DMG MORI

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

NZX 2500

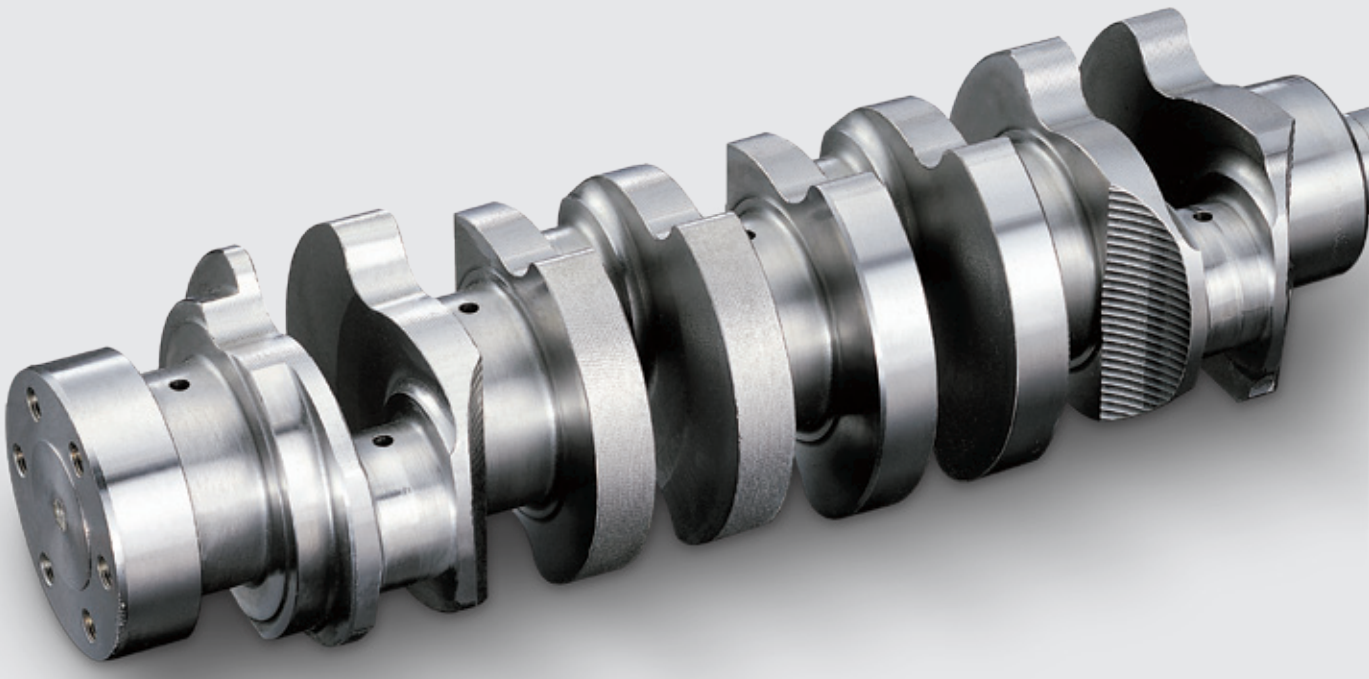
NZX 2500 | 600
NZX 2500 | 1000

DMGMORI.COM

NZX 2500

Overwhelming Manufacturing Capability Standing Out in Shaft & Flange Machining

The NZX 2500 is a multi-axis turning center that can accommodate a 10-inch-class chuck. The machine has improved machining capability, accuracy and machine quality by analyzing and reflecting the needs and wants for process integration and higher quality which come mainly from the automotive industry. It employs Turret 1 and Turret 2 with maximum 12 tool stations, all of which can mount rotary tools, thereby significantly reducing machining time by the combined use of the two turrets. Offering the Y-axis function, the NZX 2500 demonstrates its superb performance in complex, integrated machining of shafts and flanges.



1

2

4

3

5

Automobiles

1 Crank shaft
2 Brake drum
3 Cylinder liner

Construction machinery

4 Spindle

Agricultural machinery

5 Axle shaft

NZX 2500

Finely Honed Quality and Productivity

The NZX 2500 was developed to achieve the best quality and productivity in shaft and flange machining. The slideways are used for all axes, and a bearing with the largest diameter in its class of ϕ140 mm (ϕ5.5 in.) is used in the spindle to enhance the rigidity of both machine body and spindle, allowing the machine to achieve heavy-duty cutting. Equipped with the touch screen user interface CELOS, the NZX 2500 flexibly handles any conceivable situation at every production process. The NZX 2500, which has completely eliminated waste while seeking even greater productivity and quality, takes customers' shop floor to a new stage.

Milling <Option>*1

+ Turret equipped with BMT (Built-in Motor Turret)
+ High-speed rotary tool spindle: 10,000 min^{-1}
+ Maximum rotary tool spindle torque:
  40 N • m (29.5 ft•lbf) <3 min>*2

High rigidity

+ Slideways are used for all axes
+ High tailstock rigidity
+ Lightweight yet robust body achieved through FEM analysis

High precision

+ High-resolution full closed loop control (Scale feedback) (Option)
+ Improved machining accuracy thanks to the thermally stable structure

Reliability

+ Sophisticated spindle labyrinth structure
+ Outstanding chip disposal

CELOS

+ Consistent administration, documentation and visualization of order, process and machine data
+ Expansion of functions possible by adding applications.
  High affinity with existing information infrastracture and software

Energy-saving

+ Energy-saving Setting and Visualization of Energy-saving Effect

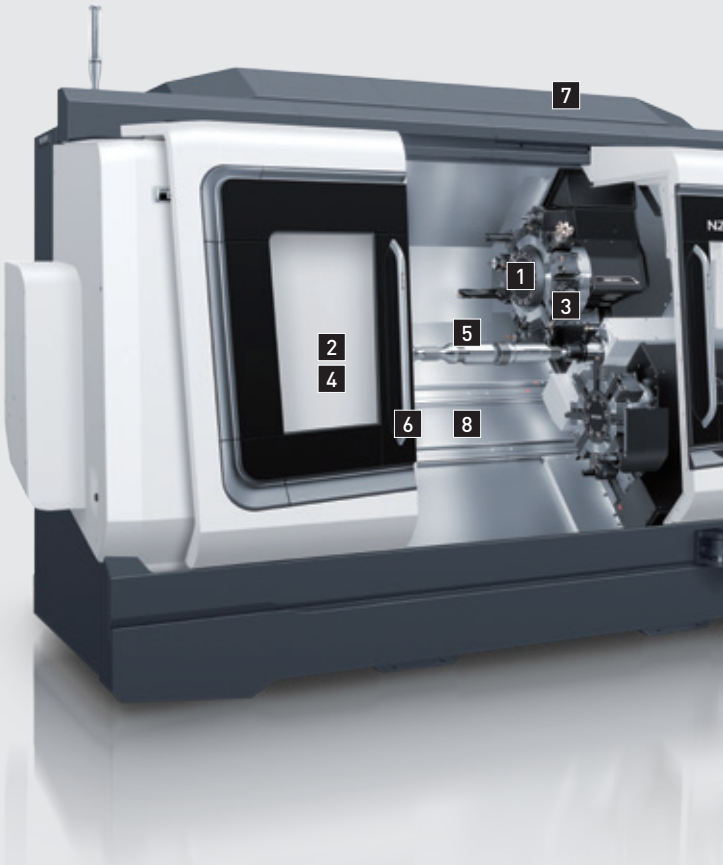
*1 Only for milling specification or Y-axis specifications
*2 Turret 1 only

FEM: Finite Element Method
BMT: Built-in Motor Turret
CELOS: Control Efficiency Lead Operation System

NZX 2500

Best Solutions for Your Shop Floor

The NZX 2500 provides solutions for higher machining accuracy, higher production efficiency by automation, better chip disposal, maintainability and setup performance. With various cutting-edge solutions, the NZX 2500 demonstrates its capabilities to the full extent and achieves a higher level of machining. DMG MORI offers the best solutions that solve your shop issues.

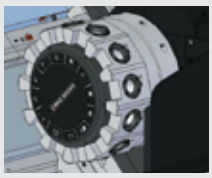


1

Turret

For various types of machining


10-station Turret (Turret 1)


Milling turret (Turret 2)

2

Spindle output

For heavy-duty cutting


5,000 min^{-1}
<Through-spindle hole diameter
ϕ73 mm (ϕ2.8 in.)>
2,500 min^{-1}
<Through-spindle hole diameter
ϕ111 mm (ϕ4.3 in.)>

3

Tool holder

Higher efficiency by holders optimal for each machining


Hob cutting holder

4

Workpiece support

Workpiece support suitable for your workpiece and machining


8-inch chuck
12-inch chuck


Collet chuck


MT4 (Built-in center)

5

Long workpieces

Chatter control


Hydraulic steady rest
(Turret 2)

6

Better setup performance

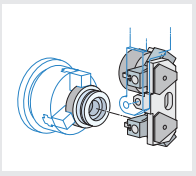
Drastically shortened setup time

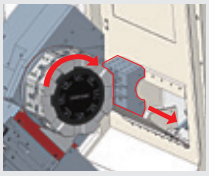

Automatic in-machine tool pre-setter

7 Mass production, automation

Versatility, labor saving, quick setup changes


Bar feeder

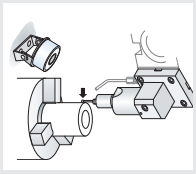

Loader system

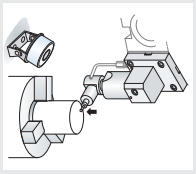

Workpiece unloader


Robot system

8 Machining accuracy

Meeting high accuracy requirements


In-machine measuring system (Measurement of workpiece diameter)


In-machine measuring system (Measurement of workpiece length)


Full closed loop control (Scale feedback)


Coolant chiller

9 Cutting technology

Improving machining efficiency with Technology Cycles all at once


Excentric machining

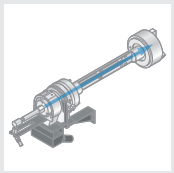
10 Chip disposal

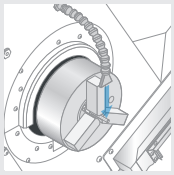
Higher cutting performance

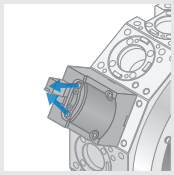

Chip conveyor


Super-high pressure coolant system


Coolant gun

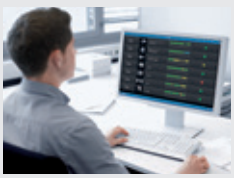

Through-spindle coolant system


Coolant in upper part of chuck


Air blow (Tool tip)

11 Maintenance

Improved production efficiency by preventive maintenance




DMG MORI Messenger


Air dryer


Oil skimmer


Mist collector

NZX 2500

A Wide Range of Variations Meeting Mass Production Needs

The NZX 2500 offers three variations of chuck sizes of 8 inches, 10 inches and 12 inches, and distances between centers of 600 mm and 1,000 mm. The turning specification, milling specification and Y-axis specification are available for Turret 1, and the turning specification and milling specification for Turret 2. Varieties of options make it possible for customers to choose the specification most suited to their needs according to workpieces.

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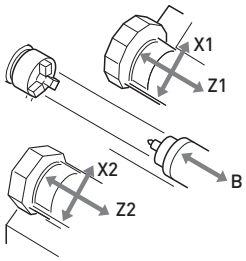
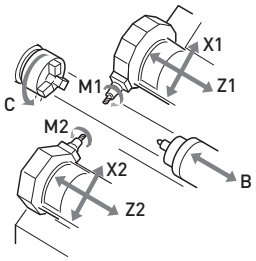
Variations

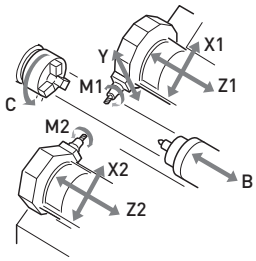
Turning specifications

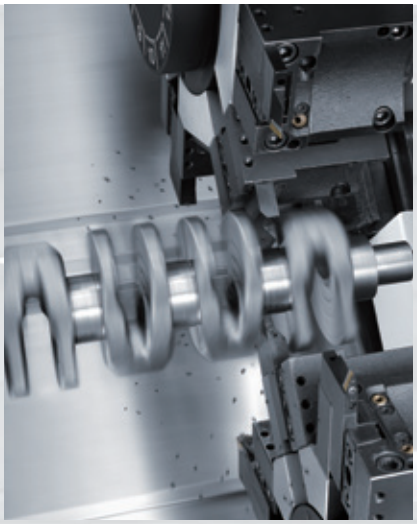


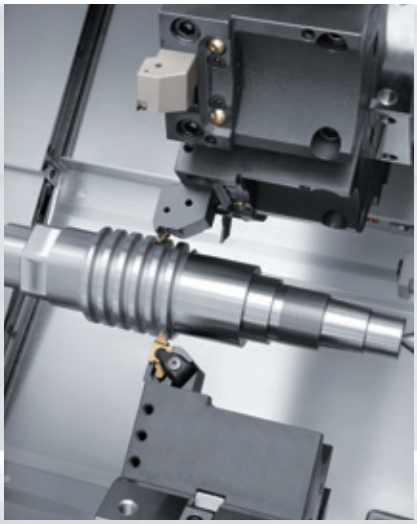
Milling specifications



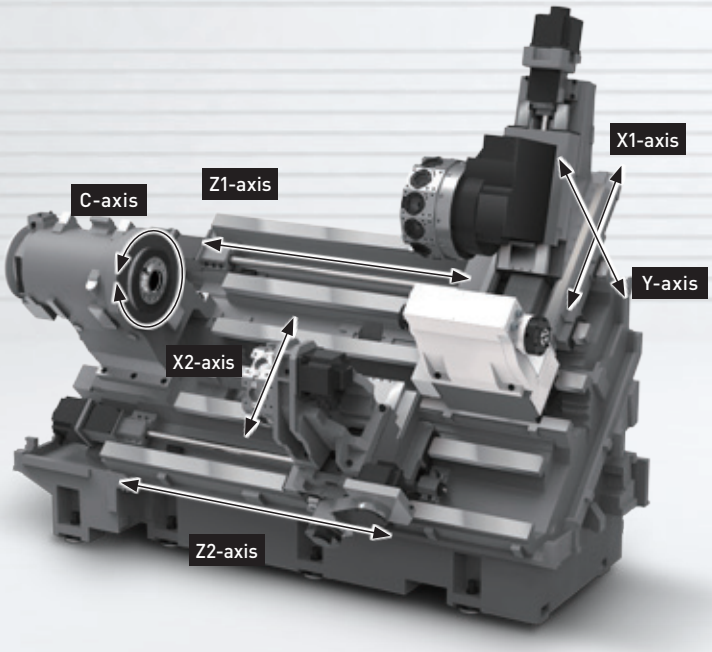
Y-axis specifications







NZX 2500 | 1000



		NZX 2500 | 600	NZX 2500 | 1000
Chuck size		10-inch, 8-inch, 12-inch	
Travel (X-axis)	mm (in.)	No.1: 225 <185 + 40> (8.8 <7.2 + 1.5>)	No.2: 170 <130 + 40> (6.6 <5.1 + 1.5>)
Travel (Y-axis) <Y-axis specifications>	mm (in.)	No.1: +70 / -50 (+2.7 / -1.9 in.)	
Travel (Z-axis)	mm (in.)	No.1: 650 (25.5) No.2: 650 (25.5)	No.1: 1,050 (41.3) No.2: 1,050 (41.3)
Max. spindle speed	min^{-1}	4,000, 5,000*1, 2,500*2	
Floor space (Width × Depth) <Excluding chip conveyor>	mm (in.)	3,445 (135.6) × 2,199 (86.6)	4,035 (158.9) × 2,800 (110.2)

No.1: Turret 1 No.2: Turret 2
*1 Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)
*2 Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)

NZX 2500

Bed with Integrated Slideways Achieving the Ultimate in Rigidity

DMG MORI pursues high rigidity from the basic design stage through FEM analysis. Independent slideways are used for Turret 1, Turret 2 and the tailstock, so the Turret 2 movement in the Z-axis direction is not restricted by the tailstock, thus achieving higher tailstock rigidity. Moreover, all axes with slideways 20% wider than the previous models' also contribute to increasing machine rigidity by 50%. This makes the cut more stable and resistant to chatter, and enables the machine to handle a broad range of machining including heavy-duty cutting.

Slideways are used for all axes

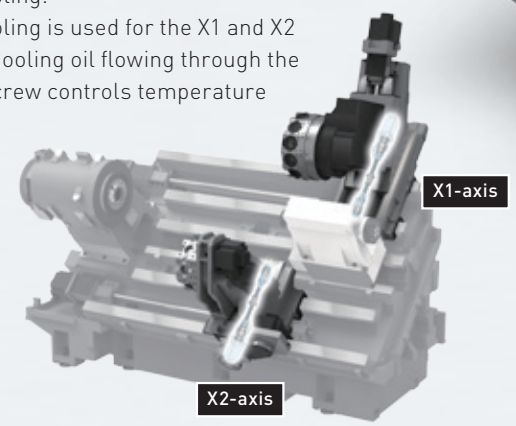
+ As the bed is equipped with three independent slideways for Turret 1, Turret 2 and the tailstock, the Turret 2 movement is not restricted by the tailstock and steady rest.

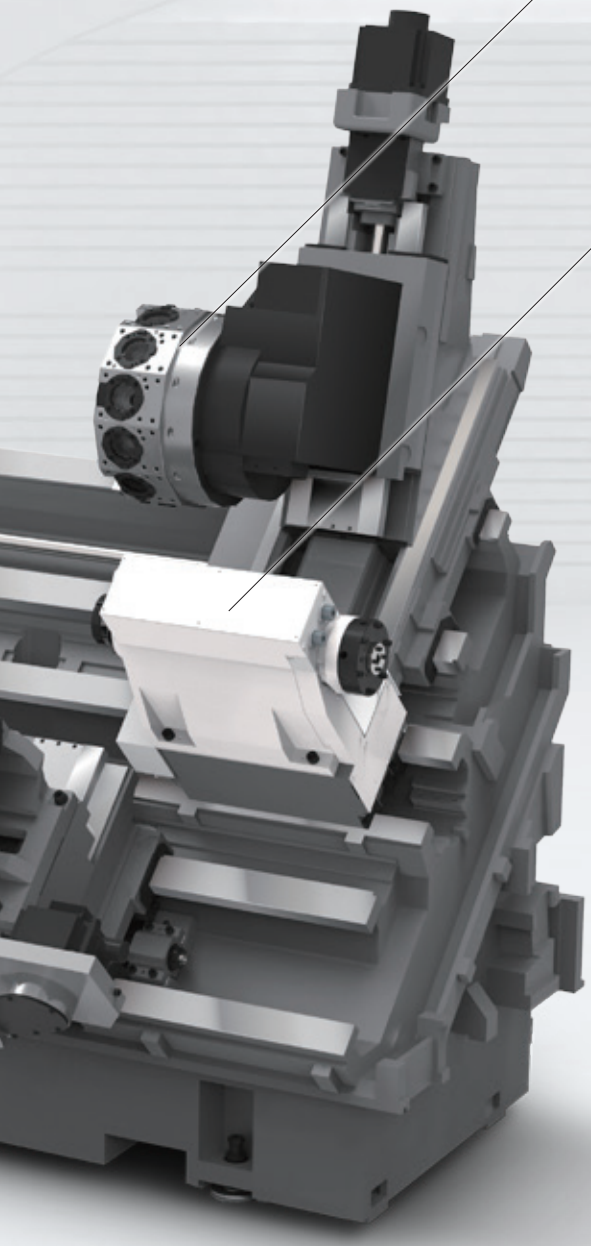
In-house manufactured high-rigidity spindles

+ Highly reliable spindles with controlled thermal displacement

Measure against heat

+ Ball screw core cooling:
  Ball screw core cooling is used for the X1 and X2 axes as standard. Cooling oil flowing through the center of the ball screw controls temperature changes.





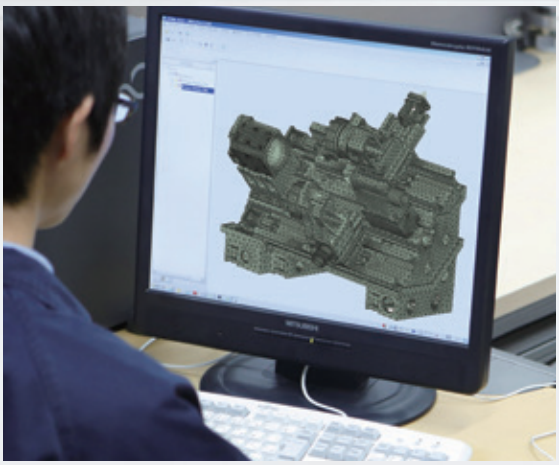
Milling turret <Milling specification, Y-axis specification>

+ BMT (Built-in Motor Turret) with high energy transmission efficiency controls heat generation and vibration.

BMT: Built-in Motor Turret

Tailstock

+ The programmable tailstock is mounted on the slideways.
  The carriage-direct-coupled type (Automatic) is offered as standard and the servo-driven type as an option.



FEM analysis

+ Simulation of structural deformation at the time of load application
+ Fine adjustment to every part, including the thickness of the bed, the shape and layout of the ribs, to achieve a high level of flexural rigidity

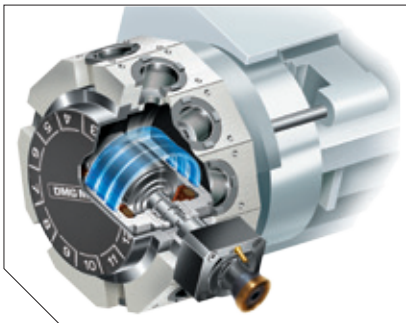
FEM: Finite Element Method

NZX 2500

Complete Thermal Displacement Control

Thermal displacement has a great impact on machining accuracy. The major factors causing thermal displacement include heat generation during machining operation, ambient temperature changes and coolant temperature rises. DMG MORI thoroughly examines each of these factors from every angle, and takes original and comprehensive measures to control thermal displacement. For the spindle, the largest heat source, an oil jacket is coiled all over the spindle to suppress temperature rise in the spindle.

● Model: NLX 2500



Built-in Motor Turret with oil jacket

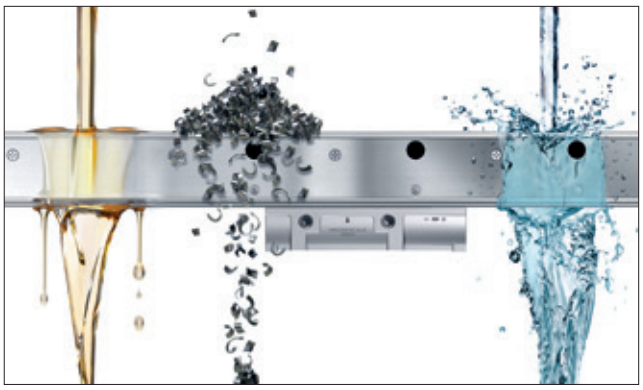
<Milling specification, Y-axis specification>

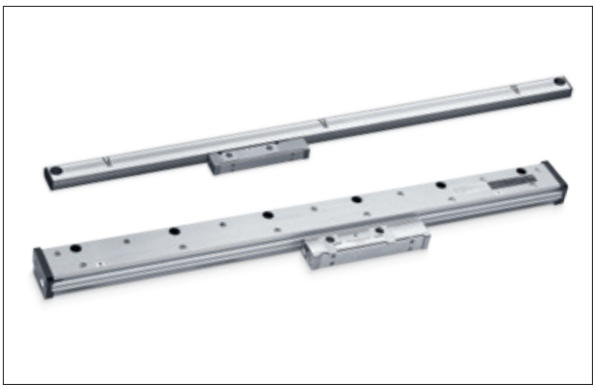
The oil jacket is spirally arranged around the motor of the rotary tool spindle to control thermal displacement caused by temperature rise, ensuring high machining accuracy.

BMT
Built-in Motor Turret

BMT: Built-in Motor Turret

Full closed loop control <Scale feedback> (Option)





+ Superior precision with the Magnescale full closed loop control (Scale feedback)
+ High-resolution, magnetic measuring system
+ Resistance to oil and condensation due to a magnetic detection principle
+ Impact resistance of 450 m/s^2 (17,716.5 in./s^2)
+ Vibration resistance of 250 m/s^2 (9,842.5 in./s^2)
+ Thermal expansion coefficient as cast iron

Spindle cooling

Oil chiller

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

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

Coolant chiller (Separate type) (Option)

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 or a super-high-pressure coolant system, please be sure to consult our sales representative.

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

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

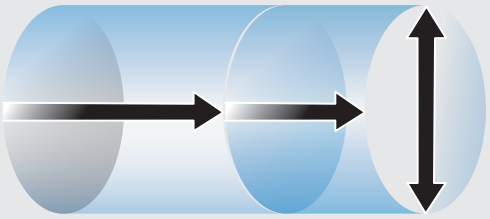
NZX 2500

Flexible, High-performance Spindle

The NZX 2500 features a highly reliable and thermally stable spindle equipped with a high-torque, high-output motor with a torque of 709 N • m (522.9 ft·lbf) and output of 26 / 22 kW (34.7 / 30 HP). The spindle is available with the high-speed or high-torque specification. There are also a wide range of chucks available, allowing customers to select the specification that suits their machining needs.

Workpiece size

+ **Max. turning diameter**
  Turret 1: ϕ370 mm (ϕ14.5 in.)
  Turret 2: ϕ260 mm (ϕ10.2 in.)
+ **Max. turning length**
  <Distance between centers 600>
  Turret 1, Turret 2: 600 mm (23.6 in.)
  <Distance between centers 1000>
  Turret 1, Turret 2: 1,000 mm (39.3 in.)



Max. spindle speed

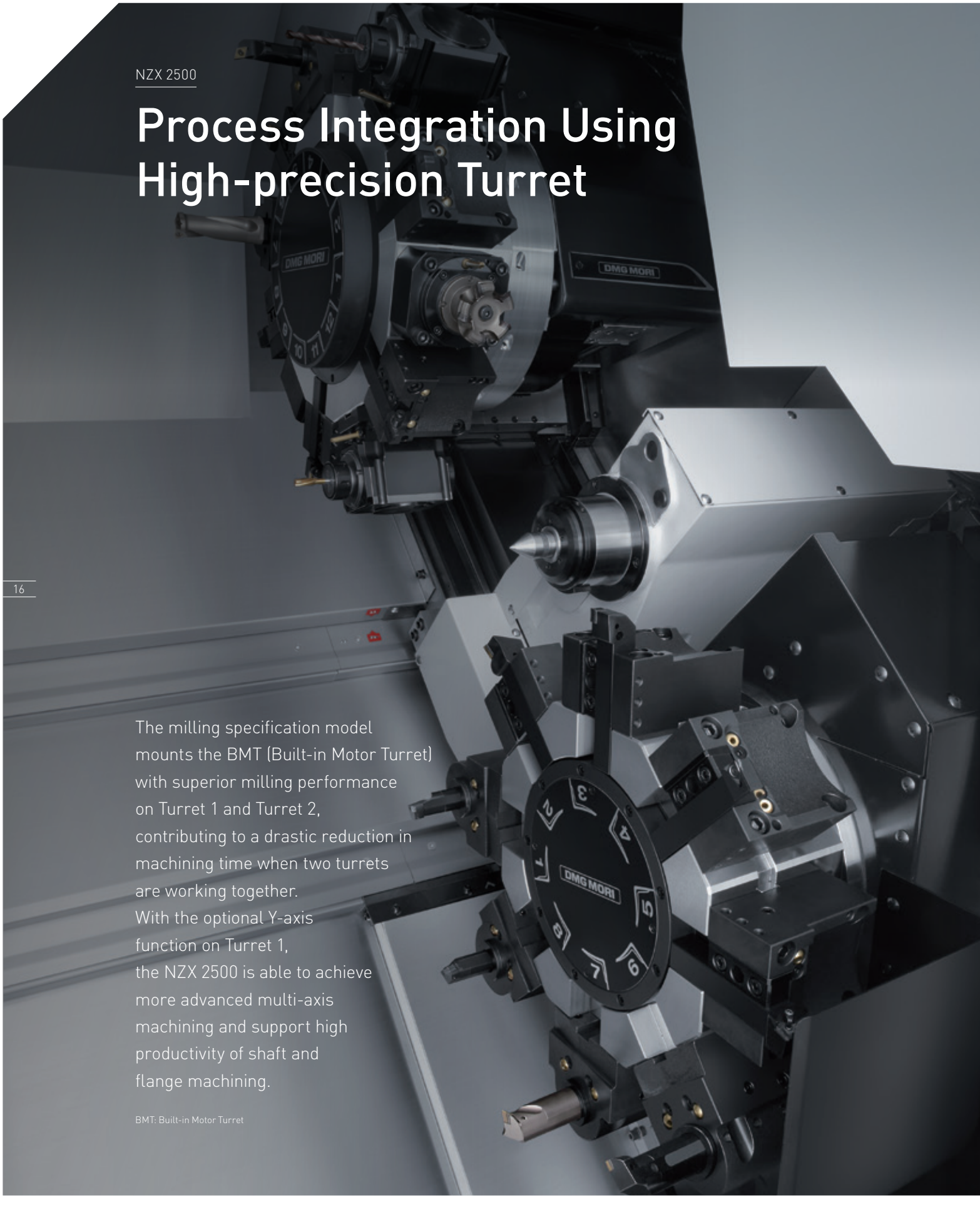
+ Through-spindle hole diameter ϕ91 mm (3.5 in.): 4,000 min^{-1}
+ Through-spindle hole diameter ϕ73 mm (2.8 in.): 5,000 min^{-1} (Option)
+ Through-spindle hole diameter ϕ111 mm (4.3 in.): 2,500 min^{-1} (Option)

Chuck size (The chuck is optional)

+ 10-inch (Standard size)
+ 8-inch
+ 12-inch

NZX 2500

Process Integration Using High-precision Turret



The milling specification model mounts the BMT (Built-in Motor Turret) with superior milling performance on Turret 1 and Turret 2, contributing to a drastic reduction in machining time when two turrets are working together.
With the optional Y-axis function on Turret 1, the NZX 2500 is able to achieve more advanced multi-axis machining and support high productivity of shaft and flange machining.

BMT: Built-in Motor Turret

Built-in Motor Turret <Milling specification, Y-axis specification>

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.

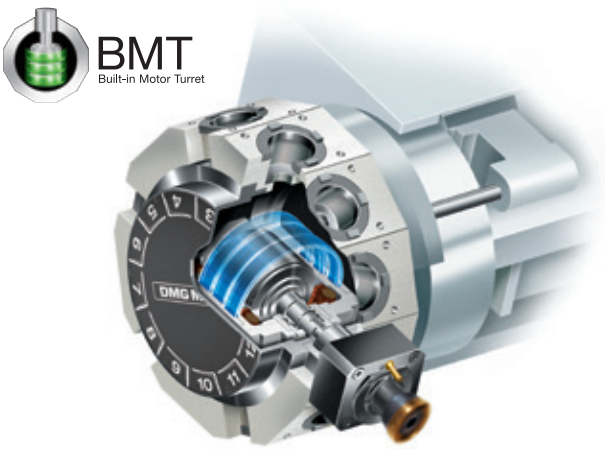
Turret temperature increases

Compared with conventional machine: 1/10 or less

Vibration amplitude

Compared with conventional machine: 1/3 or less

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



Turret

Number of tool stations

+ Turret 1 : 12 tools
  : 10 tools (Option)
+ Turret 2 : 8 tools
  : 12 tools (Option)*

Number of rotary tool stations
<Milling specification, Y-axis specification>

+ Turret 1 : 12 tools
  : 10 tools
+ Turret 2 : 12 tools*

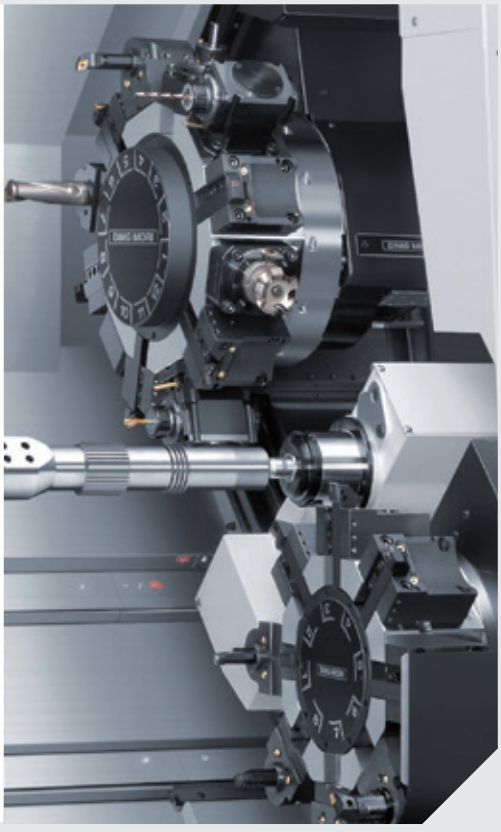
Rotary tool spindle drive motor
<Milling specification, Y-axis specification>

+ Turret 1 : 5.5 / 5.5 / 3.7 kW (7.5 / 7.5 / 5 HP) <3 min / 5 min / cont>
+ Turret 2 : 7.5 / 5.5 / 3.7 kW (10 / 7.5 / 5 HP) <1 min / 25%ED / cont>

Max. rotary tool spindle speed
<Milling specification, Y-axis specification>

+ Turret 1 : 10,000 min^{-1}
  : 10,000 min^{-1} <High-torque>
+ Turret 2 : 10,000 min^{-1}

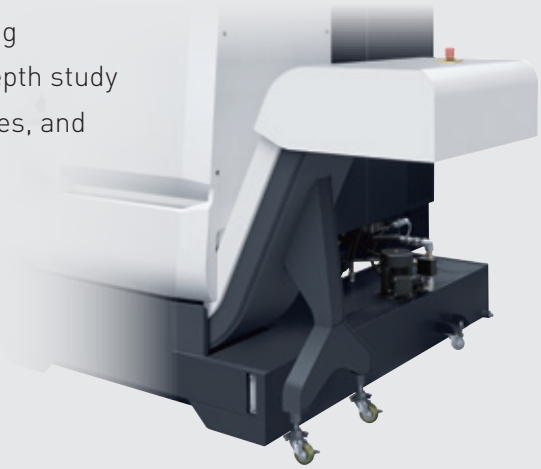
* Uses different holders from those for Turret 1.

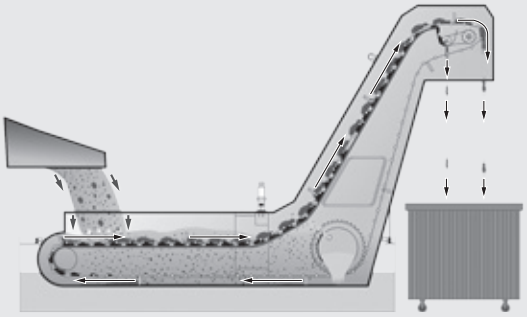


NZX 2500

Cutting-edge Chip Disposal Solution

Chips can be one of the main causes leading to machining failure and machine stop. DMG MORI conducted an in-depth study on them by carrying out various experiments and analyses, and achieved outstanding chip disposal performance.
We offer optimal chip disposal solutions according to a machining condition of each customer.





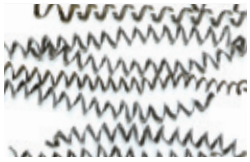
Hinge type + Drum filter type chip conveyor

Handling of different types of chips and coolant filtration (Option)

With the hinge type conveyor for long chips and the cleats (Scrapers) on the hinge belt for short and fine chips, the conveyor can handle any type of chip regardless of size and material.
The filter with the low-maintenance automatic washing function ensures high accuracy coolant filtration.

Chip conveyor (Option)

Handles various types of chips and ejects them in a highly efficient way.

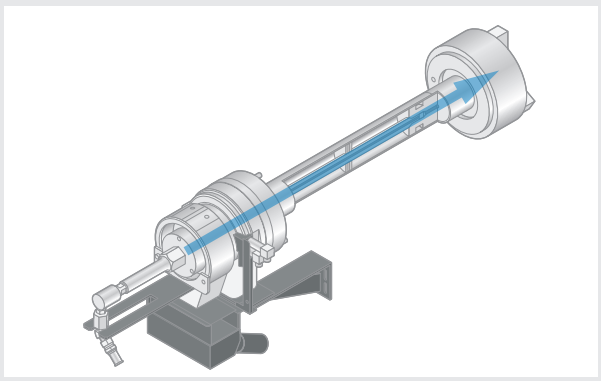
Workpiece material	Steel (20 mm (0.8 in.))		
	Long	Short	Powdery
Chip form			
Hinge type + Drum filter type <Consultation is required>	○	○	△*
Hinge type	○	—	—
Hinge type (Aluminum)	—	—	—
Scraper type	—	○	△*
Magnet scraper type	—	○	△*

* Depending on chip size, chips may pass through the filter and the conveyor and accumulate in the coolant tank.
  Due to possible effect on machining accuracy, a second filtration device may need to be considered.
- Please consult our sales representative if the chip length exceeds 200 mm (7.9 in.).
- [Chip size criteria] Powdery: minute particles / Short: 50 mm (2.0 in.) or less in length, ϕ40 mm (ϕ1.6 in.) or less in diameter (a lump of chips) / Long: over 50 mm (2.0 in.).

The coolant tank pulls out to the front

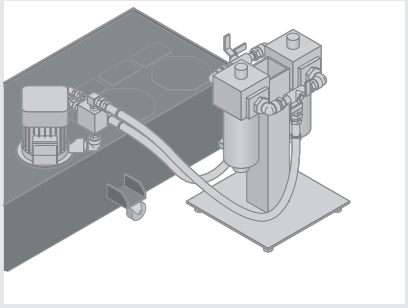
With the new design, the coolant tank can be pulled out in front without having to pull out the chip conveyor. It can be pulled out easily and does not take up extra space in the back.

Through-spindle coolant system (Option)



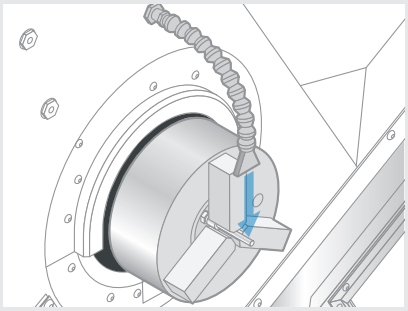
Coolant supplied through the center of the chuck removes chips generated during I.D. machining.

Coolant line filter (Option)



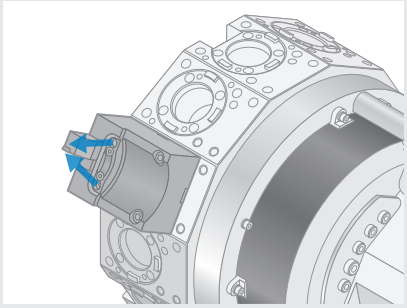
It removes foreign matter in the coolant coming from the coolant pump. The filter clogging detection function is available.

Coolant in upper part of chuck (Option)



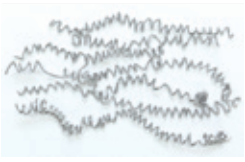
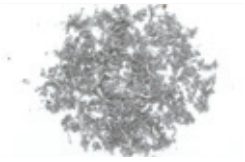
Coolant supplied from above the chuck removes chips and minimizes heat generation in the workpiece.

Air blow (Tool tip) (Option)



Air is blown toward the tool tip to blow away chips adhering to the tool.

○: Suitable △: Consideration required —: Not suitable

Cast iron (20 mm (0.8 in.))		Aluminum, non-ferrous metal (20 mm (0.8 in.))		
Short	Powdery	Long	Short	Powdery
				
○	△*	○	○	△*
—	—	○	—	—
—	—	—	○	—
○	—	—	—	—
○	—	—	—	—

- 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.

NZX 2500

Pursuit of Usability

In order to achieve grater operating efficiency, DMG MORI incorporated various technologies and features throughout the machines focusing on operability and maintainability.
We have reduced MTTR (Mean Time To Repair) through an in-depth analysis of customer needs, which include a wide door opening for improved work efficiency and ease of maintenance.
Necessary improvements to make daily and periodic inspections easier were also made so that the machines can always run in the best condition.

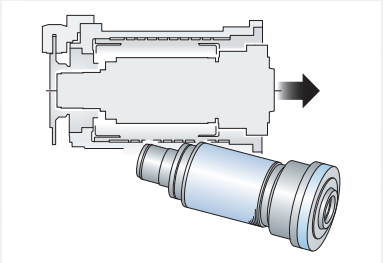
Pneumatic device

All the pneumatic devices are placed on the left side of the machine for NZX 2500 | 600 and the back side of the machine for NZX 2500 | 1000 to ensure maintainability.

Chuck pressure regulating valve

The chuck pressure adjusting valve is placed on the left side of the machine, which is easy to access. Operators can make adjustments while checking the screen.

Replacement of spindle unit



By using a cartridge-type spindle unit, which includes the rear bearings, we have dramatically reduced replacement time.

Swivel-type operation panel

Adopting a touch-screen type operation panel with a swivel mechanism has improved access to the spindle and workpiece.

Manual Display

Manuals can be displayed on the CELOS screen, on which the operator can perform a keyword search or jump to a linked page in the same way as on a PC. This function is particularly useful when the operator needs to view manuals during maintenance or other work.

Lubricating oil pump

The supply port of the lubricating oil tank is placed on the front side of the machine so that oil can be easily supplied.

Oil chiller

The oil chiller is placed on the rear side of the machine without a cover to secure accessibility.

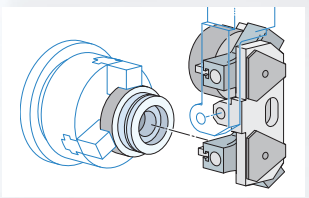
NZX 2500

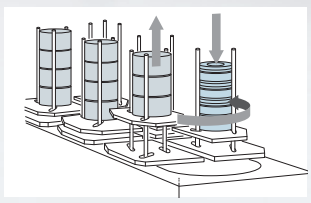
Solutions Best Matched to Customers' Needs

The NZX 2500 offers various types of automation systems including a gantry loader, workpiece unloader and bar feeder. The models complete an entire process from the supply of raw materials to the ejection of finished workpieces on one machine, which contributes to shortening non-cutting time and bringing profits for customers.

● Model: NZX 2000 | 800

LG-10 (Gantry loader) (Option)





We have prepared the LG-10 that has a separate type workpiece stocker.

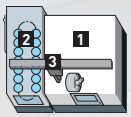
Loader type				LG-10
Gantry loader	Max. travel speed	X-axis <Hand up / down>	m/min (fpm)	90 (3.5)
		Z-axis <Loader unit left / right>	m/min (fpm)	120 (393.7)
Loader hand	Model			Parallel hands
	Max. transfer mass			10 kg (22 lb.) × 2
	Applicable workpiece diameter		mm (in.)	ϕ40 - ϕ200 (ϕ1.6 - ϕ7.9)
	Applicable workpiece length		mm (in.)	20 - 150 (0.8 - 5.9)
Work stocker	Number of pallet tables		Pallet	10, 20
	Max. workpiece mass		kg (lb.) /Pallet	75 (165)
	Max. workpiece stacked height		mm (in.)	470 (18.5)
	Applicable workpiece diameter		mm (in.)	ϕ40 - ϕ200 (ϕ1.6 - ϕ7.9)

● Depending on the shape of the workpiece, it may not be possible to machine with standard specifications. For details, please consult our sales representative.
● Please consult our sales representative in the case that a workpiece diameter is less than ϕ40 mm (1.6 in.), or a workpiece length is less than 20 mm (0.8 in.).

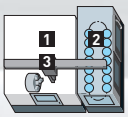
Gantry-type loader system variations

Specifications

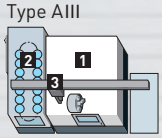
Type A I



Type A II



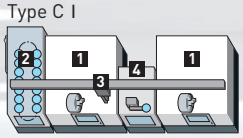
Type AIII



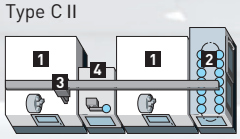
Units	1 Machine	3 Loader
	2 Work stocker	4 Turnover unit

Other specifications <Consultation is required>

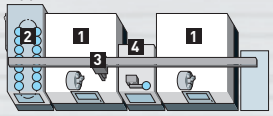
Type C I



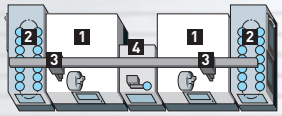
Type C II



Type CIII



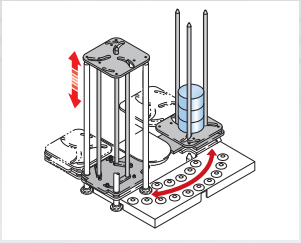
Type EIII



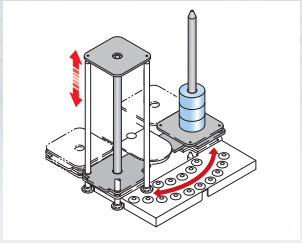
- Separate consultation is required for hollow cylinder specifications. (Type A I , Type AIII , Type C I , Type CIII , Type EIII)

Work stocker <Consultation is required>

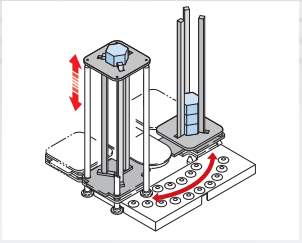
3-guide specification



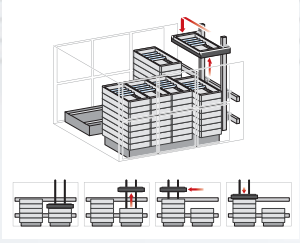
Center-guide specification



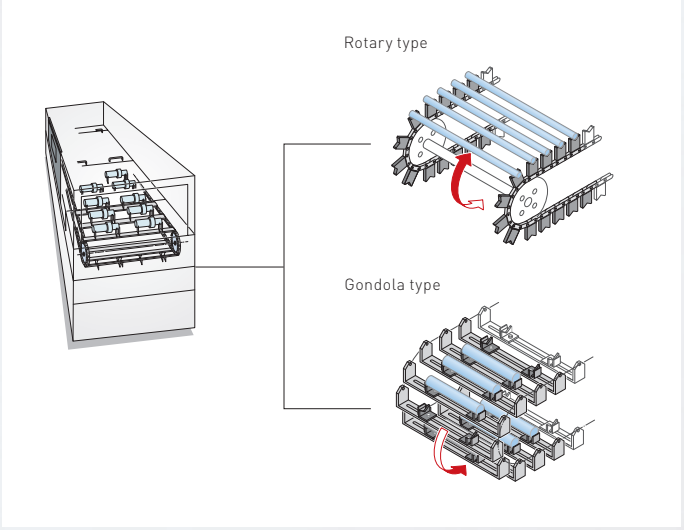
Hexagonal bar guide specification



Tray changer

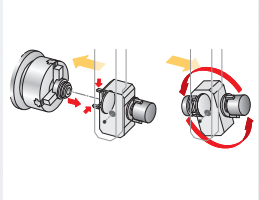


Shaft pitch feed conveyor

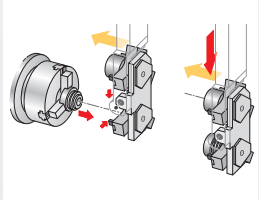


Loader hand <Consultation is required>

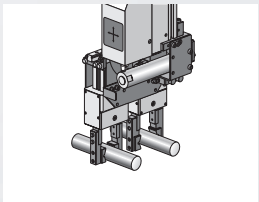
Back end hands



Parallel hands

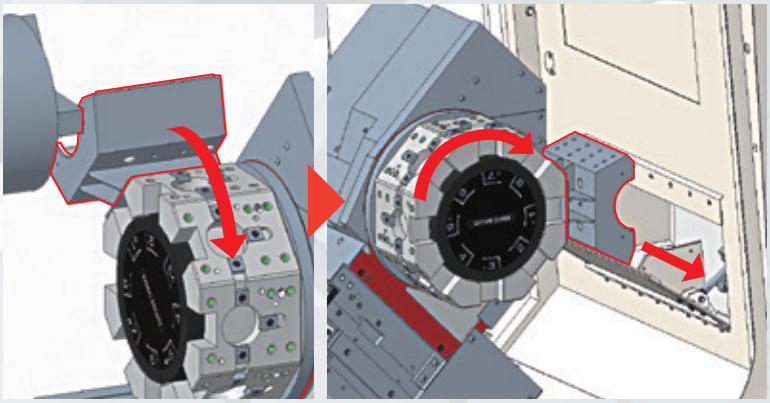


Hand for shaft workpieces



Turret turning type workpiece unloader (Option)

A workpiece was received by the receiver on a Turret 1 station, and the receiver rotates on the turret to eject the workpiece to the workpiece bucket on the front door.
The workpiece can be picked out by operators pulling out the workpiece bucket.



+ Workpiece diameter : Max. ϕ100 mm (3.9 in.)
+ Workpiece length : Max. 150 mm (5.9 in.)
+ Load capacity : Max. 4 kg (8.8 lb.)
+ Width of workpiece receiver : Standard 180 mm (7.1 in.)
  Max. 330 mm (12.9 in.)*

* Restriction on use of adjacent tools

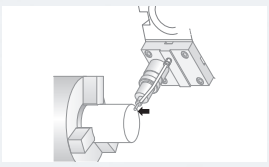
Bar feeder system (Option)

Machining of bar materials can be automated by a combined use of the workpiece unloader and the workpiece transfer conveyor.

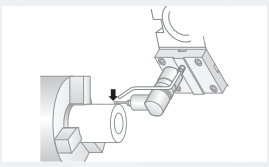
Recommended accessories for bar feeder specification

+ Bar feeder
+ Multi counter
+ Signal lamp
+ Guide bushing
+ Work stopper
+ Workpiece unloader

Functions to support automation



In-machine measuring system
(Measurement of workpiece length)



In-machine measuring system
(Measurement of workpiece diameter)

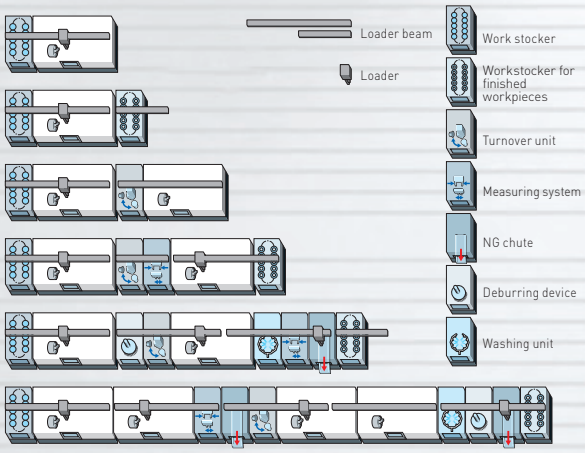
Tool breakage detection
(Automatic in-machine tool presetter)

Modularized Peripheral Devices

All units (Peripherals) that make up the gantry-type loader system, including a transfer unit, workpiece stocker and on-machine measuring system, have been modularized to standardize their sizes. This allows system installation in the shortest time as well as flexible layout change according to changes in production requirements, which used to be difficult to achieve.

Flexible module system

+ Loader beams with different lengths enable flexible system expansion or change.
+ Modular units can be combined flexibly and replaced easily

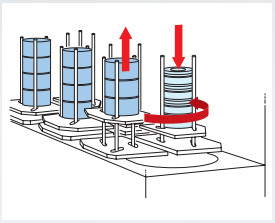


● Please contact us for dimensions.

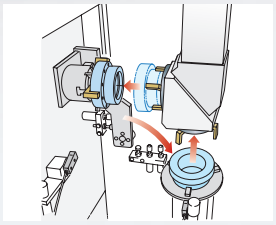
Various modules are available

+ Standardized peripherals enable flexible system change even after installation

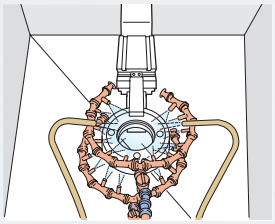
Rotary workstocker



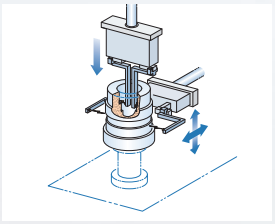
Turnover unit



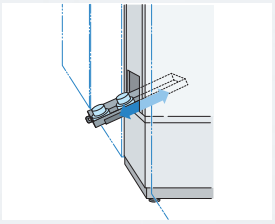
Washing unit



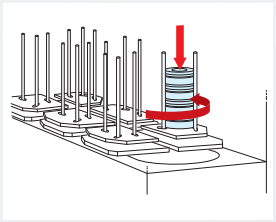
Measuring system



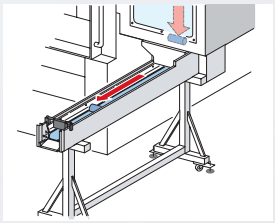
NG chute



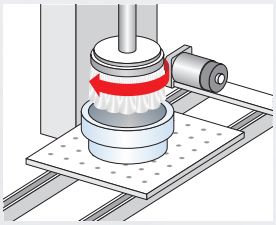
Rotary workstocker for finished workpieces



Belt conveyor for finished workpieces



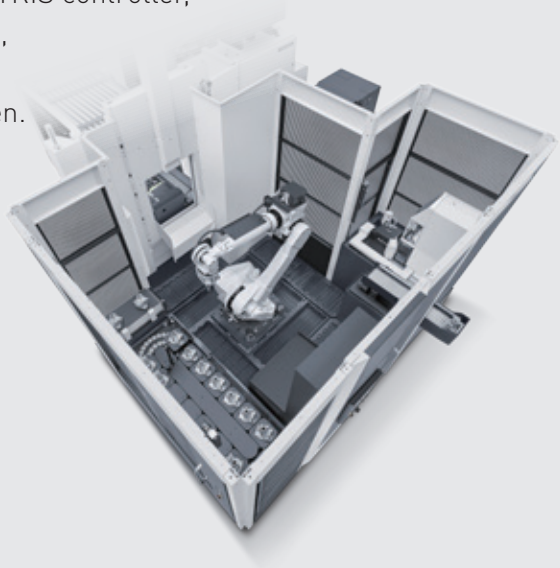
Deburring device



NZX 2500

No Programming Required! New Robot System MATRIS

DMG MORI has developed an all-new robot system MATRIS that requires no special knowledge for its operation based on the wealth of experience and expertise DMG MORI has cultivated over the years. With modularized peripherals, a robot and MATRIS controller, a dedicated system to connect peripherals and machines, MATRIS eliminates complex program editing and achieves easy system setups on a simple operation screen.



Advantages of MATRIS

+ Typical systems available as pre-defined packages
+ Standardized peripherals ensure easy customization to meet your specific needs
+ Flexibly accommodate system changes even after installation
+ Simple and easy programming with MATRIS controller

Structure of robot system

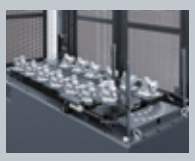
MATRIS controller

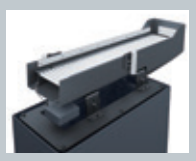
+ A system controller that offers integrated control of the whole automation system, including a robot, each module and machine
+ Monitoring, schedule management and operation control of the whole automation system possible

Intercommunication **Intercommunication** **Intercommunication**

Robot

Module





Machine

NZX 2500

Standard Package

MATRIS offers the two most popular packages.
If the prepared packages are not suitable for your shop floor due to space restrictions, or if you wish to customize the package, it is possible to change system layout or add new peripherals to meet your needs.

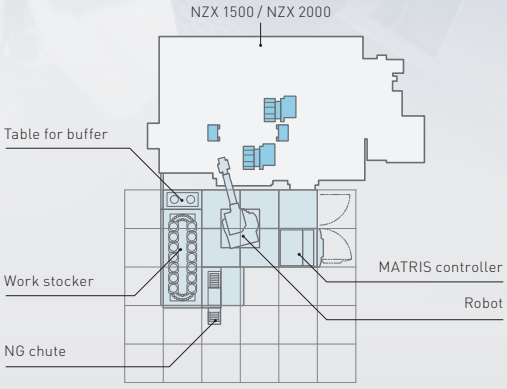
01 Handling package

+ A 14-station rotary stocker compatible with flange workpieces is equipped as standard
+ Various stockers can also be used, including 20-station and 26-station stockers, tray changer, IN / OUT conveyor

Hand specification (Single hand)			
Maximum workpiece load capacity	kg (lb.)	10 (22)	20 (44)

Stocker specification		14-station rotary stocker	10-station rotary stocker
Applicable workpiece diameter	mm (in.)	ϕ40 (ϕ1.5) - ϕ150 (ϕ5.9)	ϕ40 (ϕ1.5) - ϕ200 (ϕ7.8)
Max. workpiece mass	kg (lb.) / Pallet	35 (77)	75 (165)

Example of layout



02 Measuring package

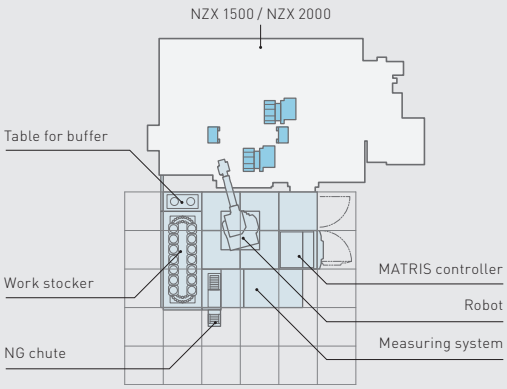
+ High-accuracy measurement and acceptance / rejection judgment of workpieces with an external measuring system
+ Measuring results to be fed back to a machine
+ Set multiple measuring points at different levels on a cylindrical workpiece
+ It enables various measurements such as outer and inner diameter measurement and three-dimensional measurement

Hand specification (Single hand)			
Maximum workpiece load capacity	kg (lb.)	10 (22)	20 (44)

Stocker specification		14-station rotary stocker	10-station rotary stocker
Applicable workpiece diameter	mm (in.)	ϕ40 (ϕ1.5) - ϕ150 (ϕ5.9)	ϕ40 (ϕ1.5) - ϕ200 (ϕ7.8)
Max. workpiece mass	kg (lb.) / Pallet	35 (77)	75 (165)

Measuring system: Inner diameter (Multiple points on a diameter)		
Resolution	μm	0.1 or 1.0 (Available select)
Measuring range	μm	500

Example of layout



- Custom design is available according to workpiece shapes. For details, please consult our sales representative.
- For details, please refer to the MATRIS catalog.

NZX 2500

DMG MORI Qualified Products One-stop Service for Various Needs

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

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

Four DMQP categories

Handling

- Robot system
- Bar feeder

Shaping

- Oil skimmer
- Rotary window
- Super-high pressure coolant system
- Hydraulic steady rest
- Mist collector

Measuring

- In-machine tool presetter
- External tool measurement
- In-machine measuring system (Workpiece)
- Surface roughness measuring system

Monitoring

- Electrical cabinet chiller
- Coolant chiller
- Coolant float switch
- Signal lamp

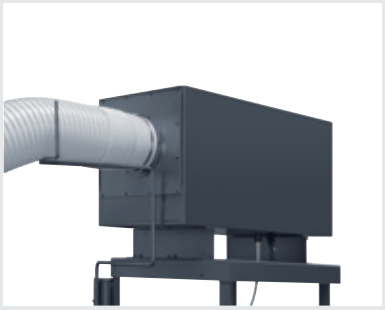
● The options above are examples. For details, please consult our sales representative.

DMQP: DMG MORI Qualified Products

Bar feeder

In-machine tool presetter

Mist collector



Super-high pressure coolant system

External chip conveyor

Coolant chiller

Air dryer

Air compressor

Oil skimmer

Coolant flow switch

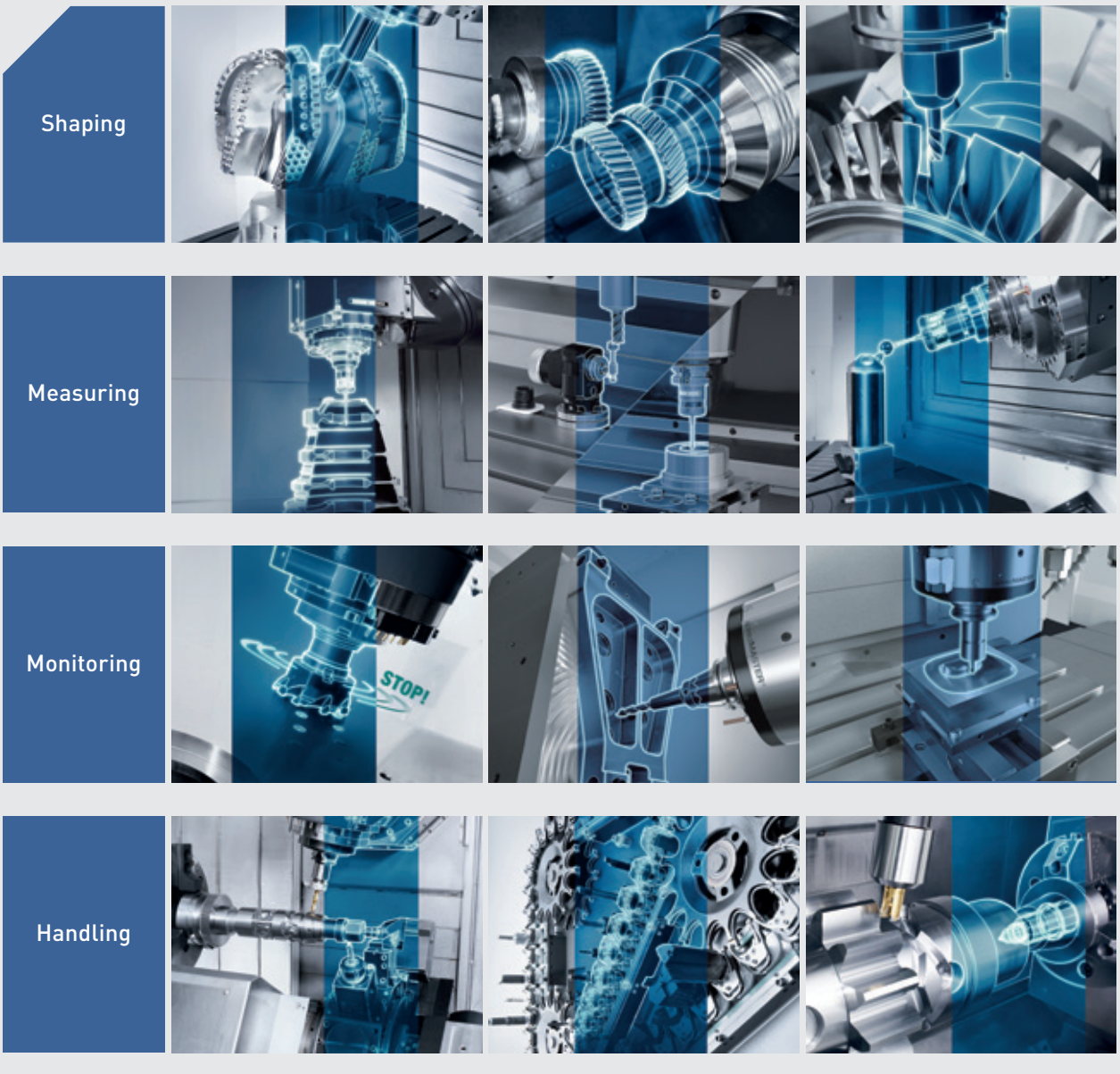
Tool cabinet

Robot system

NZX 2500

DMG MORI Technology Cycles

Technology Cycles (Option) are total solutions that achieve complex machining easily in a short time. They enable every operator to easily perform high-quality machining, setups and measurement with general-purpose machine tools and standard tools / fixtures, which used to be done with specialized machines, programs and tools.



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

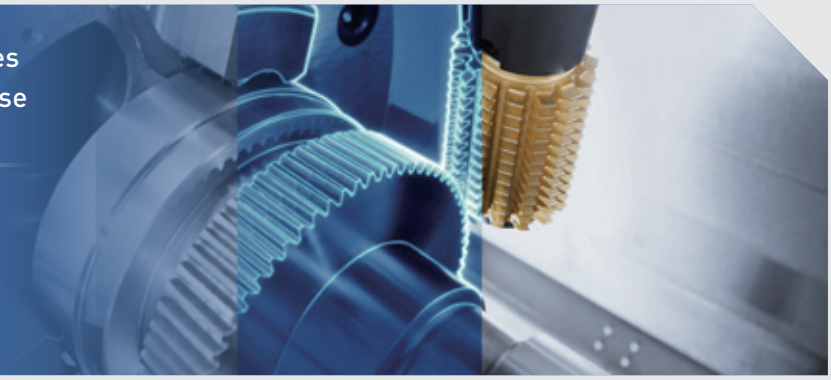
Respond to Various Technology Cycles

Shaping

Gear hobbing*1

Optimal programming achieves hobbing with a general-purpose machine

Efficient High-precision

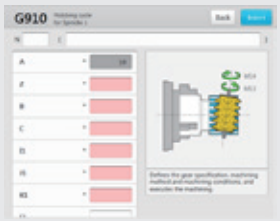


Issue (Before introduction)

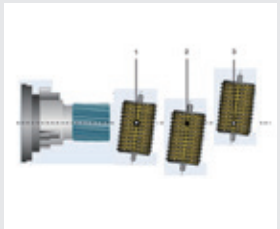
*2

+ A gear machine is needed.
  After blank machining with a turning machine, gear machining needs to be performed with a gear machine after setup changes
+ Want to extend the tool life of expensive hob cutter

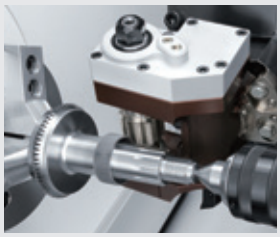
Results (After introduction)



+ **Hobbing program can be easily created by conversational input**



+ **Hob cutter's machining position can be changed, maximizing the tool life**



+ **Consolidation of machining operations into the general-purpose machine reduces setup time and enhances accuracy such as concentricity due to no setup change**

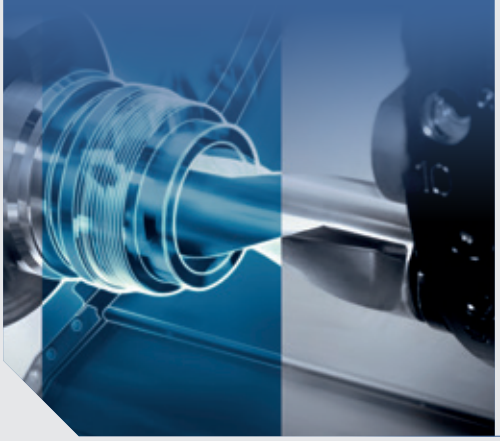
*1 Available only for the Y-axis specification
*2 <Reference> Wikipedia: Hobbing; https://ja.wikipedia.org/wiki/%E3%83%9B%E3%83%96%E7%9B%A4 (Quoted on September 19, 2018)

Monitoring

Easy tool monitoring

Monitoring load of spindle and traveling axes

Efficient Safe



Issue (Before introduction)

+ Abundant experience is needed to set cutting conditions
+ Want to prevent tool breakage and machine failure
+ Difficult to monitor load to the spindle and tools at all times

Results (After introduction)

+ **Conditions can be set in advance, enabling digital cutting management not dependent on experience or expertise**
+ **Can reduce tool breakage and maintenance cost by maximizing the capacities of the tools and machine**
+ **Load to the traveling axis and spindle during machining is monitored at all times, and the machine stops when abnormal values are detected**

Handling

Alternating speed

Stable machining in which chatter hardly occurs

Efficient High-precision

Issue (Before introduction)

+ Chatter occurs when using tools under its recommended conditions
+ Vibration in deep hole drilling using a long drill should be suppressed

Results (After introduction)

+ **Cutting resistance is changed by periodically changing the rotation speed of the spindle. This helps suppress chatter and enhance cutting conditions, which lead to shorter machining time**
+ **Surface quality is improved**

Shaping

Multi-threading

Cutting special thread

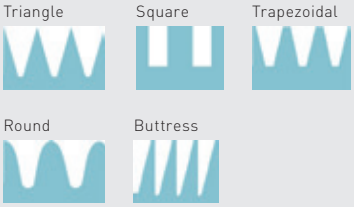
Efficient

Issue (Before introduction)

+ Hope to cut special thread shapes
+ Hope to simplify complicated programming

Results (After introduction)

+ **Easily create various thread shapes by conversational programming**
+ **Create a machining program of a special shape thread on the machine without CAD / CAM**

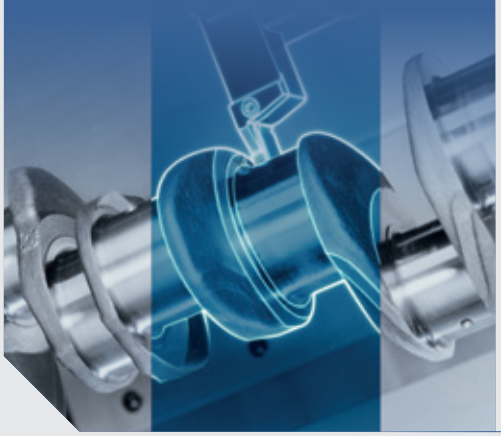


Shaping

Excentric machining

Easy programming of excentric machining

Efficient High-precision

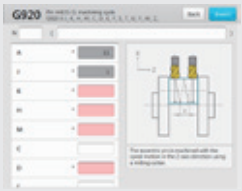


Issue (Before introduction)

+ Hope to perform excentric machining processes on one machine
+ Expensive jigs for excentric machining are necessary

Results (After introduction)

+ **Reduce setup time by consolidating machining operations performed with a special machine into a general-purpose machine**
+ **Complicated program for excentric machining can be created using the conversational programming style**
+ **Compatible with both turning and milling to achieve efficient machining**
+ **Require no eccentric machining jigs**



Shaping

gearSKIVING*

High-speed gear cutting including internal teeth

Efficient High-precision

Issue (Before introduction)

+ Not sure how to create a program because it involves a special machining technique
+ Require multiple processes with a gear machine and a cutting machine

Results (After introduction)

+ **Can easily program a machining technique called gear skiving**
+ **Internal teeth that cannot be machined by hobbing can be cut**
+ **Consolidation of processing operations into the general-purpose machine reduces setup time and enhances accuracy such as concentricity due to no setup change**

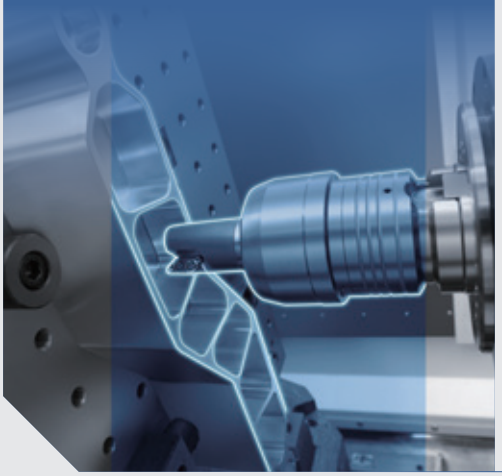
* Available only for the Y-axis specification

Shaping

Efficient Production Package (High-speed canned cycle)

Easy inputting of various machining patterns

Efficient Safe High-precision

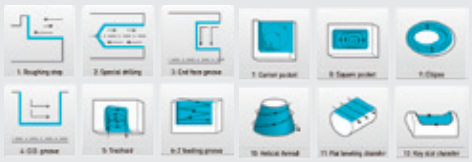


Issue (Before introduction)

+ Taking much time to create programs for complicated shapes and many holes
+ Mistakes resulting from large quantity of calculation

Results (After introduction)

+ **A program will be automatically created just by entering a complex shape in a conversational style**
+ **Safe cutting is ensured by confirming cutting details using the simulation function**
+ **Optimal tool path and cutting conditions enhance cutting quality**

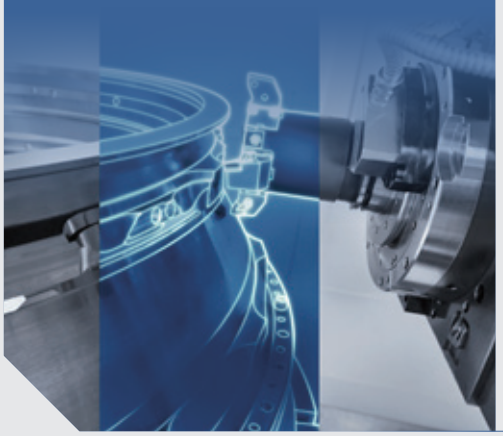


Handling

Multi-tool

Maximizing number of tools & minimizing non-cutting time

Efficient



Issue (Before introduction)

+ Multiple tools are required to handle various machining operations
+ More than one tool is mounted to one station in some cases, making their management complex
+ Including spare tools, it is necessary to prepare more tools than the number of turret stations

Results (After introduction)

+ Tool compensation setting and life management can be easily performed for multiple tools of each station
+ Operator can set optimum tool information for each tool and maximize the number of tools
+ Prevent tool breakage and enhance production efficiency by switching to spare tools according to the operating time of the set tool

Handling

Retraction cycle

Efficient Safe

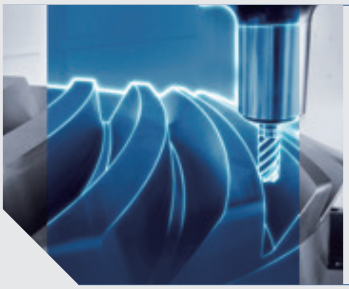
Automation allows for easy return to the zero return position without errors

+ Operational efficiency is enhanced, as one button push will enable return to the zero return position in the preset order
+ Can customize the order of axes to be moved according to the condition
+ Enhance efficiency of setup operation
+ Reduce the risk of accident

Shaping

DMG MORI gearMILL*

Efficient High-precision



Integrating gear cutting into Turning / Milling

+ PC software for gear cutting
+ All processes of Turning, Milling, and gear cutting are done on one machine
+ Investment cost can be reduced by use of commercially available tools and generalpurpose machines

* Available only for the milling or Y-axis specification.

NZX 2500

From the Idea to the Finished Product

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

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

JOB MANAGER

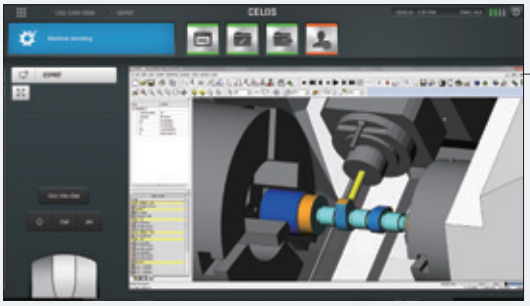
Systematic planning, administration and preparation of work orders

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

JOB ASSISTANT

Process-defined orders

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



CAD-CAM VIEW

Visualize workpieces and improve program data

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

CELOS: Control Efficiency Lead Operation System

ERGO*line* Control with 21.5-inch multi-touch-screen and MITSUBISHI

STANDARD

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

CONSISTENT

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

COMPATIBLE

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

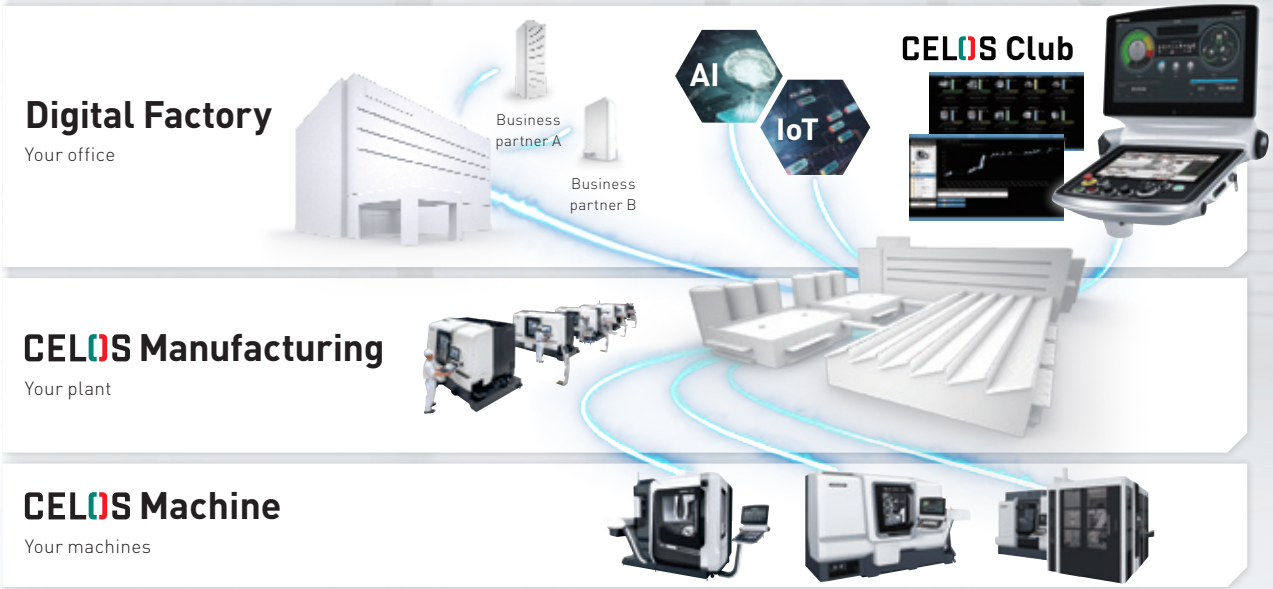
PPS: Production Planning and Scheduling System
ERP: Enterprise Resource Planning

NZX 2500

Revolutionary Productivity with Cutting-Edge Technology DMG MORI's Connected Industries

By making full use of cutting-edge technology, DMG MORI realizes its Connected Industries* to help improve your productivity and profitability significantly. Our Connected Industries is structured in three layers. Centering around the cutting-edge operation system "CELOS," our Connected Industries networks not just individual machines but also production systems and the entire plant. This network will help clearly define your problems, offering the best and customized solutions.

* An industrial society in which new added value will be created through connected humans, machines, and technologies – A new vision for the future of Japanese industries that the Ministry of Economy, Trade and Industry advocates.

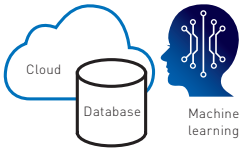


AI Solution

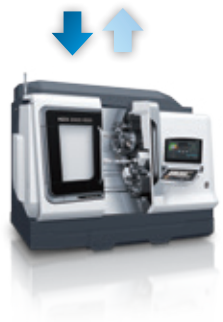
AI-based thermal displacement compensation (Ultra Thermal Precision)

Research is underway toward the practical use of thermal displacement compensation based on AI-based information analysis.

+ In order to improve machining accuracy, AI estimates and compensates thermal displacement by learning the information received from the sensors mounted on the machine.
+ The speed of learning is effectively improved by accumulating data from multiple machines in a single server for integrated data management.



The speed of learning is increased by accumulating data from multiple machines in the DMG MORI's server for integrated data management.



Machine status monitoring

Various machine data generated by sensors can be easily checked on the CELOS.

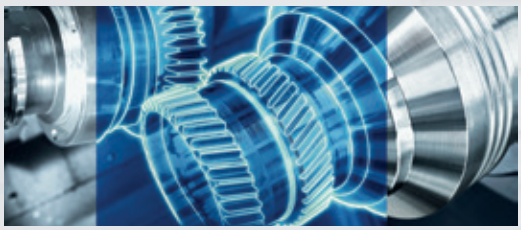
Each monitoring value is displayed in an easy-to-understand manner

CELOS: Control Efficiency Lead Operation System

CELOS Machine Extremely Easy-to-Use Machine

+ This machine is loaded with the cutting-edge operating system CELOS, offering various applications useful for your machining
+ By accumulating machining know-how on the CELOS, all operators are able to make products at the same level of quality
+ Productivity will be improved by streamlining time-consuming and burdensome setups to reduce the operator's workloads
+ Complex machining, which used to require dedicated machines and technical knowledge, is made simpler and faster with Technology Cycles
+ The use of AI prevents the occurrence of machine problems

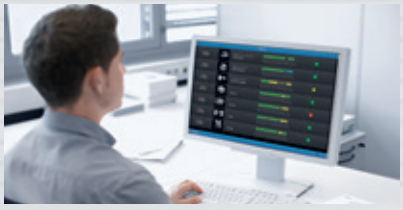
* The information needed to machine a workpiece (Setups, tools, programs, etc.)



JOB MANAGER
Job* preparation / Process planning

JOB SCHEDULER
Machining preparation

JOB ASSISTANT
Machining / Checking



CELOS Manufacturing Connected Production Processes

+ A CELOS application called "Messenger" connects machines in your plant, visualizing the status of machine operation
+ The causes of machine stops will be identified easily, contributing to improved machine operation rates
+ CELOS applications can be upgraded to their latest versions through CELOS Club, allowing for smooth IoT deployment
+ The machine's operational status can be monitored through smartphones and tablets even from outside your plant

Digital Factory Digitization accelerates connected plants

+ Your plant can be connected to external business partners by the utilization of IoT, significantly streamlining the flow of your entire production system
+ CELOS Club can maximize the ability of CELOS
+ ADAMOS* offers an open platform for IoT

* Please consult our sales representative for more detailed information, including the service start time in your country.

CELOS Club

Continuously supporting your productivity improvements

+ Latest functions always available through version upgrades
+ Centralized machine management and streamlined programming
+ Maximizing operating time
+ CELOS Club Platinum (Option)

● Japan only.

WERKBLiQ

Productivity improvements through cutting-edge machine maintenance services

+ Streamlined maintenance work based on digitized plant equipment information
+ Minimizing down time by promptly identifying the cause of machine stop
+ The integrated management of maintenance procedures and standards eliminates dependency on individual operator skills

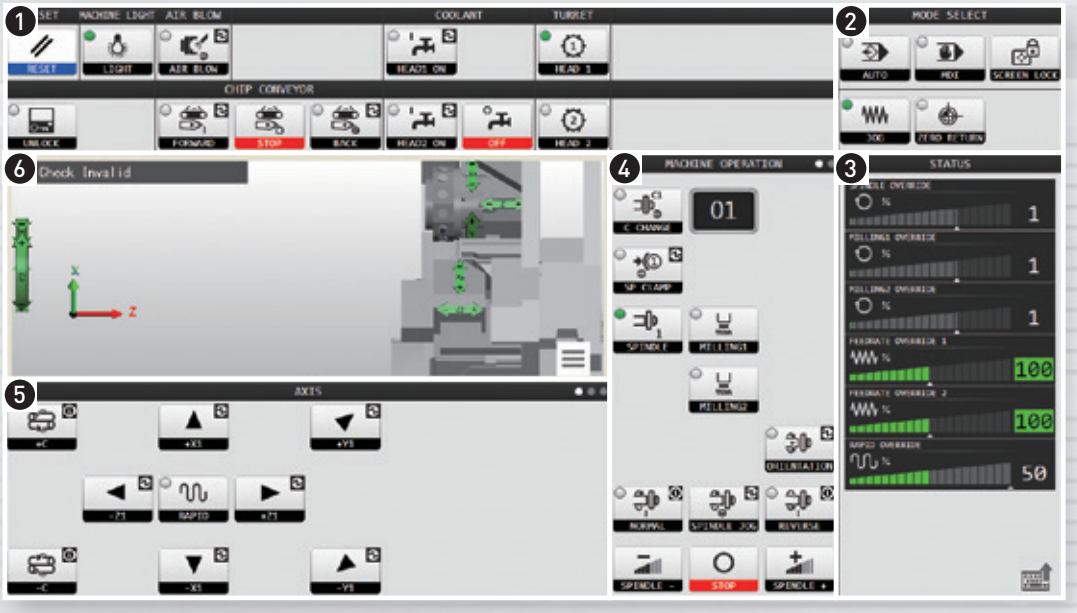
● Please consult our sales representative for more detailed information, including the release time in your country.

NZX 2500

High-Performance Operation System MAPPS V

MAPPS V is a smart operation system mounted on CELOS.
It enables operators to easily control machine operation with touch operation.

MAPPS: Mori Advanced Programming Production System
CELOS: Control Efficiency Lead Operation System



Lower Touch Panel Screen Layout

❶ Individual function operation area : Displays function buttons at all times regardless of the operation mode.

❷ Operation mode selection area : Displays mode selection buttons at all times.

❸ Status display area : Displays the override status.

❹ Machine operation area : Displays buttons related to spindle / turret operation and optional functions over multiple pages.

❺ Mode-by-mode operation area : Displays buttons related to axis feed, zero return or automatic operation over multiple pages. The available buttons will change depending on the mode selected.

❻ In-machine display area : Displays the image showing the controlled axes and their travel directions.

NZX 2500

Unique Energy-saving Function GREENmode

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

SDGs: Sustainable Development Goals

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

+ Improve cutting conditions to reduce machining time by bringing the best out of machine tools and cutting tools
+ Reduce unnecessary power consumption during stand-by time by shutting off power of the spindle, chip conveyor and coolant pump at a time of machine stop
+ Visualize power consumption and CO_2 emission amount

GREENmode

GREEN monitoring

+ Visualize power consumption and CO_2 emission amount on the CELOS operation screen

GREEN device

+ High-brightness LED light

GREEN idle reduction

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

GREEN control

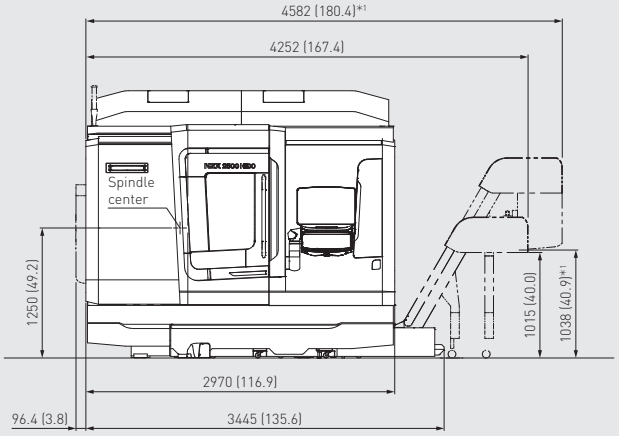
+ Quicken standard M codes
+ Inverter-controlled coolant supply

Machine size

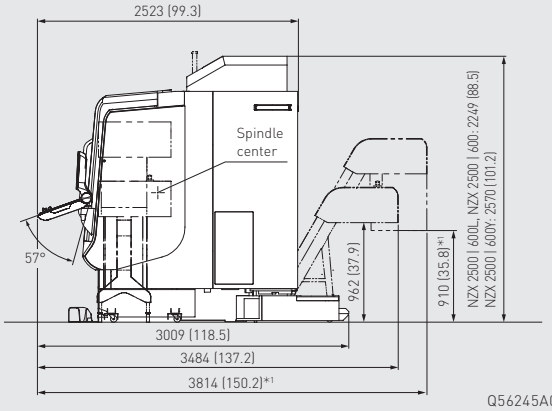
mm (in.)

NZX 2500 | 600

Front view



Side view

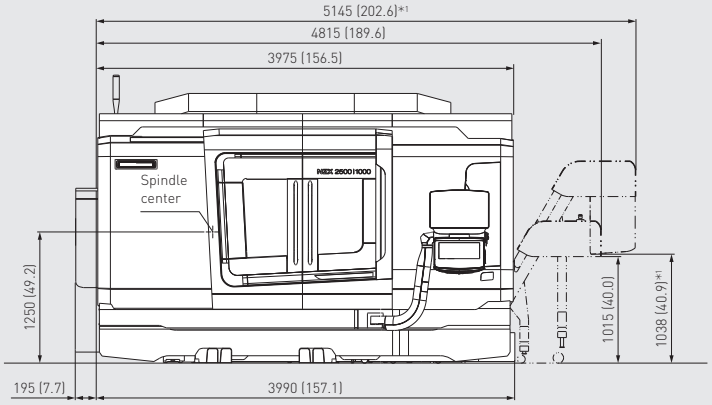


Q56245A02
Q56246A01

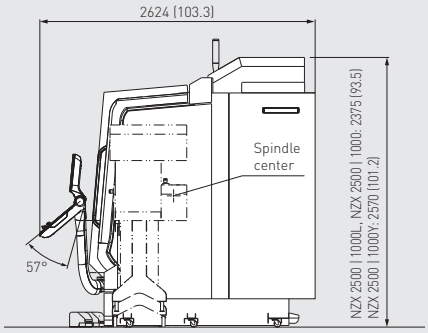
mm (in.)

NZX 2500 | 1000

Front view



Side view



Q56355A01

*1 EN type
EN: European Norm (European Standards)

NZX 2500

Machine specifications

		NZX 2500 | 600		
Basic specification		T1 T2 S TS		
Optional specifications		—	MC1 / MC1 MC2	MC1 Y1 / MC1 Y1 MC2
Capacity				
Swing over bed	mm (in.)	780 (30.7)		
Max. turning diameter	mm (in.)	No.1: 370 (14.5) No.2: 260 (10.2)		
Travel				
X-axis travel	mm (in.)	No.1: 225 (8.8) <185 + 40 (7.2 + 1.5)> No.2: 170 (6.6) <130 + 40 (5.1 + 1.5)>, 160 (6.2)*1 <100 + 60 (3.9 + 2.3)>		
Y-axis travel	mm (in.)	—		No.1: +70 / -50 (+2.7 / -1.9)
Z-axis travel	mm (in.)	No.1: 650 (25.5) No.2: 650 (25.5) <600 (23.6)*1>		
Spindle				
Max. spindle speed	min-1	4,000 5,000 <Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)> 2,500 <Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)>		
Spindle nose		A_2-8 A_2-6<Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)> A_2-8<Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)>		
Through-spindle hole diameter	mm (in.)	91 (3.5), 73 (2.8), 111 (4.3)		
Turret				
Turret type		No.1: 12-station, 10-station No.2: 8-station, 12-station		
Shank height for square tool	mm (in.)	25 (1.0)		
Max. rotary tool spindle speed	min-1	—	No.1: 10,000, 10,000 <High-torque> No.2: 10,000	
Feedrate				
Rapid traverse rate	mm/min (ipm)	X1, X2: 25,000 (984.3) Z1, Z2: 30,000 (1181.1)		X1, X2: 25,000 (984.3) Z1, Z2: 30,000 (1181.1) Y: 15,000 (590.6)
	min-1	—	C: 300	
Tailstock				
Tailstock travel	mm (in.)	600 (23.6)		
Taper hole of tailstock spindle		MT5 <Live center>, MT4 <Built-in center>		
Motors				
Spindle drive motor	kW (HP)	26 / 26 / 22 (34.7 / 34.7 / 30) <10 min / 30 min / cont> 22 / 22 / 15 (30 / 30 / 20) <15%ED / 30 min / cont> <Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)> 30 / 25 (40 / 33.3) <30 min / cont> <Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)>		
Rotary tool spindle drive motor	kW (HP)	—	No.1: 5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont> 5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont> <High-torque> No.2: 7.5 / 5.5 / 3.7 (10 / 7.5 / 5) <1 min / 25%ED / cont>	
Machine size				
Machine height (From floor)	mm (in.)	2,249 (88.5)		2,570 (101.2)
Floor space (Width × Depth)	mm (in.)	3,445 × 2,523 (135.6 × 99.3) <Excluding chip conveyor>		
Mass of machine	kg (lb.)	7,100 (15,620)	7,200 (15,840)	7,700 (16,940)
Control unit				
MITSUBISHI		M730UM		

No.1: Turret 1 No.2: Turret 2

*1 For turret 2 milling specifications

- 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.
- Machine size: The actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.
- The information in this catalog is valid as of July 2019.

■ : Standard　□ : Option

T1 : Turret 1　MC1 : Milling (Turret 1)
T2 : Turret 2　MC2 : Milling (Turret 2)
S : Spindle　Y1 : Y-axis (Turret 1)
TS : Tailstock

The basic model is equipped with T1, T2, S and TS.

		NZX 2500 | 1000		
Basic specification		T1 T2 S TS		
Optional specifications		—	MC1 / MC1 MC2	MC1 Y1 / MC1 Y1 MC2
Capacity				
Swing over bed	mm (in.)	780 (30.7)		
Max. turning diameter	mm (in.)	No.1: 370 (14.5)　No.2: 260 (10.2)		
Travel				
X-axis travel	mm (in.)	No.1: 225 (8.8) <185 + 40 (7.2 + 1.5)>　No.2: 170 (6.6) <130 + 40 (5.1 + 1.5)>, 160 (6.2)*1 <100 + 60 (3.9 + 2.3)>		
Y-axis travel	mm (in.)	—		No.1: +70 / -50 (+2.7 / -1.9)
Z-axis travel	mm (in.)	No.1: 1,050 (41.3)　No.2: 1,050 (41.3) <1,000 (39.3)*1>		
Spindle				
Max. spindle speed	min-1	4,000 5,000 <Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)> 2,500 <Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)>		
Spindle nose		A2-8 A2-6<Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)> A2-8<Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)>		
Through-spindle hole diameter	mm (in.)	91 (3.5), 73 (2.8), 111 (4.3)		
Turret				
Turret type		No.1: 12-station, 10-station　No.2: 8-station, 12-station		
Shank height for square tool	mm (in.)	25 (1.0)		
Max. rotary tool spindle speed	min-1	—	No.1: 10,000, 10,000 <High-torque> No.2: 10,000	
Feedrate				
Rapid traverse rate	mm/min (ipm)	X1, X2: 25,000 (984.3) Z1, Z2: 30,000 (1181.1)		X1, X2: 25,000 (984.3) Z1, Z2: 30,000 (1181.1) Y: 15,000 (590.6)
	min-1	—	C: 300	
Tailstock				
Tailstock travel	mm (in.)	1,000 (39.3)		
Taper hole of tailstock spindle		MT5 <Live center>, MT4 <Built-in center>		
Motors				
Spindle drive motor	kW (HP)	26 / 26 / 22 (34.7 / 34.7 / 30) <10 min / 30 min / cont> 22 / 22 / 15 (30 / 30 / 20) <15%ED / 30 min / cont> <Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)> 30 / 25 (40 / 33.3) <30 min / cont> <Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)>		
Rotary tool spindle drive motor	kW (HP)	—	No.1: 5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont> 5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont> <High-torque> No.2: 7.5 / 5.5 / 3.7 (10 / 7.5 / 5) <1 min / 25%ED / cont>	
Machine size				
Machine height (From floor)	mm (in.)	2,375 (93.5)		2,570 (101.2)
Floor space (Width × Depth)	mm (in.)	3,990 × 2,624 (157.1 × 103.3) <Excluding chip conveyor>		
Mass of machine	kg (lb.)	8,600 (18,920)	8,700 (19,140)	9,200 (20,240)
Control unit				
MITSUBISHI		M730UM		

No.1: Turret 1　No.2: Turret 2

*1　For turret 2 milling specifications

- 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.
- Machine size: The actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.
- The information in this catalog is valid as of July 2019.

NZX 2500

Standard & optional features

●: Standard ○: Option
◇: Select one
—: Not applicable

		NZX 2500	600	NZX 2500	1000
Spindle					
4,000 min^{-1} : 26 / 26 / 22 kW (34.7 / 34.7 / 30 HP) <10 min / 30 min / cont>	Through-spindle hole diameter ϕ91 mm (ϕ3.5 in.)	●		●	
5,000 min^{-1} : 22 / 22 / 15 kW (30 / 30 / 20 HP) <15%ED / 30 min / cont>	Through-spindle hole diameter ϕ73 mm (ϕ2.8 in.)	○		○	
2,500 min^{-1} : 30 /25 kW (40 /33.3 HP) <30 min / cont>	Through-spindle hole diameter ϕ111 mm (ϕ4.3 in.)	○		○	
Turret					
12-station, bolt-tightened turret	Turret 1	●		●	
10-station, bolt-tightened turret	Turret 1	○		○	
8-station, bolt-tightened turret*1	Turret 2	●		●	
12-station, bolt-tightened turret	Turret 2	○		○	
Rotary tool spindle (Turret 1)	10,000 min^{-1}: 5.5 / 5.5 / 3.7 kW (7.5 / 7.5 / 5 HP) <3 min / 5 min / cont> <Only for milling or Y-axis specifications>	◇		◇	
	10,000 min^{-1} : 5.5 / 5.5 / 3.7 kW (7.5 / 7.5 / 5 HP) <3 min / 5 min / cont> <High-torque> <Only for milling or Y-axis specifications>	◇		◇	
Rotary tool spindle (Turret 2)	10,000 min^{-1}: 7.5 / 5.5 / 3.7 kW (1 min / 25%ED / cont) <Only for milling or Y-axis specifications>	○		○	
Tailstock					
Tailstock spindle	Live center MT5 ("Center" not included)	●		●	
	Live center MT5 (With "Center")	○*		○*	
	Built-in center MT4 (With "Center")	○		○	
Fixture / Steady rest					
Chuck high / low pressure system		○		○	
Hydraulic steady rest interface*2		○		○	
Coolant					
Coolant system		●		●	
High-pressure coolant system	1.1 / 2.2 kW (1.5 / 3 HP) <50 / 60 Hz>	○		○	
	1.0 / 1.5 MPa (145.0 / 217.5 psi) <50 / 60 Hz>	○		○	
Super-high pressure coolant system (Separate type)*3	3.5 MPa (507.5 psi) <Auto-switching specification>	○*		○*	
	7.0 MPa (1,015.0 psi) <Auto-switching specification>	○*		○*	
Mist collector	HVS-150*4 (Including frame)	○*		○*	
	AFS1100*5 (Including frame)	○*		○*	
Chip disposal					
Chip conveyor	Right discharge, Hinge type	○		○	
	Right discharge, Magnet scraper type	○		○	
	Rear discharge, Hinge type	○		—	
	Rear discharge, Magnet scraper type	○		—	
	Connecting type, Right discharge + Rear discharge, Hinge type	—		○	
	Connecting type, Right discharge + Rear discharge, Magnet scraper type	—		○	
Measurement					
Manual in-machine tool presetter (Pivoting type)	Turret 1	○		○	
	Turret 2	○		○	
	Turret 1, 2	○		○	
Automatic in-machine tool presetter (Pivoting type)	Turret 1	○		○	
	Turret 2	○		○	
	Turret 1, 2	○		○	
In-machine measuring system (Optical signal transmission type)	Turret 1	○		○	

●: Standard
○: Option

		NZX 2500 | 600	NZX 2500 | 1000
Improved accuracy			
Full closed loop control (Scale feedback)	X1-axis	○	○
	Y-axis	○	○
	Z1-axis	○	○
	X2-axis	○	○
	Z2-axis	○	○
Automation			
Workpiece rest	Headstock side (Fixed type)	○	○
	Turret 1 side	○	○
	Turret 2 side	○	○
EtherNet/IP interface		○	○
Loader	Gantry-type loader system (LG-10)	○	○
Other			
• Built-in worklight • Tool holders • Hand tools		●	●
Chuck foot switch	1 foot switch	●	●
	2 foot switches	○	○
Signal lamp	4 colors (LED type: Red, Yellow, Green, Blue)	○	○
Signal lamp buzzer		○	○
Foot switch for tailstock	2 foot switches	○	○
Manual pulse generator (Separate type)		○	○

* DMQP (DMG MORI Qualified Products)
*1 Turning specifications only
*2 Available according to the steady rest type and model
*3 When using a super-high-pressure coolant system, a coolant chiller is recommended. For details, please consult our sales representative.
*4 For oil based coolant only (Not available in Europe)
*5 For water-soluble coolant only
● DMQP: Please see Page 28 for details.
● The information in this catalog is valid as of July 2019.
● Specifications, accessories, safety device and function are available upon request.
● Some options are not available in particular regions. For details, please consult our sales representative.

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

<Precautions for Machine Relocation>

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

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

+ The information in this catalog is valid as of August 2019. Designs and specifications are subject to changes without notice.

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

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

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