 2.5) [φ 80 (φ 3.1)**]		
Travel	X-axis (Tool spindle)	mm (in.)	495 (19.5) <470 (18.5)+25 (1.0)>		
	Y-axis (Tool spindle)	mm (in.)	±125 (±4.9)		
	Z-axis (Tool spindle)	mm (in.)	1,560 (61.4)+215 (8.5) <for ATC>		
	B-axis (Tool spindle)		±120°		
	X2-axis (Turret 2)	mm (in.)	–	160 (6.3)	
	Z2-axis (Turret 2)	mm (in.)	–	1,302 (51.3)	
Spindle 1	Max. spindle speed	min ⁻¹	5,000 [4,000**]		
	Number of spindle speed ranges		1		
	Spindle nose		A ₁ -6 [A ₁ -8**]		
	Through-spindle hole diameter	mm (in.)	φ 73 (φ 2.9) [φ 91 (φ 3.6)**]		
	Min. spindle indexing increment		0.0001°		
	Spindle bearing inner diameter	mm (in.)	φ 120 (φ 4.7) [φ 140 (φ 5.5)**]		
	Spindle torque (15%ED/30 min./cont)	N·m (ft·lbf)	230/178/159 (169.6/131.3/117.3) [358/231/214 (264.0/170.4/157.8)**]		
Tool spindle (Turret 1)	Number of tool stations		1		
	Min. B-axis indexing increment		0.0001°		
	Max. tool spindle speed	min ⁻¹	12,000		
	Taper hole of rotary tool spindle		Capto C6 [BT40**] [CAT40] [HSK-A63] [KM-63]		
	Type of retention knob (BT40, CAT40)		DMG MORI SEIKI 90° (Center through)		
	Inner diameter of rotary Tool spindle bearing	mm (in.)	φ 70 (φ 2.7)		
	Tool storage capacity		38 [76]		
	Max. tool diameter	With adjacent tools	mm (in.)	φ 70 (φ 2.7)	
		Without adjacent tools	mm (in.)	φ 125 (φ 4.9)	
	Max. tool length	mm (in.)	300 (11.8)		
	Max. tool mass	kg (lb.)	8 (17.6) [10 (22)]		
	Tool changing time (Tool-to-tool)	sec.	1.25		
Spindle torque (10%ED/cont)	N·m (ft·lbf)	120/44 (88.5/32.5)			
Turret 2	Number of tool stations		–	10	
	Turret indexing time (1-station)	sec.	–	0.19	
	Shank height for square tool	mm (in.)	–	20 (0.8)	
	Shank diameter for boring bar	mm (in.)	–	Max. φ 32 (φ 1.2)	
	Max. rotary tool spindle speed	min ⁻¹	–	6,000	
	Spindle torque (15%ED/cont)	N·m (ft·lbf)	–	4.8/2.3 (3.5/1.7)	
Tailstock	Tailstock spindle diameter	mm (in.)	110 (4.3)		
	Taper hole of tailstock spindle		Live center (MT5) [Built-in center (MT4)]		
	Tailstock travel	mm (in.)	1,500 (59.1)	1,400 (55.1)	
Feedrate	Rapid traverse rate	mm/min (ipm)	Tool spindle X, Y, Z: 40,000 (1,574.8)	Tool spindle X, Y, Z: 40,000 (1,574.8) Turret 2 X2: 30,000 (1,181.1) Z2: 38,000 (1,496.1)	
Motors	Motor for Spindle 1 (30 min./cont)	kW (HP)	22/18.5 (30/24.7)		
	Tool spindle drive motor (10 min./cont)	kW (HP)	18.5/11 (24.7/15)		
	Turret 2 rotary tool spindle drive motor (15%ED/cont)	kW (HP)	–		1.5/1.2 (2/1.6)
Power sources (Standard)	Electrical power supply (cont)	kVA	50.5	58.0	58.1
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 650 (171.6) <ANR>		
Tank capacity	Coolant tank capacity	L (gal)	675 (178.2)		
Machine size	Machine height	mm (in.)	2,621 (103.2)		
	Floor space (Width×Depth)	mm (in.)	4,080×2,980 (160.6×117.3) <excluding chip conveyor>		
	Mass of machine	kg (lb.)	14,110**2 (31,042) [14,620**3 (32,164)]	14,860**2 (32,692) [15,370**3 (33,814)]	14,910**2 (32,802) [15,420**3 (33,924)]

[] Option

*1 For when B-axis is at 90° position.

*2 Tool storage capacity: 38 tools

*3 Tool storage capacity: 76 tools

*4 High-torque

*5 For φ80 mm (φ3.1 in.) bar work capacity specifications.

*6 When selecting the two-face contact tool specification, be sure to use a two-face contact tool.

●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: 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 March 2013.

Machine specifications

Item			NTX2000/1500S	NTX2000/1500SZ	NTX2000/1500SZM
Capacity	Max. swing of workpiece	mm (in.)	φ 660 (φ 25.9)		
	Swing over cross slide	mm (in.)	φ 660 (φ 25.9) <Turret 2 φ 300 (φ 11.8)>		
	Max. turning diameter	mm (in.)	φ 610 (φ 24.0) <φ 660 (φ 25.9)*1>		
	Max. turning length	mm (in.)	1,540 (60.6)		
	Bar work capacity	mm (in.)	φ 65 (φ 2.5) [φ 80 (φ 3.1)*3]		
Travel	X-axis (Tool spindle)	mm (in.)	495 (19.5) <470 (18.5)+25 (1.0)>		
	Y-axis (Tool spindle)	mm (in.)	±125 (±4.9)		
	Z-axis (Tool spindle)	mm (in.)	1,560 (61.4)+215 (8.5) <for ATC>		
	B-axis (Tool spindle)		±120°		
	X2-axis (Turret 2)	mm (in.)	160 (6.3)		
	Z2-axis (Turret 2)	mm (in.)	1,402 (55.2)		
Spindle 1	Max. spindle speed	min ⁻¹	5,000 [4,000**]		
	Number of spindle speed ranges		1		
	Spindle nose		A ₁ -6 [A ₁ -8**]		
	Through-spindle hole diameter	mm (in.)	φ 73 (φ 2.9) [φ 91 (φ 3.6)**]		
	Min. spindle indexing increment		0.0001°		
	Spindle bearing inner diameter	mm (in.)	φ 120 (φ 4.7) [φ 140 (φ 5.5)**]		
	Spindle torque (15%ED/30 min./cont)	N·m (ft·lbf)	230/178/159 (169.6/131.3/117.3) [358/231/214 (264.0/170.4/157.8)**]		
Spindle 2	Max. spindle speed	min ⁻¹	5,000		
	Number of spindle speed ranges		1		
	Spindle nose		A ₂ -6		
	Through-spindle hole diameter	mm (in.)	φ 73 (φ 2.9)		
	Min. spindle indexing increment		0.0001°		
	Spindle bearing inner diameter	mm (in.)	φ 120 (φ 4.7)		
	Spindle torque (15%ED/30 min./cont)	N·m (ft·lbf)	230/178/159 (169.6/131.3/117.3)		
Tool spindle (Turret 1)	Number of tool stations		1		
	Min. B-axis indexing increment		0.0001°		
	Max. tool spindle speed	min ⁻¹	12,000		
	Taper hole of rotary tool spindle		Capto C6 [BT40**] [CAT40] [HSK-A63] [KM-63]		
	Type of retention knob (BT40, CAT40)		DMG MORI SEIKI 90° (Center through)		
	Inner diameter of rotary Tool spindle bearing	mm (in.)	φ 70 (φ 2.7)		
	Tool storage capacity		38 [76]		
	Max. tool diameter	mm (in.)	φ 70 (φ 2.7)		
	Without adjacent tools	mm (in.)	φ 125 (φ 4.9)		
	Max. tool length	mm (in.)	300 (11.8)		
	Max. tool mass	kg (lb.)	8 (17.6) [10 (22)]		
	Tool changing time (Tool-to-tool)	sec.	1.25		
Turret 2	Spindle torque (10%ED/cont)	N·m (ft·lbf)	120/44 (88.5/32.5)		
	Number of tool stations		10		
	Turret indexing time (1-station)	sec.	0.19		
	Shank height for square tool	mm (in.)	20 (0.8)		
	Shank diameter for boring bar	mm (in.)	Max. φ 32 (φ 1.2)		
	Max. rotary tool spindle speed	min ⁻¹	6,000		
Feedrate	Spindle torque (15%ED/cont)	N·m (ft·lbf)	4.8/2.3 (3.5/1.7)		
	Rapid traverse rate	mm/min (ipm)	Tool spindle X, Y, Z: 40,000 (1,574.8) Spindle 2 X2: 30,000 (1,181.1) Z2: 38,000 (1,496.1) Spindle 2 A: 30,000 (1,181.1)		
Motors	Motor for Spindle 1 (30 min./cont)	kW (HP)	22/18.5 (30/24.7)		
	Spindle 2 drive motor (30 min./cont)	kW (HP)	22/18.5 (30/24.7)		
	Tool spindle drive motor (10 min./cont)	kW (HP)	18.5/11 (24.7/15)		
	Turret 2 rotary tool spindle drive motor (15%ED/cont)	kW (HP)	1.5/1.2 (2/1.6)		
Power sources (Standard)	Electrical power supply (cont)	kVA	72.1		
	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 650 (171.6) <ANR>		
Tank capacity	Coolant tank capacity	L (gal)	675 (178.2)		
	Machine height	mm (in.)	2,621 (103.2)		
Machine size	Floor space (Width×Depth)	mm (in.)	4,080×2,980 (160.6×117.3) <excluding chip conveyor>		
	Mass of machine	kg (lb.)	14,520*2 (31,944) [15,030*1 (33,066)]		

[] Option

*1 For when B-axis is at 90° position.

*2 Tool storage capacity: 38 tools

*3 Tool storage capacity: 76 tools

*4 High-torque

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● 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>.

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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.



- The tool wagon (left) and tool cabinet (right) are DMSQP (DMG Mori Seiki Qualified Products), not standard equipment.

DMSQP: DMG Mori Seiki Qualified Products

High-Precision, High-Efficiency Integrated Mill Turn Center

NTX 1000
NTX 2000

NTX 1000 HSC

HSC: High Speed Cutting

Compliance with safety standards

The X-class machine complies with safety standards of the respective countries around the world.
(CE marking, UL, ANSI and other standards)

CE marking: a conformance display

CE: Communauté Européenne

UL: Underwriters Laboratories Inc.

ANSI: American National Standards Institute

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.



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