

DMG MORI

NZ DUE
NZ-FORMULA
NZ TRE
NZ QUATTRO

HIGH-PRODUCTIVITY MILL-TURN MACHINE

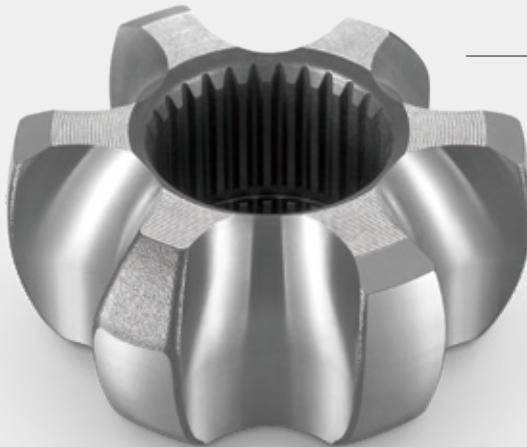
NZ-Platform



[NZ-Platform](#)

Precise Machining for High Performance and Mass Production

The NZ-Platform targets fields in need of high-performing mass production such as automotive parts and hydraulic / pneumatic equipment, and successfully reduces the cycle times of complex parts. These multi-axis turning centers can be equipped with up to four turrets, each of which comes with milling and Y-axis functions as standard. The NZ-Platform machines complex parts with high efficiency by utilizing the B-axis mountable on all four turrets.

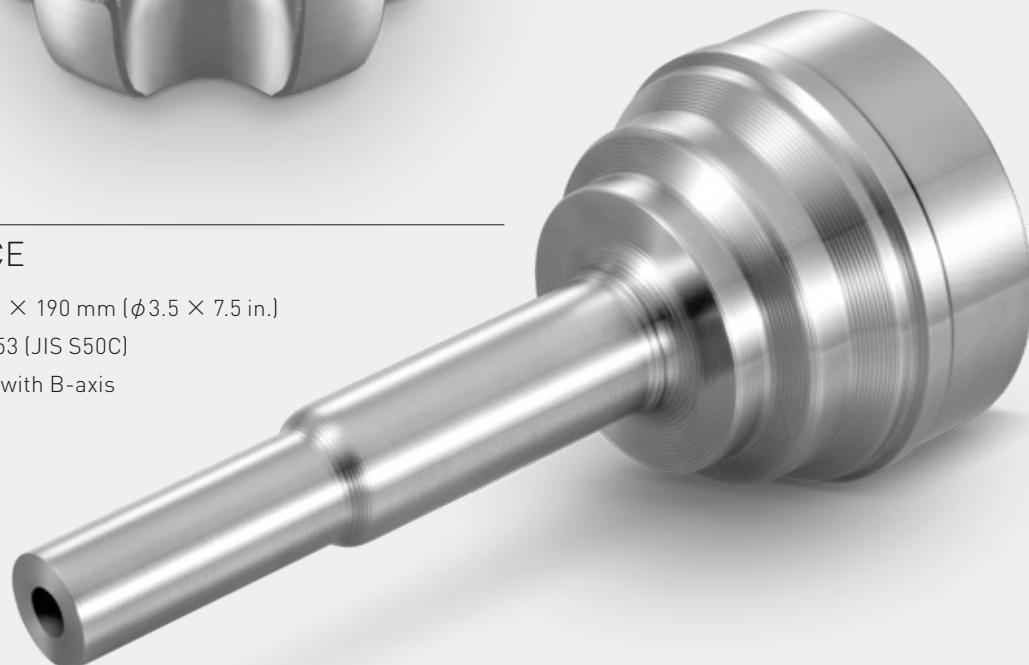


AUTOMOBILES**INNER RACE**

Dimensions: $\phi 70 \times 30$ mm ($\phi 2.8 \times 1.2$ in.)

Material: DIN 20MnCr5

5-axis machining with B-axis



AUTOMOBILES**OUTER RACE**

Dimensions: $\phi 90 \times 190$ mm ($\phi 3.5 \times 7.5$ in.)

Material: DIN CF53 (JIS S50C)

5-axis machining with B-axis

HYDRAULIC

SPOOL

Dimensions: $\phi 35 \times 180$ mm ($\phi 1.4 \times 7.1$ in.)

Material: CK 45 (JIS S45C)

Machining time: 3 min 30 s

Parallel machining with 2 Y- and 2 B-axes



MECHANIC

SCREW WITH GEAR

Dimensions: $\phi 48 \times 170$ mm ($\phi 1.9 \times 6.7$ in.)

Material: C 40 (JIS S40C)

Machining time: 3 min

Gear hobbing and gun drilling



03

HYDRAULIC

DISTRIBUTOR

Dimensions: $\phi 49 \times 38$ mm ($\phi 1.9 \times 1.4$ in.)

Material: Brass

Machining time: 1 min 20 s

B-axes, heavy cutting operations



AUTOMOBILES

SPINED DRIVE SHAFT

Dimensions: $\phi 53.3 \times 178.5$ mm ($\phi 2.1 \times 7.0$ in.)

Material: DIN 16MnCr5

Machining time: 2 min

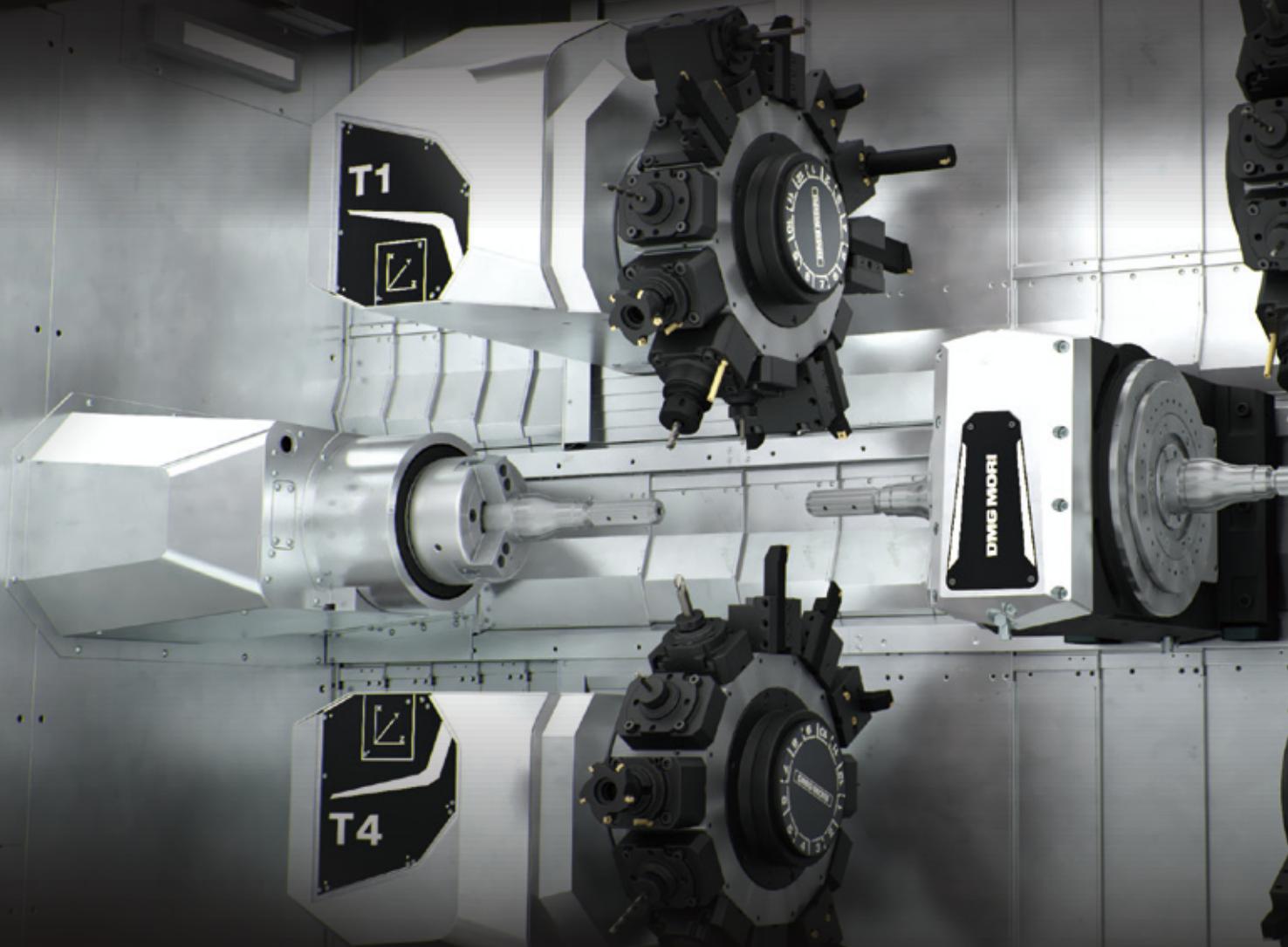
Machining with tailstock, parallel use of 2 Y-axes and gear hobbing



NZ-Platform

Flexible Configuration to meet demands for high productivity

04



MAXIMUM MODULARITY & FLEXIBILITY

- + Up to 4 machining units for turrets,
 - 80 mm (3.1 in.) <±40 mm (1.6 in.)> Y-axis on every turret
 - 110°* B-axis on all 4 turrets possible
- + TWIN Spindle on the Z-axis with $\phi 65$ mm ($\phi 2.6$ in.) capacity
 - Swisstype function with up to 5,000 min⁻¹, rotating guide bush
 - Turning function for simultaneous machining on both sides
 - Steady Rest function, hydraulic

* B1-axis, B4-axis: -100° – +10° / B2-axis, B3-axis: -10° – +100°



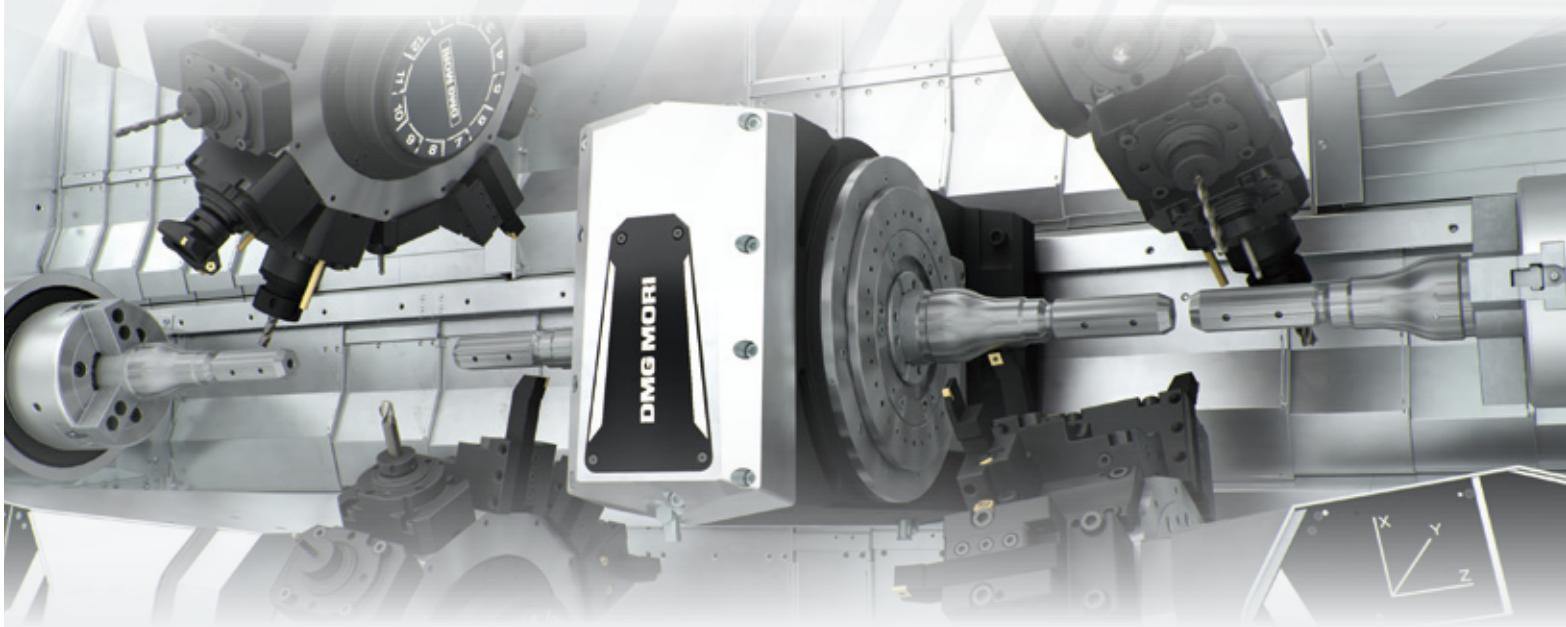
Features

- + Bar machining up to $\phi 72$ mm ($\phi 2.8$ in.),
chuck parts up to $\phi 250$ mm ($\phi 9.8$ in.)
- + 2 machine bed sizes
 - Short Version for workpieces up to 740 mm (29.1 in.)
 - Long Version for workpieces up to 1,290 mm (50.7 in.)
- + Automation
 - Automation by in-machine traveling workpiece unloader
 - + bar feeder
- + TWIN Spindle with turning function with up to $4,000 \text{ min}^{-1}$ and
 $60 \text{ N}\cdot\text{m}$ (44.25 ft·lbf) <100 % DC>
- + B-axis available on all turrets: swivel range 110° *
- + Turrets with high milling torque $24.1 \text{ N}\cdot\text{m}$ (17.8 ft·lbf) and
motor output 16 kW (21.3 HP)
- + Various turrets suitable for market demand
<BMT40/78-12, VDI30-12, BMT42/64-16, VDI25-16>
- + Direct measuring System on all linear axes:
SmartSCALE
- + Working area easy to access
- + Optimal chip fall structure <Vertical bed>
- + Small footprint from 17.7 m^2 (191.6 ft²)
<Short bed with 3,300 mm (129.9 in.) bar feeder>

* B1-axis, B4-axis: $-100^\circ - +10^\circ$ / B2-axis, B3-axis: $-10^\circ - +100^\circ$
BMT: Built-in Motor Turret

NZ-Platform

Unit variations



B-AXIS

- + On all 4 turrets possible
- + 110°* swivel range
 - Tool inclination by B-axis to machine without special tool holders
 - 5-axis simultaneous operations possible (X, Y, Z, B, C)

* B1-axis, B4-axis: -100° - +10° / B2-axis, B3-axis: -10° - +100°



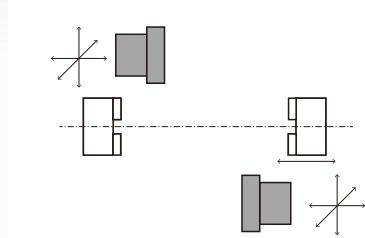
TWIN Spindle (TS)

- + Perfect fit on long bed variants, also available on short bed
- + Three types available
 - **Swiss Type (Type A):**
Built-in rotary guide bush, 5,000 min⁻¹
 - **Double Collets Type (Type B):**
Collet chucks on both sides,
4,000 min⁻¹, 60 N·m (44.3 ft·lbf) <100% ED>
 - **Steady Rest Type (Type C)**

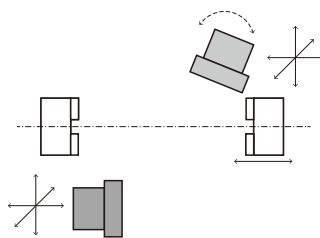


NZ DUE – 2 TURRETS, EACH WITH Y-AXIS, UP TO 2 B-AXES

>> SHORT & LONG BED



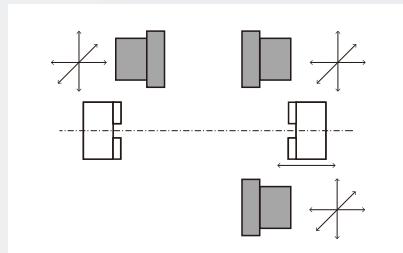
>> LONG BED (Best Fit)



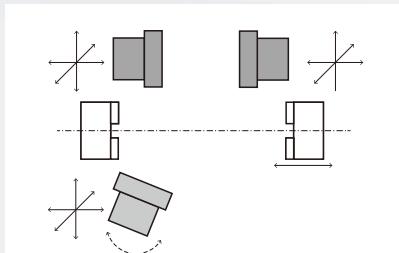
(TS: TWIN Spindle)

NZ TRE – 3 TURRETS, EACH WITH Y-AXIS, UP TO 3 B-AXES

>> SHORT & LONG BED

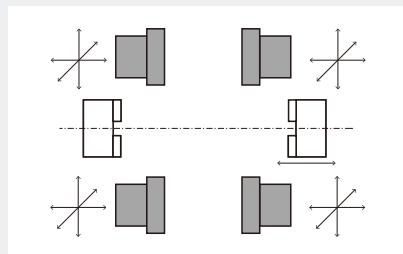


>> LONG BED (Best Fit)

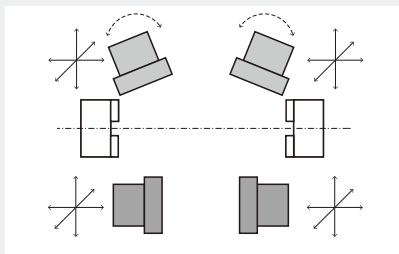


NZ QUATTRO – 4 TURRETS, EACH WITH Y-AXIS, UP TO 4 B-AXES

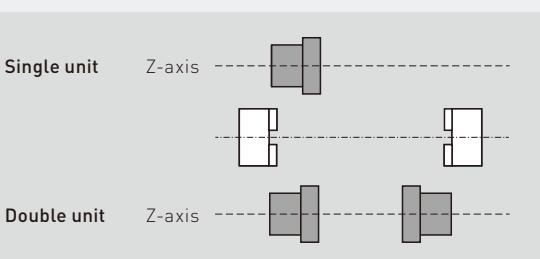
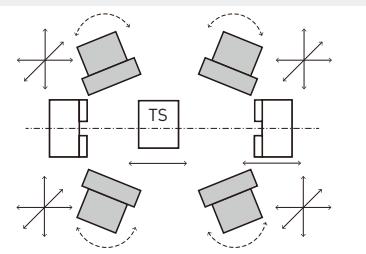
>> SHORT & LONG BED



>> LONG BED (Best Fit)



>> LONG BED (Best Fit)



Single unit:

1 turret on the same Z-axis guideway

Double unit:

2 turrets on the same Z-axis guideway

NZ-FORMULA

Two-turret package for high efficiency mass production & automation

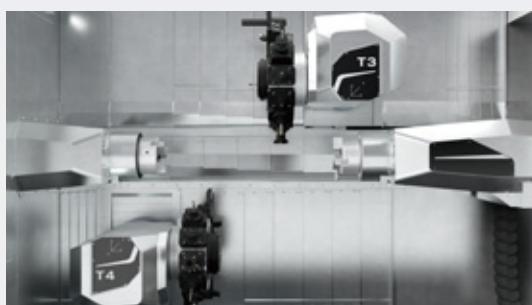
NZ-FORMULA features includes

NZ DUE (Short bed version)

- + Max. turning diameter: $\phi 250$ mm ($\phi 9.8$ in.)
- + Max. turning length: 740 mm (29.1 in.)
- + Bar work capacity: $\phi 72$ mm ($\phi 2.8$ in.)
- + Travel (X / Y / Z): 210 / ± 40 / 740 mm (8.3 / ± 1.6 / 29.1 in.)
- + Max. spindle speed: 5,000 min⁻¹ (Left / Right spindle)
- + Spindle output: 23 / 20 kW (30.7 / 26.7 HP)
- + Turret: 2 units (Bottom Left, Top Right), BT40/78 (12-station Turret)
- + Max. milling spindle speed: 12,000 min⁻¹
- + Milling Spindle output: 16 / 11 kW (21.3 / 15 HP)

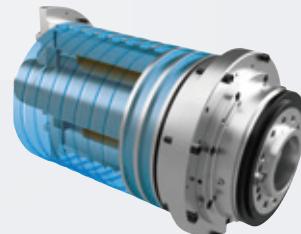
2 Turret

High milling performance with built-in-motor.
Gantry loader system available, thanks to top right
turret position.



1 turnMASTER spindle (Left / Right spindle)

Same cartridge system on both spindles - same performance, easy maintenance



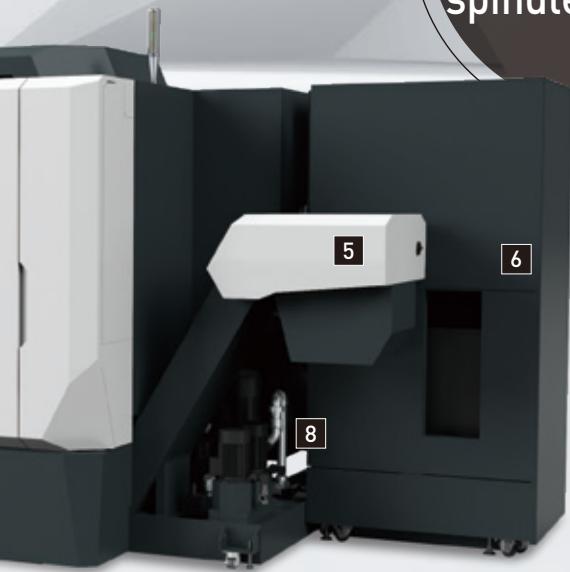
3 Bar feeder interface

Automation ready for high volume production by adding bar feeder.

• Bar feeder is not included



Next Generation of two turret two spindle machine



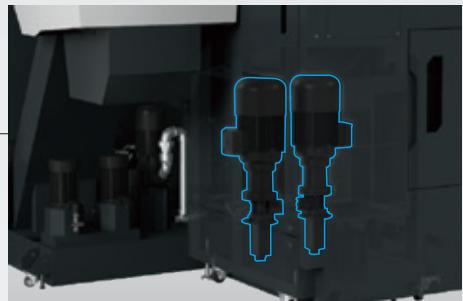
4 New control panel ERGOline X

Large touch screen for high visibility and intuitive operation



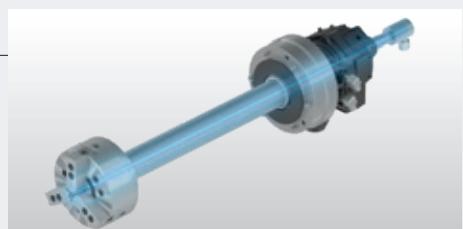
5 Chip conveyor

Equipped with a hinge type chip conveyor + box filter with 500 µm filtration level. Right discharge



6 Super-high pressure coolant system & coolant chiller

Up to 8 MPa high pressure coolant for both turrets – variable pressure
Coolant chiller located on the same cabinet to minimize floor space.



7 Through-spindle coolant for right spindle

Coolant applied through the spindle center:
efficient chip removal during automated machining



8 zero-sludgeCOOLANT

Stirs up the coolant with multiple nozzles and efficiently collects fine sludge through a high-accuracy cyclone filter

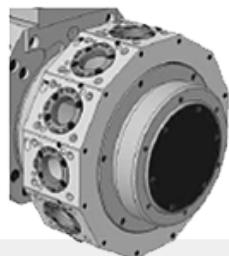


Find a video about
zero-sludgeCOOLANT here.

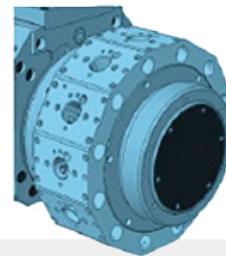
NZ-Platform

High-Performance Turret

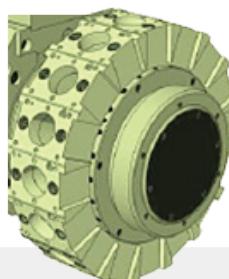
- + Selectable number of turrets from 2 to 4
- + Max. milling spindle speed: $12,000 \text{ min}^{-1}$
- + 2 machine lengths available: distance of spindle noses either 1,000 mm (39.3 in.) or 1,600 mm (62.9 in.)



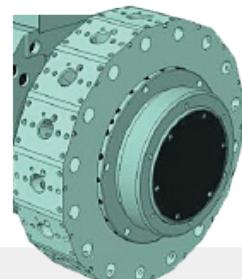
12-station bolt-tightened
BMT40/78



12-station quick change
VDI30



16-station bolt-tightened
BMT42/64



16-station quick change
VDI25



MILLING PERFORMANCE

- + $12,000 \text{ min}^{-1}$ Built-in Motor Turret with up to 24.1 N·m (17.8 ft·lbf) / 16 kW (21.3 HP)
- **12-station Turret:** VDI30, BMT40/78,
6-station Turret: VDI25, BMT42/64

High-Quality, High-Speed Spindle turnMASTER



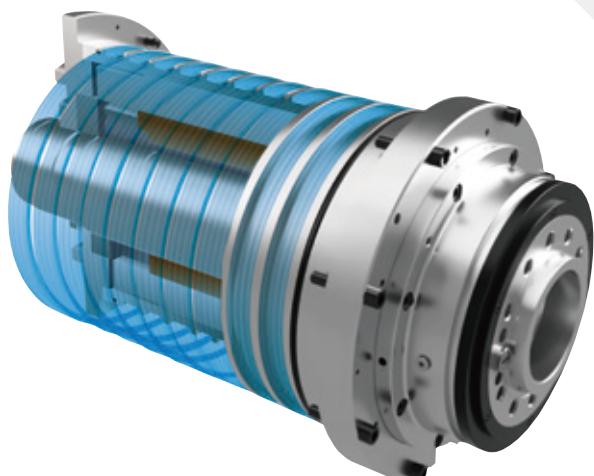
TURNING PERFORMANCE

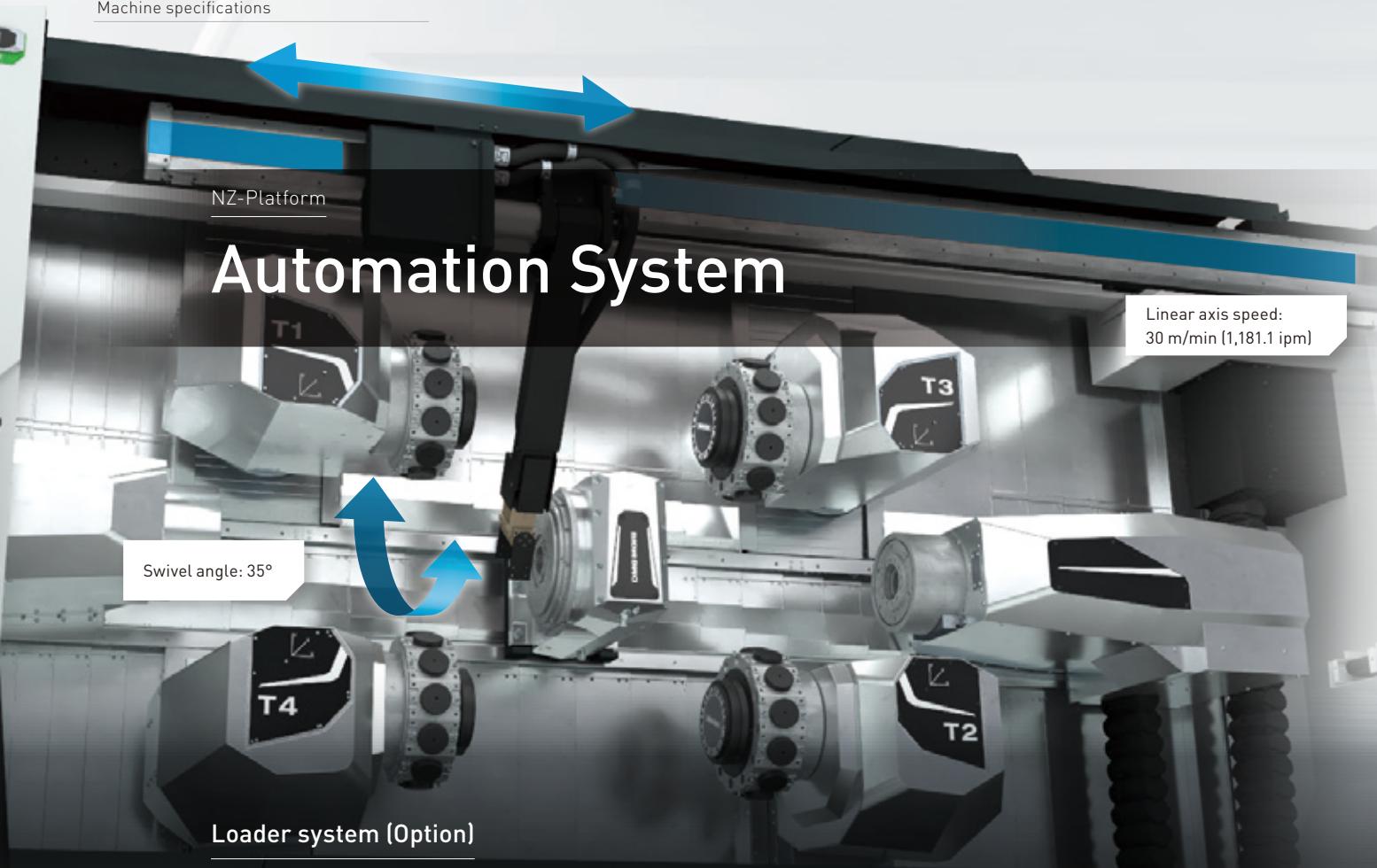
- + **turnMASTER** left spindle and right spindle with up to 7,000 min⁻¹ [5,000 min⁻¹ as standard] and 174 N·m (128.3 ft·lbf) <100 % ED>
- + **8 mm cutting** radial depth on all 4 turrets in CK 45
<72 mm (2.8 in.) cutting diameter //
270 m/min (885.9 fpm) cutting speed //
0.4 mm/rev (0.02 ipr) feedrate //
750 mL/min (45.8 in³/min) Material removal rate>
- + **36-month warranty** with unlimited spindle hours

11

Left / Right Spindle

- + Built-in type for Left / Right Spindle
- + Max. spindle speed: 5,000 min⁻¹, 7,000 min⁻¹, Bar capacity: φ72 mm (φ2.8 in.)
- + 23 / 20 kW (30.7 / 26.7 HP), 207 / 174 N·m (152.7 / 128.3 ft·lbf) <40%ED/cont.>
- + 6-inch / 8-inch / 10-inch chuck





Loader system (Option)

- 12
- + Driven by servo motors
 - + Loading / unloading on both spindles right and left
 - + In-machine loading simultaneously to machining for zero waiting time

In-machine traveling type workpiece unloader

- + Quickly and reliably picks up workpieces.
- + The unloader supports both left and right spindles.

Workpiece diameter: $\phi 30 - \phi 80$ mm ($\phi 1.2 - \phi 3.1$ in.)
Max. workpiece length: 300 mm (11.8 in.)
Max. workpiece weight: 6 kg (13.2 lb.)



Bar feeder interface (Option)

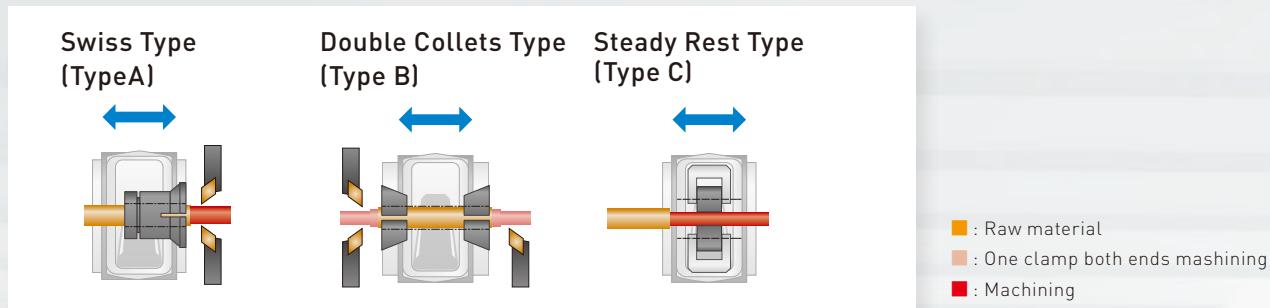
The combination of compact bar feeder with workpiece unloader enables integrated bar machining.

Recommended accessories for bar feeder specification

- + Bar feeder
- + Multi counter
- + Signal lamp
- + Guide bushing
- + Work stopper
- + zeroFOG



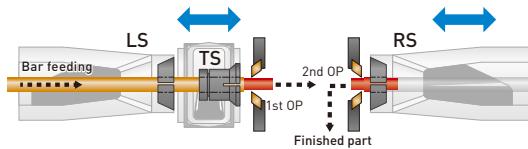
Possible TWIN Spindle applications



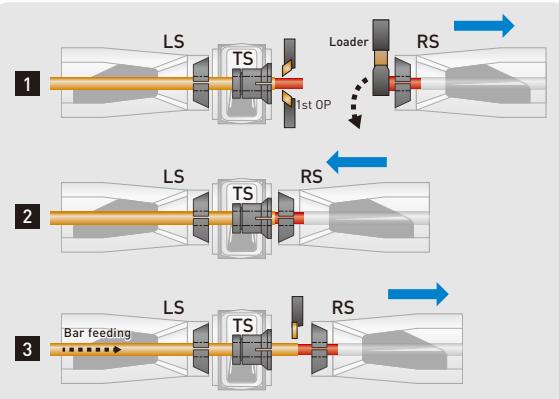
As bar machining

Swiss Type

- TS Type A** - Rotating guide bush
 - Low power
 - Fine adjustment of clamping force

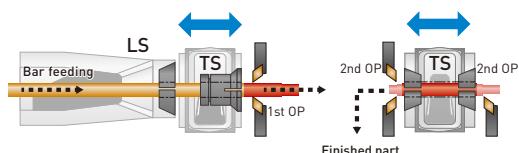


TS supports bar for long parts machining, RS pulls out bar for cut off, loader unloads part after completed at RS.



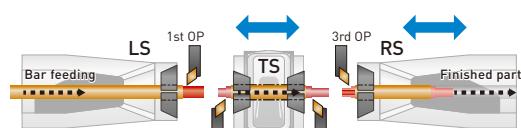
Swiss Type

- TS Type A + TS Type B** - Rotating guide bush + TWIN Spindle



TS + RS

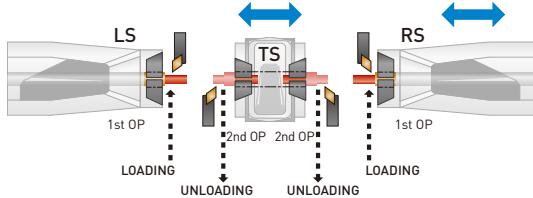
- TS Type B** - Short version
 - Mid power
 - Double Collets



As chuck machining

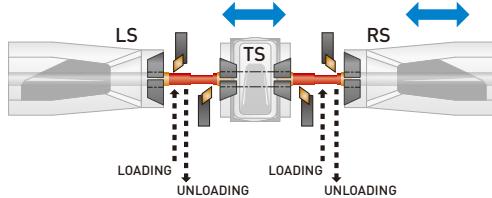
LS + TS + RS

- TS Type B** - LONG BED (Best Fit)
 - Mid power
 - Double Collets



LS + TS + RS

- TS Type B** - Short version
 - Mid power
 - Double Collets



LS: Left spindle RS: Right spindle TS: TWIN Spindle

Gantry Loader package (GX-10T)

Recommended accessories for bar feeder specification

- + Workpiece stocker 10 station
- + GX-10T Back end hands
- + Air blow for chuck (Left spindle)
- + Ceiling shutter (Required Option / Retrofittable)

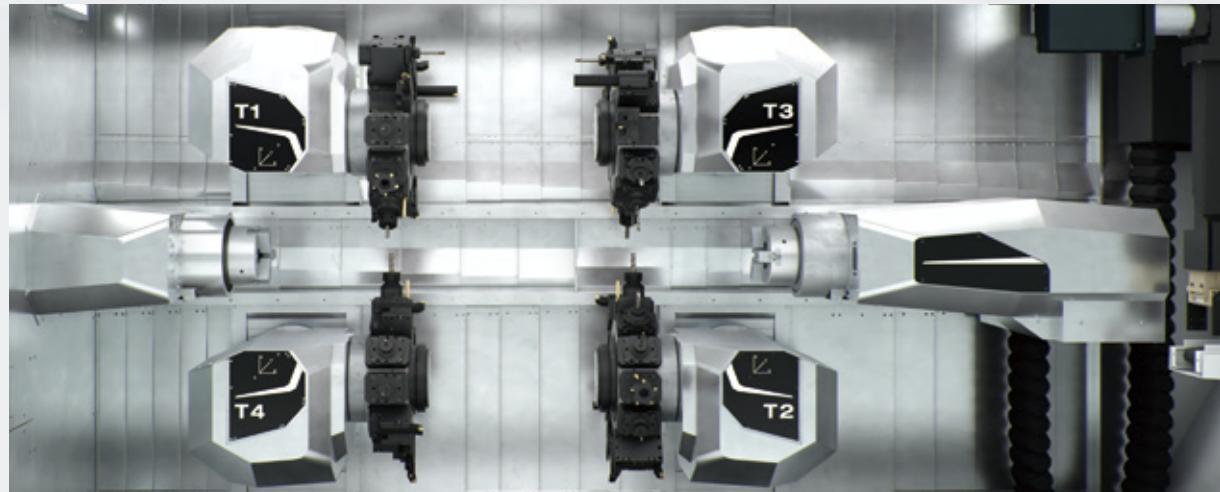


NZ-Platform

Solutions for Chip Disposal & Fog Collection

Cutting chips are a significant cause of machining defects and machine downtime.

At DMG MORI, we have rigorously addressed this issue through extensive testing and analysis, achieving exceptional chip handling performance. We offer optimized solutions tailored to each customer's specific machining requirements.

Vertical protectors

Ideal for automation: Vertical bed structure to reduce chip accumulation / improve chip evacuation

Coolant system

Coolant tank is located under the system cabinet to minimize footprint

+ Coolant tank capacity

- Short bed: 280 liters (73.9 gal.)
- Long bed: 320 liters (84.5 gal.)



zero-sludgeCOOLANT equipped as standard*

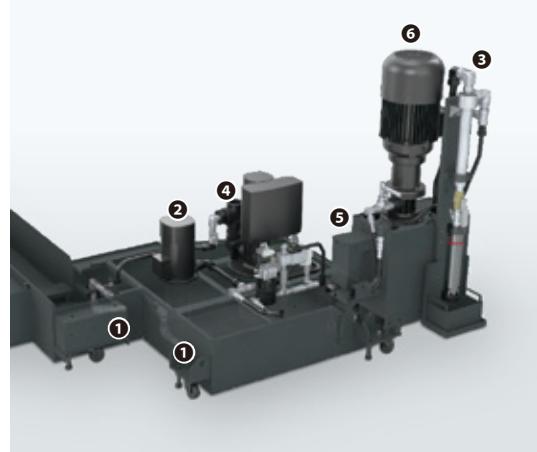
Multiple coolant nozzles are arranged to stir coolant and efficiently collect fine casting sludge with a highly accurate cyclone filter.

- + Reduce cleaning work of the coolant tank dramatically
- + Prevent clogging of pipes / coolant nozzles and pump breakage
- + Expand coolant life

- ① Coolant nozzle
- ② Inlet filter pump
- ③ Cyclone filter
- ④ Stirring nozzle coolant pump
- ⑤ Clean coolant tank (from cyclone filter)
- ⑥ Through-spindle coolant pump

*Not compatible with oil-based coolant.

Find a video about
zero-sludgeCOOLANT here.



High-performance built-in mist collector zeroFOG

CLEAN

- + Air quality comparable to household air purifiers
Mist collection efficiency over 99.97% for 0.3 µm particles
- + Stable collection performance realized by filter clogging monitoring and automatic motor control^{*1}

COMPACT

- + Attachable to the machine body^{*2}
No additional floor space necessary
Unified design concept with the machine

High maintainability

- + Frequent filter cleaning no longer necessary.
Automatic cleaning of the primary filter prevents filter clogging
- + Notification of filter exchange timing

ENERGY-SAVING

- + Contribution to SDGs:
less energy consumption and carbon emission



zeroFOG

Find detailed information about
zeroFOG here.



*1 Airflow may decrease depending on operating conditions such as mist concentration, oil type, and machining details.

*2 The method of mounting on the machine varies depending on the model and specifications.

NZ-Platform

Pursuit of Usability

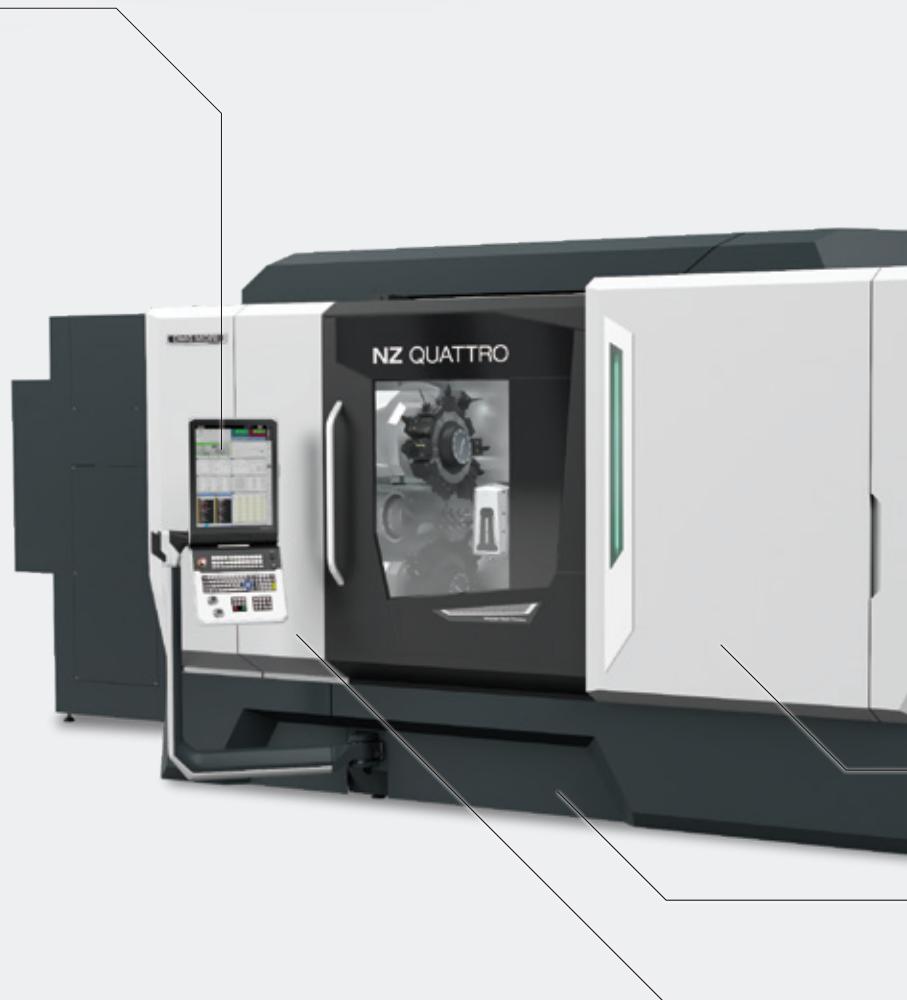
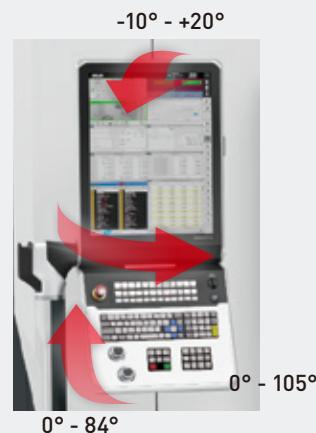
The NZ-Platform is designed with operator usability as the highest priority.

By enlarging the windows, visibility has been significantly improved, and various user-focused features have been incorporated throughout to enhance work efficiency.

Additionally, to improve maintenance, the hydraulic unit and other components are centrally located in easily accessible locations.

ERGOLine X: **Designed for Superior Usability**

The swivel, touch screen operation panel provides better access to the spindle and the workpiece.



Improved workability

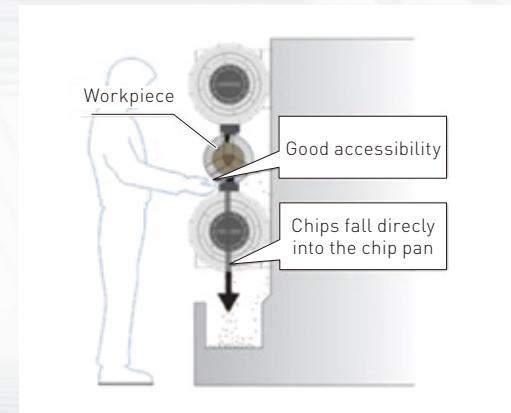
Excellent accessibility to the workpiece for easy setup and machine cleaning



Left spindle side, upper turret
(Turret 1)



Right spindle side, lower turret
(Turret 2)



High maintainability



Behind the machine hydraulic unit, lubrication unit and pressure gauges are located in one place for easier maintenance



Maintenance door
(slide type)

Bed oil pan catches all coolant oil dripping from the bed, protectors, feed units etc.

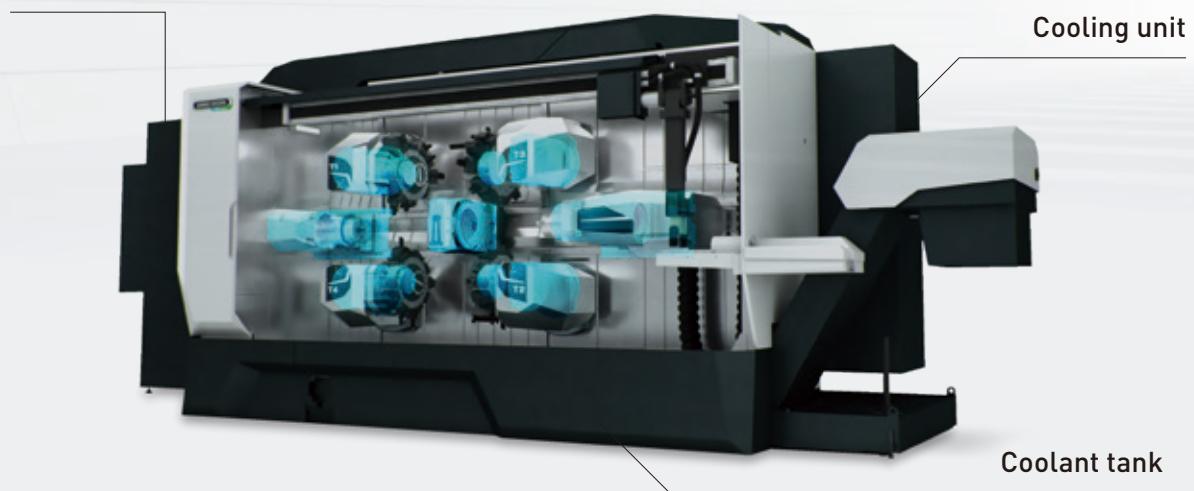
Maintenance door

NZ-Platform

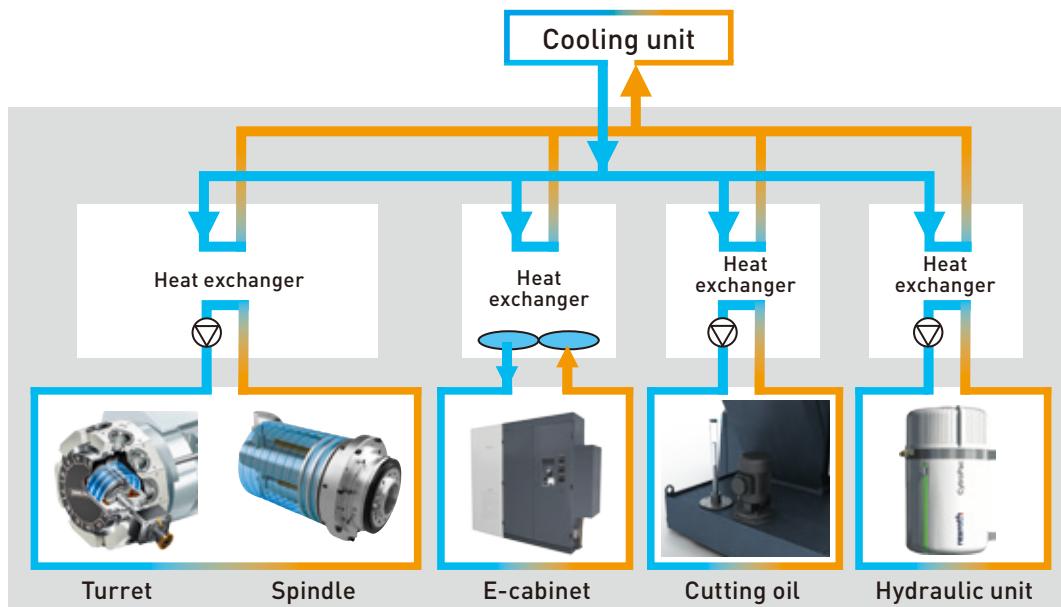
Optimal control of thermal displacement for high-accuracy machining

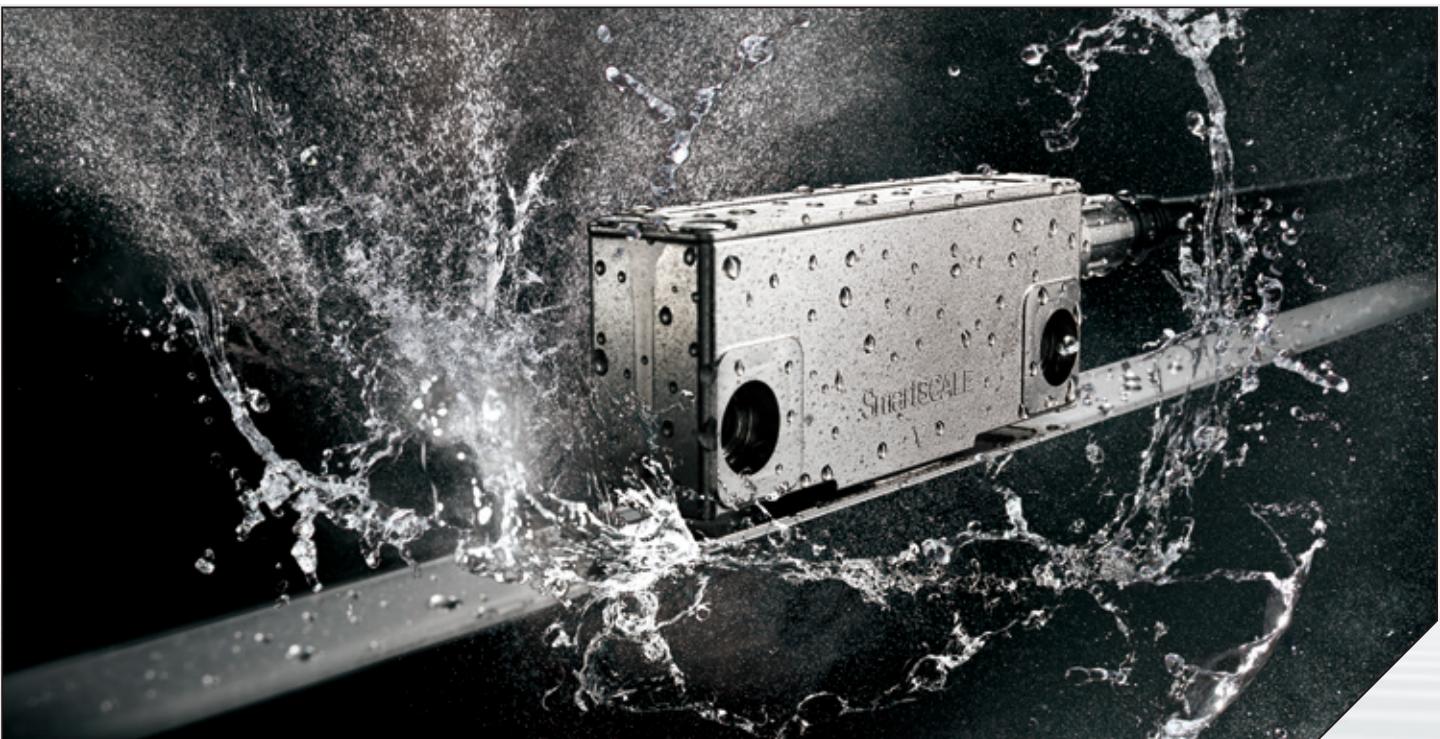
Cooling water circulation at head stocks, turrets, ball screw nuts and feed boxes reduces thermal displacement to ensure machining accuracy.

E-cabinet



One heat exchanger at each heat source /
One shared or centralized chiller





Full closed loop control <Scale feedback> (Standard features)

- + Superior machining accuracy with SmartSCALE made by Magnescale
- + Magnetic measuring system with a high resolution of 0.01 µm
- + Resistance to oil and condensation due to a magnetic detection principle
- + Impact resistance of 980 m/s² [38,582.6 in./s²] <if impact is 11ms>
- + Vibration resistance of 250 m/s² [9,842.5 in./s²] <if vibration is 50 - 2,000 Hz>
- + High-accuracy machining achieved by the scale with the thermal expansion coefficient equivalent to the machine castings
- + Protection level of IP67 and bearingless non-contact structure for high reliability

High-accuracy, high-resolution scale

SmartSCALE



DMG MORI Qualified Products

One-stop Service for Various Needs

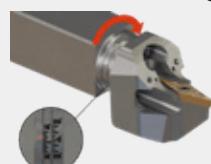
The DMG MORI Qualified Products (DMQP) program is designed to certify peripherals that meet DMG MORI standards in quality, performance and maintainability.

DMG MORI is your single-source supplier for customer-optimized peripheral equipment, including all connection and setup work. DMQPs come with the same 2-year warranty as our machine tools.

Turning tool



Multi-threading tool



Multi-axis holder



Chuck



Super-high pressure coolant system



Coolant



Tool

Fixtures

Coolant





Shrink fit system



Tool presetter



Bar feeder



Robot system



Pneumatic equipment

Air dryer



Air compressor



Multi dry filter



Complex Processing Made Simple & Quick

DMG MORI Technology Cycles

Technology Cycles are the perfect solution for combining highly advanced simultaneous 5-axis milling machines, mill-turn machines and machining centers with state-of-the-art tools, measuring equipment, robots, sensors, and other peripheral technologies to boost customer productivity. Without the need for specialized machines, programs, or tools, customers can quickly start high-quality production in a simple and timely manner.

Shaping



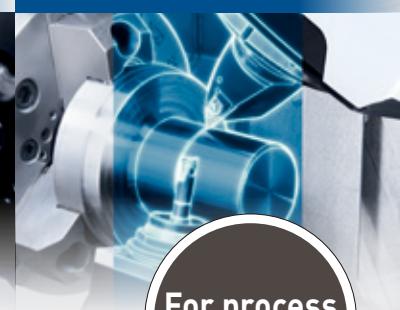
Measuring



Monitoring



Handling



For process integration

Gear hobbing

Optimal programming achieves hobbing with a general-purpose machine



- + 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
- + ISO gear accuracy grade 8

gearSKIVING

High-speed gear cutting including internal teeth



- + Can easily program a machining technique called gear skiving
- + 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
- + ISO gear accuracy grade 8

Chip Breaking

Effectively prevents chip problems by breaking chips into small pieces



Easy tool monitoring

Monitoring load of spindle and traveling axes



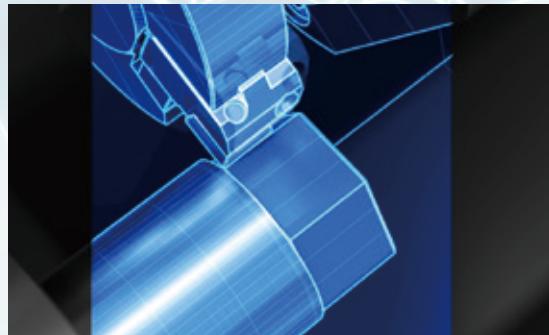
Multi-tool

Maximizing number of tools & minimizing non-cutting time



Polygon Cutting

Highly efficient cutting of polygons



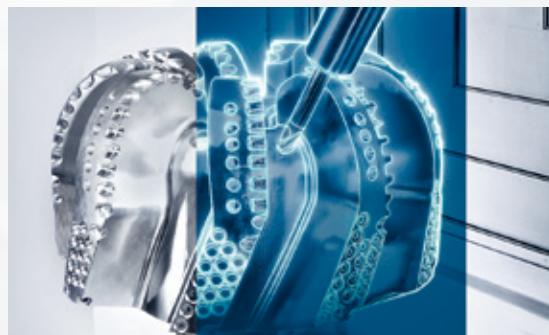
Retraction cycle

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



Application Tuning Cycle

Easy setting of optimum feed according to the machining operation



NZ-Platform

ERGOLine X with CELOS X

Smooth and Time-saving Operation

The refined ergonomic design ensures easy usage down to the smallest detail.

The dustproof and waterproof design (IP54 rating) is ideal for factory environments and realizes comfortable and safe operation.

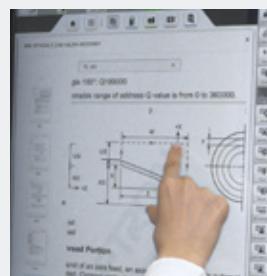
(CE Marking acquired for European safety standards)



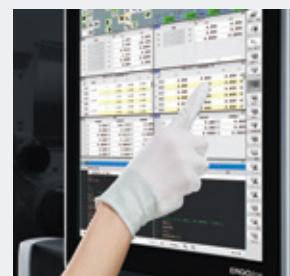
1 Large touch screen

Superior visibility and intuitive operation.

- + 10% larger screen and increased text size
 - + All necessary information displayed on one screen for higher work efficiency
 - + Remote access: machining programs on office PCs are visible on the shop floor as well
 - + Can also be operated with touch pen*
- * Option



Electrostatic touch panel



Can also be operated with gloves on

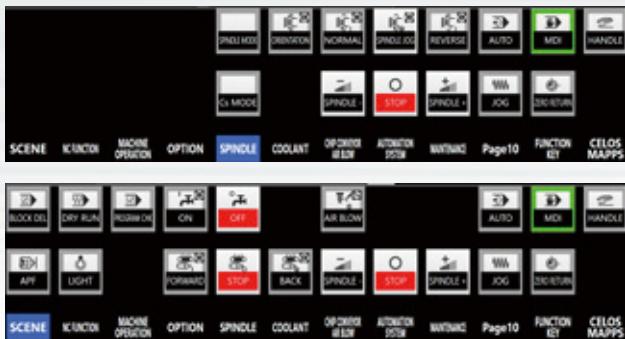
2 Hardware buttons that are easy to press Ideal for program input where accuracy is required.



- + Dustproof, waterproof and durable design
- + Optimized button ergonomics for comfort pressing

3 HYBRID BAR

Only displays the buttons that are necessary for the current operation. Prevents errors and improves workability.



Example of displayed buttons

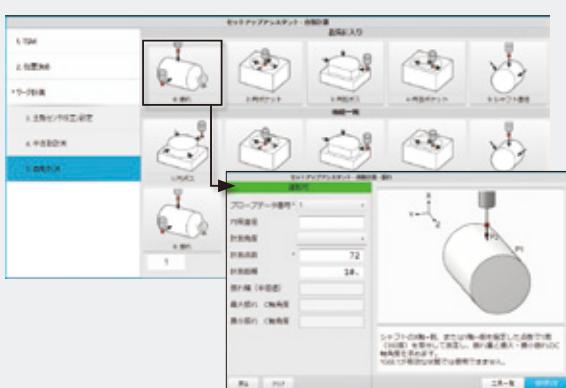
- + Switches displayed buttons automatically to suit your current operation
- + LCD panel with comfortable push sensation
- + Synchronized with open programs on the touch screen

5 Upper and lower panel can be adjusted to your optimal viewing angle Operate the machine in your most comfortable position by adjusting the panel angles.

- + Upper panel: Front 10°, Back 20°
- + Lower panel: 0 to 84° (adjustable in 7 steps at 12° each)



6 Simple input screen for smooth completion of setup



Setup page samples (MAPPS)

- + Easy-to-understand animations and diagrams guide you through the setup
- + For tool change, simply select a tool from the list
- + Enables anybody to safely perform tool change or measuring
- + Significantly reduces setup time

4 Useful applications that reinforce your production processes

Operator Workbook

CELOS App for easy job processing from the office or factory floor

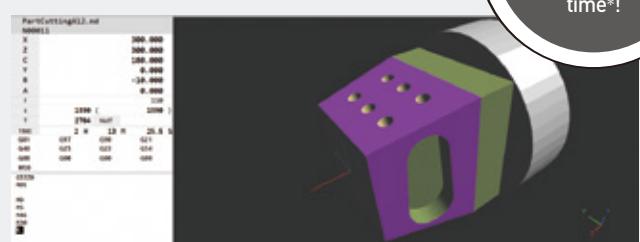
Application Connector

CELOS App to enable display and operation of other IT systems on the operational panel

7 Drawing and complex machining simulations are processed in high speed.

- + CPU: Intel Core i5
- + Memory 32 GB
- + 6 GB program storage area
- + USB 2 ports

Compared with previous panel
30% reduced time*!



Drawing simulation

* Based on actual results. Figure may differ depending on the machining program.

Intel Core is a trademark or registered trademark of Intel Corporation

Digital Solutions to Promote the Digital Transformation of Your Shop floor

DMG MORI's digital solutions visualize production-related information and eliminate inefficient work. The power of digital technology supports workers on the shopfloor, improving overall productivity and promoting work style innovation.

CELOS Club

CELOS Club connects DMG MORI and customers via a network, enabling machine monitoring, preventive maintenance, and remote troubleshooting. It is a standard service available for 3 years after machine delivery.



DMG MORI Messenger Secured Connection (4G)

Real-time machine operation monitoring
Monthly reports to maximize uptime

- + Easy to view machine operation rate, cycle time, machining results, and alarm history
- + Real-time data accessible from PCs, tablets, and smartphones
- + E-mail notifications of job completion and alarms



Preventive Maintenance Call

Constant critical alarm monitoring to prevent troubles in advance

- + DMG MORI's service engineers remotely collect and analyze your machine operation data
- + Critical alarms and trends monitored for early signs of machine troubles
- + DMG MORI's service engineers call customers for early signs and preventive measures



NETSERVICE

Quick recover from any problems

- + DMG MORI's service engineers can access your machine and check troubles remotely
- + Quick and accurate understanding of your machine status to drastically reduce downtime



Robust security

Securely connect machines to the network and prevent problems and accidents caused by cyber attacks.

- + Only executes programs registered in the whitelist to prevent malicious programs
- + Prevents virus infection through machine bodies by blocking the execution of malicious programs in the first place

Whitelist security software



Digital Transformation of programming Program Creation in CAD / CAM

- + Ideal for machining complex shapes with 5-axis machines and mill-turn centers
- + Toolpath optimization increases machining efficiency and accuracy
- + Post processor translation ensures easy programming with different NC controls
- + DMG MORI proposes the optimal CAM for each customer's needs

hyperMILL® Mastercam SIEMENS CAM-TOOL



CELOS DYNAMICpost^{*1}

[Access here for the video](#)



Post Processor / NC Simulation / Cutting Force Optimization integrated in one software

Reliable bridge between CAM and machine tools

- + DMG MORI post processors maximize machine capacity
- + Interference check for safe and secure processing
- + Cutting force optimization reduces cutting time by 20%*² and tool breakage during roughing
- + Free trial available

*1 Option to be included

*2 Listed figures may not be achieved depending on the type of machining.



TULIP

[Access here for the detail of TULIP](#)



Supports the digitization of your factory.
Eliminates all redundancies from your shopfloor.

- + Easily create work procedure manuals with applications and make your shopfloor paperless
- + Real-time visualization of on-site production processes
- + Linkage with existing internal systems to manage data in one place



WALC CARE

Early detection of trouble signs to minimize downtime



Network Construction and Connection Services for Factories

DMG MORI GATEWAY



28

DMG MORI GATEWAY provides a one-stop cloud connection for machines of all makes and ages, allowing you to monitor the shop floor status in real time. The implementation requires no effort on the part of customers and can be completed by DMG MORI engineers. The IoT-based, real-time shop floor visualization will help you make better business decisions and maximize production efficiency.

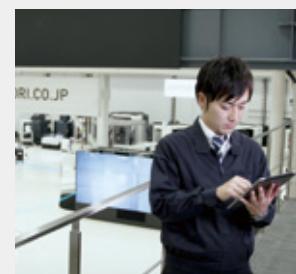
DMG MORI GATEWAY

Connectable to third-party machines and peripherals

Data stored in the DMG MORI cloud

Shop floor network built by DMG MORI engineers

Secure connection between network and machine



Your Contact for After-sales and Service: **my DMG MORI**



Access here for
the video



my DMG MORI is a web-based platform that facilitates communication between customers and DMG MORI during repair and maintenance work.

Unlike phone calls, the digital communication allows both parties to exchange detailed information. You can also view the updated status and history anytime, anywhere.

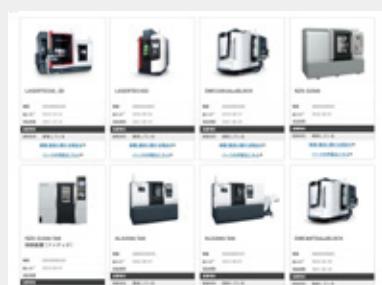
MORE SERVICE

- + No queue: Simple online problem description
- + Pre-filled service inquiries: Send machine details, photos or videos
- + Immediate processing: The "right" service expert will process the inquiry with priority



MORE KNOWLEDGE

- + Full machine history: All machine events are retrievable in a structured format
- + All documents digital: Library for technical and commercial documents available
- + Real-time access to processing status: More transparency for service and spare part inquiries



MORE AVAILABILITY

- + Free access, 24/7: From anywhere, at any time
- + Your portal, your rules: The customer controls who sees what
- + On any device : Computer, Smart-phone or via CELOS



For Sustainable Production

NZ-Platform is designed to save energy and reduce CO₂ emissions through process integration, automation and digitization, allowing for energy-efficient and sustainable production.

DMG MORI is committed to reduce CO₂ emissions across the entire supply chain and has been certified by SBT in 2021*.

* Abbreviation for Science Based Targets. Greenhouse gas emissions reduction targets set by companies for the next 5-15 years in accordance with the levels required by the Paris Agreement (limit global temperature increase to below 2 °C or 1.5 °C compared to pre-industrial levels).



Scan the QR code for DMG MORI's approach towards sustainability.

<https://www.dmgmori.co.jp/corporate/sustainability/en/>



SUSTAINABLE MANUFACTURING

SUSTAINABLE PRODUCTS



SUSTAINABLE CORPORATE ACTIVITIES



SUPPLIERS + **DMG MORI**

Unique energy-saving function **GREENMODE**

GREENMODE, an energy-saving function developed to achieve the Sustainable Development Goals (SDGs), significantly reduces your machine's power consumption by keeping standby power low and by shortening machining times through efficient machining programs.

GREENMODE

GREEN monitoring

- + Visualize power consumption and CO₂ emission amount on the CELOS operation screen

GREEN device

- + High-brightness LED light

GREEN idle reduction

- + Shuts off power to servo motors, spindles, coolant pumps, etc. when the machine is stopped
- + Turns off the operation panel screen when there is no machine operation for a certain period of time



Monitoring of power consumption and CO₂ emissions on the CELOS operation panel screen

GREEN control

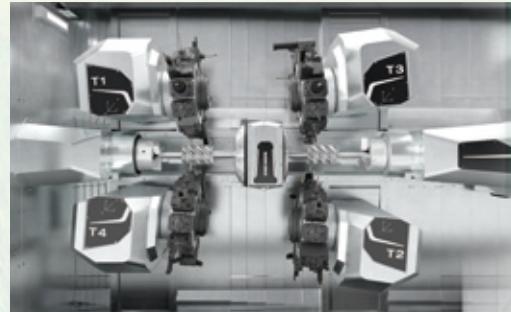
- + Reduce machining power by energy-saving pecking cycles
- + Quicken standard M codes
- + Simultaneous acceleration / deceleration of the spindle and feed axes
- + Controls coolant discharge amount with inverter

Contributing to sustainable production

Reducing CO₂ by 5-axis machining, process integration and automation

5-axis machines and automation systems reduce lead times with highly efficient production.

They also contribute to less CO₂ emissions and power consumption and improve customers' productivity.



MACHINE UTILIZATION



MORE EFFICIENT ENERGY AND EMISSIONS MACHINE OPERATION

1. CELOS apps for transparency and optimization of energy consumption
2. Intelligent, demand-oriented control
3. Consumption-optimized components
4. Energy recovery during braking



TECHNOLOGY EXCELLENCE FOR GREEN TECHNOLOGIES

1. Green technologies like wind power and electromobility are the most important leverage against climate change
2. DMG MORI is the innovation driver for the production of green technologies

CUSTOMERS

NZ-Platform

Machine specifications (NZ-Platform)

	NZ-Platform		
	DUE	TRE	QUATTRO
Capacity			
Max. distance between centers	mm [in.]	Short: 1,000 [39.3] Long: 1,600 [62.9]	
Max. turning diameter	mm [in.]	Ø250 (Ø9.8)	
Max. turning length	mm [in.]	Short: 740 [29.1] Long: 1,290 [5.7]	
Bar work capacity	mm [in.]	Ø72 [Ø2.8]	
Travel			
X-axis	mm [in.]	210 [8.2]	
Y-axis	mm [in.]	80 [3.1] <±40 [±1.5]	
Z-axis (Single unit)* ¹	mm [in.]	Short: 740 [29.1] Long: 1,290 [5.7]	—
Z-axis (Double unit)* ¹⁺²	mm [in.]	Short: 470 [18.5] Long: 1,070 [42.1]	
B-axis* ²	B1-axis, B4-axis B2-axis, B3-axis	110° [-100° - +10°] 110° [-10° - +100°]	
Right spindle-axis	mm [in.]	Short: 730 [28.7] Long: 1,330 [52.3]	
Left spindle			
Max. spindle speed	min ⁻¹	5,000, 7,000	
Chuck size		6-inch, 8-inch, 10-inch	
Right spindle			
Max. spindle speed	min ⁻¹	5,000, 7,000, 4,500	
Chuck size		6-inch, 8-inch, 10-inch	
Turret			
Turret Type		BMT, VDI	
Number of tool stations		12 <12-station Turret>, 16 <16-station Turret>	
Max. milling spindle speed: 12,000 min ⁻¹	min ⁻¹	12,000	
Feedrate			
Rapid traverse rate	mm/min (ipm) min ⁻¹	X: 22,500 {885.8} Y: 10,000 {393.7} Z: 40,000 {1,574.8} B: 50 C: 250	
Motors			
Left spindle drive motor (40%ED / cont)	kW (HP)	23 / 20 {30.7 / 26.7}	
Right spindle drive motor (40%ED / cont)	kW (HP)	23 / 20 {30.7 / 26.7}	
Milling spindle drive motor (15%ED / cont)	kW (HP)	16 / 11 {21.3 / 15}	
Machine size			
Machine height	mm [in.]	2,515 {99.0}	
Floor space (Width × Depth)	mm [in.]	Short: 6,705 × 2,161 {264.0 × 85.1} Long: 6,895 × 2,161 {271.5 × 85.1}	Short: 7,705 × 2,161 {303.3 × 85.1} Long: 7,295 × 2,161 {287.2 × 85.1}

*1 See P9 for details of single and double units.

*2 For the specification of double units on short bed, the travel range of Z-axis and B-axis is limited. For details, please consult our sales representative.

● Bar work capacity may be limited by the type of chuck/cylinder, etc.

● 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.

● 400 V specification. Transformer may be required depending on the power supply.

● The information in this catalog is valid as of October 2024.

Machine specifications (NZ-FORMULA)

NZ-FORMULA		
Capacity		
Max. distance between centers	mm (in.)	1,000 (39.3)
Max. turning diameter	mm (in.)	φ250 (φ9.8)
Max. turning length	mm (in.)	740 (29.1)
Bar work capacity	mm (in.)	φ72 (φ2.8) [φ105 (φ4.1)]*
Travel		
X-axis	mm (in.)	210 (8.2)
Y-axis	mm (in.)	80 (3.1) <±40 (±1.5)>
Z-axis	mm (in.)	740 (29.1)
Right spindle-axis	mm (in.)	730 (28.7)
Left spindle		
Max. spindle speed	min ⁻¹	5,000
Chuck size		6-inch, 8-inch, [10-inch]*
Through-spindle hole diameter	mm (in.)	φ83 (φ3.3) [φ115 (φ4.5)]*
Right spindle		
Max. spindle speed	min ⁻¹	5,000
Chuck size		6-inch, 8-inch
Through-spindle hole diameter	mm (in.)	φ83 (φ3.3)
Turret		
Turret Type		BMT40/78
Number of tool stations		12 <12-station Turret>
Max. milling spindle speed: 12,000 min ⁻¹	min ⁻¹	12,000
Feedrate		
Rapid traverse rate	mm/min (ipm)	X: 22,500 (885.8) Y: 10,000 (393.7) Z: 40,000 (1,574.8)
	min ⁻¹	C: 250
Motors		
Left spindle drive motor (40%ED / cont)	kW (HP)	23 / 20 (30.7 / 26.7)
Right spindle drive motor (40%ED / cont)	kW (HP)	23 / 20 (30.7 / 26.7)
Milling spindle drive motor (15%ED / cont)	kW (HP)	16 / 11 (21.3 / 15)
Machine size		
Machine height	mm (in.)	2,515 (99.0)
Floor space (Width × Depth)	mm (in.)	6,920 × 2,161 (272.4 × 85.1)

[] Option

* Only in USA

- Bar work capacity may be limited by the type of chuck/cylinder, etc.
- 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.
- 400V specification as standard. Transformer may be required depending on the power supply.
- The information in this catalog is valid as of October 2024.

NZ-Platform

Standard & optional features (NZ-Platform)

●: Standard ○: Option ☆: Consultation is required

	NZ-Platform					
	DUE		TRE		QUATTRO	
	Short	Long	Short	Long	Short	Long
Left spindle						
5,000 min ⁻¹ , 23 / 20 kW [30.7 / 26.7 HP] ^{*1}	○	○	○	○	○	○
7,000 min ⁻¹ , 23 / 20 kW [30.7 / 26.7 HP] ^{*1}	○	○	○	○	○	○
Right spindle						
5,000 min ⁻¹ , 23 / 20 kW [30.7 / 26.7 HP] ^{*1}	○	○	○	○	○	○
7,000 min ⁻¹ , 23 / 20 kW [30.7 / 26.7 HP] ^{*1}	○	○	○	○	○	○
TWIN Spindle						
Z Slide Base ^{*2}	☆	☆	☆	☆	☆	☆
TWIN Spindle	☆	☆	☆	☆	☆	☆
Type A	☆	☆	☆	☆	☆	☆
Type B	☆	☆	☆	☆	☆	☆
Turret / XYZ Slide Unit						
Specification without turret ^{*3}	●	●	●	●	●	●
Milling unit 16 kW, 24 N·m, 12,000 min ⁻¹ XYZ full closed loop control [scale feedback]	○ ^{*4}	○ ^{*4}	○ ^{*5}	○ ^{*5}	○ ^{*6}	○ ^{*6}
12-station bolt-tightened turret (compatible with NZX holders, BMT40/78)	○ ^{*4}	○ ^{*4}	○ ^{*5}	○ ^{*5}	○ ^{*6}	○ ^{*6}
16-station bolt-tightened turret (compatible with ALX 20-station holders, BMT42/64)	○ ^{*4}	○ ^{*4}	○ ^{*5}	○ ^{*5}	○ ^{*6}	○ ^{*6}
12-station quick-change VDI turret, 30 mm shank diameter	○ ^{*4}	○ ^{*4}	○ ^{*5}	○ ^{*5}	○ ^{*6}	○ ^{*6}
16-station quick-change VDI turret, 25 mm shank diameter	○ ^{*4}	○ ^{*4}	○ ^{*5}	○ ^{*5}	○ ^{*6}	○ ^{*6}
B-axis function	Swivel angle 110°	○ ^{*4}	○ ^{*4}	○ ^{*5}	○ ^{*5}	○ ^{*6}
Coolant / Chip disposal						
Coolant flow switch	●	●	●	●	●	●
Chip conveyor ^{*7}	○	—	○	—	○	—
Short center-to-center, Right discharge, Hinge type	○	—	○	—	○	—
Short center-to-center, Right discharge, Scraper type	○	—	○	—	○	—
Long center-to-center, Right discharge, Hinge type	—	○	—	○	—	○
Long center-to-center, Right discharge, Scraper type	—	○	—	○	—	○
Mist collector	zeroFOG#2 (installed on control panel)	○	○	○	○	○
Measurement / Monitoring						
Manual in-machine tool presetter	Removable (Left spindle + Right spindle)					
Automation						
Signal lamp	4 colors (LED type: red, yellow, green, blue)					
Workpiece transfer conveyor	Right					
Integrated workpiece unloading device ^{*8} (Max. workpiece weight 6 kg)	Short center-to-center, hand Long center-to-center, hand					
Automatic door	—	○	—	○	—	○
Bar feeder interface	○	○	○	○	○	○
Loader	Interface only					
Others						
Internal light	●	●	●	●	●	●
Dry anchor	○	○	○	○	○	○
Separate cooling system	○	○	○	○	○	○

*1 With C-axis brake, with spindle air purge

*2 Twin spindle, or for other applications

*3 Turret, XYZ not included

*4 2 units can be selected from Top Left, Bottom Right, Top Right, and Bottom Left.

*5 3 units can be selected from Top Left, Bottom Right, Top Right, and Bottom Left.

*6 4 units can be selected from Top Left, Bottom Right, Top Right, and Bottom Left.

*7 With coolant float switch

*8 Does not include 2-motion structure (Z-direction, swivel direction), air gripper (air), and workpiece transfer conveyor.

● The information in this catalog is valid as of October 2024.

● 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.

Standard & optional features (NZ-FORMULA)

●: Standard ○: Option

NZ-FORMULA

Left spindle		
5,000 min ⁻¹ , 23 / 20 kW [30.7 / 26.7 HP], through-spindle hole diameter φ83 mm [3.3 in.]	●	
5,000 min ⁻¹ , 28 / 26 / 22 kW, through-spindle hole diameter φ115 mm [4.5 in.]	○*	
Right spindle		
5,000 min ⁻¹ , 23 / 20 kW [30.7 / 26.7 HP], through-spindle hole diameter φ83 mm [3.3 in.]	●	
Chuck		
Hydraulic chuck (Left spindle)	8-inch hollow chuck (KITAGAWA BR08A621), (KITAGAWA HGGH83-210) Power chuck (Hainbuch SPANNTOP mini chuck Deadlength SIZE 65) Collet chuck (RIKEN SAD-65MSP)	○ ○ ○
Hydraulic chuck (Right spindle)	10-inch hollow chuck (KITAGAWA HGGH52-254) 8-inch hollow chuck (KITAGAWA BR08A621), (KITAGAWA HGGH83-210) Power chuck (Hainbuch SPANNTOP mini chuck Deadlength SIZE 65) Collet chuck (RIKEN SAD-65)	○* ○ ○ ○
Cylinder set		
Hollow Cylinder Set for NZ-FORMULA	Bar work capacity (Left spindle without chuck body) Bar work capacity (Right spindle without chuck body)	72 mm [2.8 in.] 105 mm [4.1 in.] 72 mm [2.8 in.]
Chuck option		
Clamping pressure adjustment at the control	Left spindle / Right spindle	●
Chuck foot switch (2 foot switches)	Left spindle / Right spindle	●
Check of the chuck cylinder stroke (Detection of the linear position)	Left spindle / Right spindle	●
Chuck inching function	Left spindle / Right spindle	●
Turret		
XYZ slide unit 3 (Upper right), 4 (Lower left)	Milling unit 16 kW [21.3 HP], 24 N·m [17.7 ft-lbf], 12,000 min ⁻¹	12-station turret (compatible with NZX holders, BMT40/78)
Direct Scale Feedback		
Full closed loop control (Scale feedback)	X3-axis, X4-axis	●
Coolant		
Chip conveyor	Right discharge, hinge type + box filter	●
Ultra-high-pressure coolant system (Separate type)	8 MPa [Variable pressure type, for 2-turret specification only]	●
Ultra-high pressure coolant interface		○
Coolant chiller (Separate type)		●
Through-spindle coolant system (Center through)	Right spindle	●
Mist collector	zeroFOG#2 (Built-in type)	○
Coolant gun		○
zero-sludgeCOOLANT tank	600 L [158.4 gal.]	●
zero-sludgeCOOLANT pro	900 L [237.6 gal.]	○
Oil skimmer	Screw type	○
Measurement		
Manual type in-machine tool presetter	Left spindle [Removable], Right spindle [Removable]	●
Automation		
Signal lamp	4 colors [LED type: red, yellow, green, blue]	●
Bar feeder interface (Connector type)	LNS, IRCO, IEMCA, Edge Technologies, ALPS TOOL	●
Workpiece unloader	Hand type (In-machine traveling workpiece) Conveyor on the right type	○ ○
Gantry loader	GX-10T Package (1 machine, Stocker left side)	○
Ceiling shutter specification		○
Others		
Internal light		●
Water-glycol chiller for spindle cooling		●
Water-glycol heat exchanger for spindle cooling (Central cooling system interface, cooling chiller prepared by customer)		○
Danger sensing device interface		○

* Only in USA

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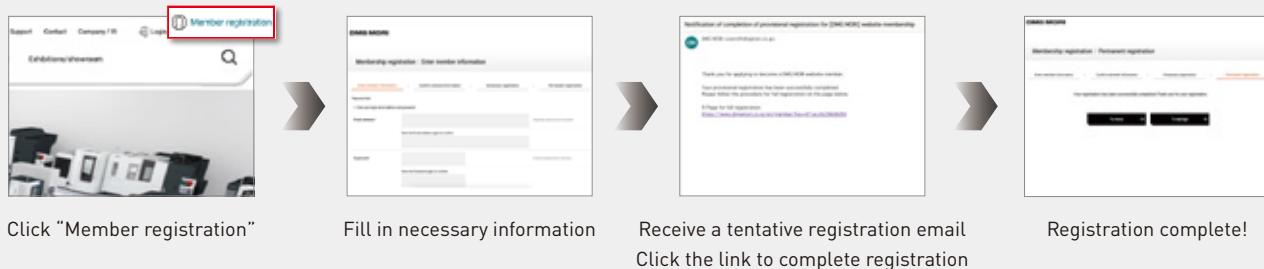
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Sign up now to gain access to valuable information and solutions across various contents, along with exclusive members-only services for added benefits.



You can register from your smartphone, too.
<https://www.dmgmori.co.jp/en/member/>

Quick and free online registration!



<Precautions for Machine Relocation>

This product is deemed regulated cargo when exported under the Japanese government's Foreign Exchange and Foreign Control Trade Law. Government authorization is required when exporting this product. The product shipped to you (the machine and accessory equipment) has been manufactured in accordance with the laws and standards that prevail in the relevant country or region. If it is exported, sold, or relocated to a destination in a country with different laws or standards, it may be subject to export restrictions of that country.

This product detects machine relocation. Once the machine is relocated, it is not operable unless its legitimate relocation is confirmed by DMG MORI or its distributor representative. If the restart of the machine can result in unauthorized export of cargo or technology or will violate legitimate export controls, DMG MORI and its distributor representative can refuse to restart the machine. In that case, DMG MORI and its distributor representative do not assume any loss due to the inability to operate the machine or any liability during the warranty period.

+ DCG, DDM, BMT, ORC, compactMASTER, turnMASTER, DMQP, MATRIS, Robo2Go, Zero sludge coolant tank, CELOS, ERGOline, COMPACTline, DMG MORI SMARTkey, proTIME and names of each Technology Cycle are trademarks or registered trademarks of DMG MORI CO., LTD. or its group companies in Japan, the USA and other countries.

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

+ Catalog information last updated in October 2024. Please note that specifications are subject to change without prior 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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