
NLX 3000 | 700

NLX 3000 | 1250

NLX 3000 | 2000

NLX 3000 | 3000

Rigid and Precise Turning Center

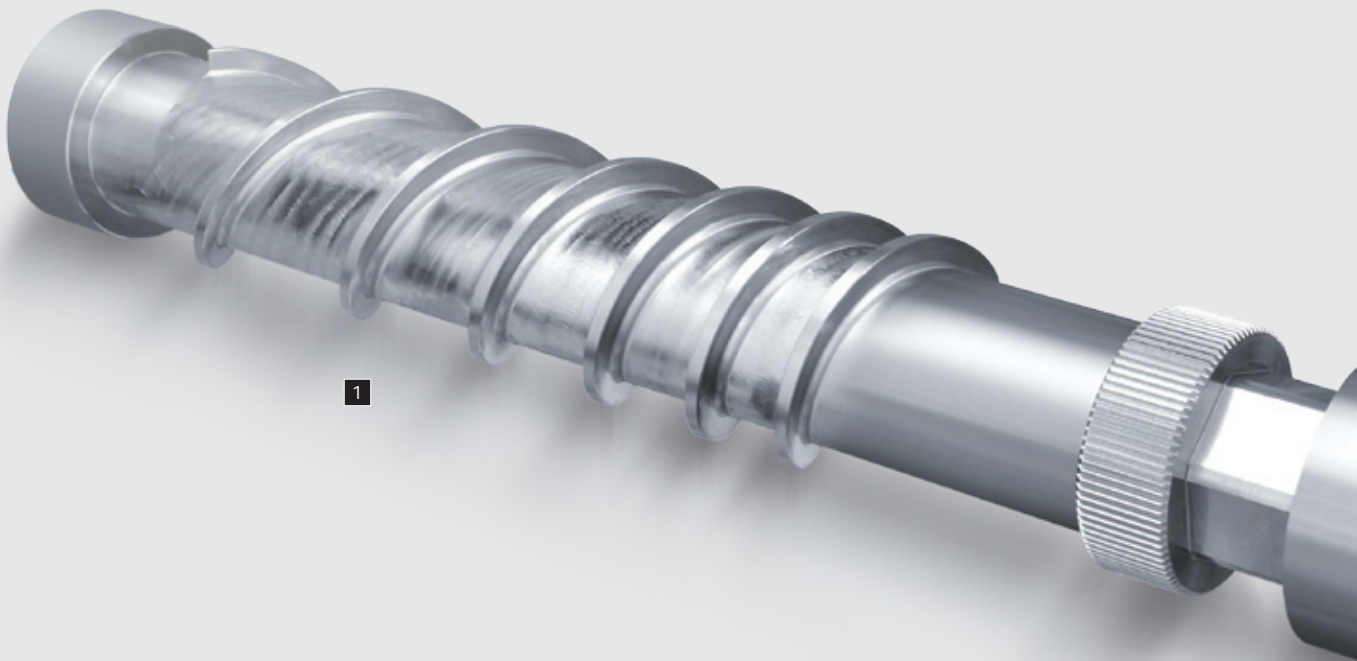
NLX 3000



NLX 3000

Ultimate Performance for Parts Machining

The NLX 3000 is high-rigidity, high-precision turning centers capable of handling varieties of workpieces with superior turning capability ensured by the robust bed and outstanding milling performance achieved by the BMT (Built-in Motor Turret). The model delivers superior performance for a wide range of areas including the automotive industry requiring high productivity and the construction machinery industry seeking high rigidity.



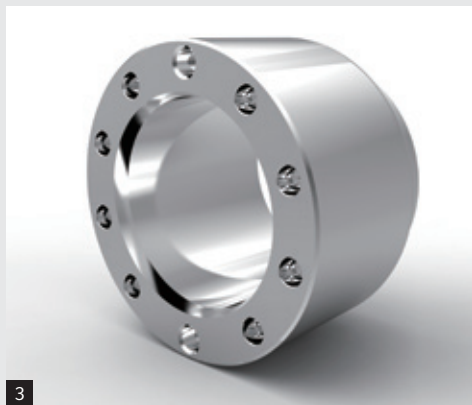
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2



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3



6



4



7

Industrial machinery

1 Screw shaft

Automobiles

2 Axle shaft

Construction machinery

3 Flange

4 Spindle

Boats & Ships

5 6 Crank shaft

7 Cam shaft

NLX 3000

High-performance Achieved by Uncompromising Development

The NLX 3000 has been upgraded in the fundamental performance of turning centers such as reliability, accuracy, rigidity and operability, while inheriting the proven features of the previous models including high-rigidity slideways. The ergonomically designed new cover minimizes operators' work load. The models are also environmentally friendly, mitigating environmental burden with improved energy saving effect.





Improved milling power

- + BMT (Built-in Motor Turret) installed in the turret
- + High-speed rotary tool spindle: [10,000 min⁻¹]
- + Max. rotary tool spindle torque:
[40 N•m (29.5 ft•lbf) <3 min>]
[100 N•m (73.8 ft•lbf) <4 min>
<2000 type / 3000 type>]

High precision

- + Thoroughly controlled thermal displacement:
Coolant circulation in machine body as standard
<700 type / 1250 type>
- + Machining precision improved by heat-controlling structure

[] Option
BMT: Built-in Motor Turret

High rigidity

- + Slideways on X-, Z-, and Y-axis for higher vibration damping performance and dynamic rigidity

CELOS

- + Consistent administration, documentation and visualization of order, process and machine data
- + Extension of functions possible by adding applications, and high compatibility with existing information infrastructure and software

Operability

- + Digital tailstock driven by a servo motor
<700 type / 1250 type>
- + Programmable tailstock
<2000 type / 3000 type>

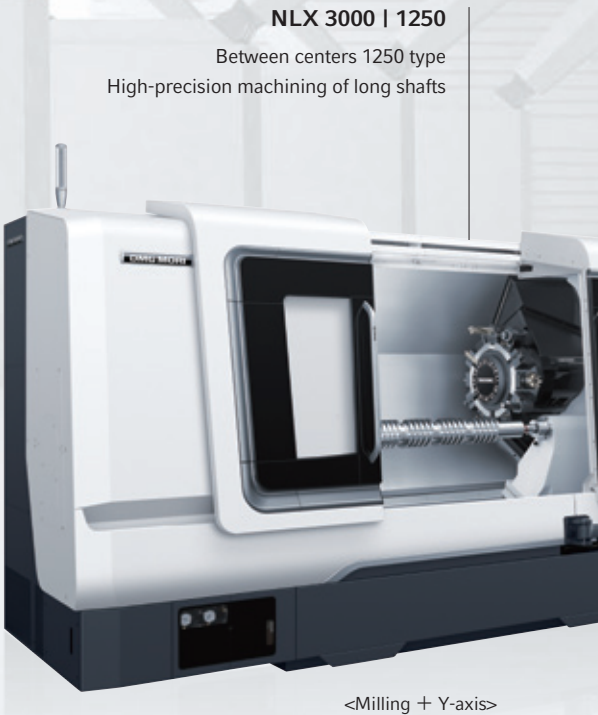
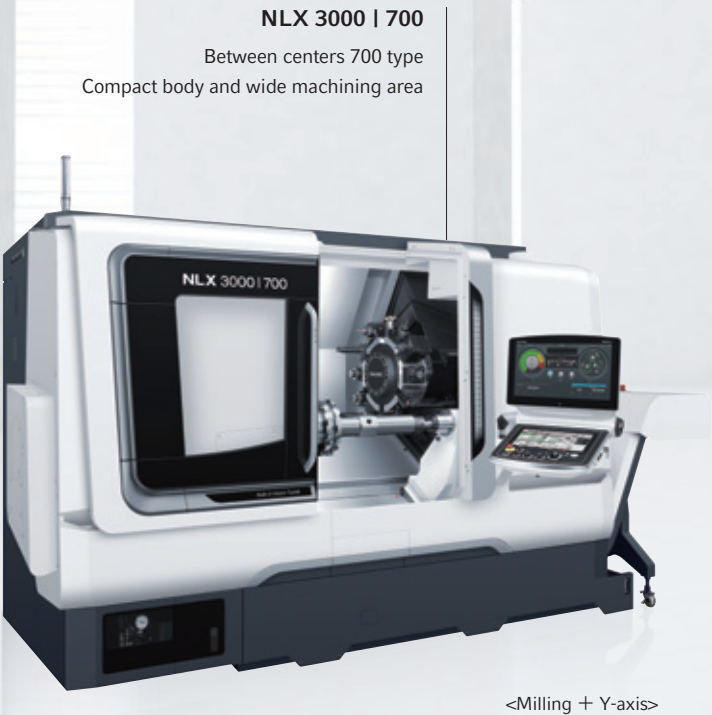
CELOS: Control Efficiency Lead Operation System

NLX 3000

Select the One Most Suited to Your Needs

The NLX 3000 which can be equipped with a 12-inch chuck offers four variations of distances between centers: 700 mm (27.6 in.), 1,250 mm (49.2 in.), 2,000 mm (78.7 in.) and 3,000 mm (118.1 in.). The latter two types are suitable for machining long workpieces. The model handles a wide variety of workpieces with a maximum turning diameter of 430 mm (16.9 in.)*. Please select the best specification for you.

* For O.D. cutting tool with an overhang of 35 mm (1.4 in.)



<Milling + Y-axis>

<Milling + Y-axis>

	NLX 3000 700	NLX 3000 1250	NLX 3000 2000	NLX 3000 3000
Distance between centers	700 type	1250 type	2000 type	3000 type
Standard chuck size*1	12 inches			
Bar work capacity	mm (in.)	90 (3.5)*2 [102 (4.0)*2*3]		
Number of tool stations		10 [12]		
Travel <X- / Z-axis>	mm (in.)	280 / 820 (11.0 / 32.3)	280 / 1,370 (11.0 / 53.9)	280 / 2,170 (11.0 / 85.4)
Travel <Y-axis>	mm (in.)	280 / 3,170 (11.0 / 124.8)		
		120 <±60> (4.7 <±2.4>) <Y-axis specification>		

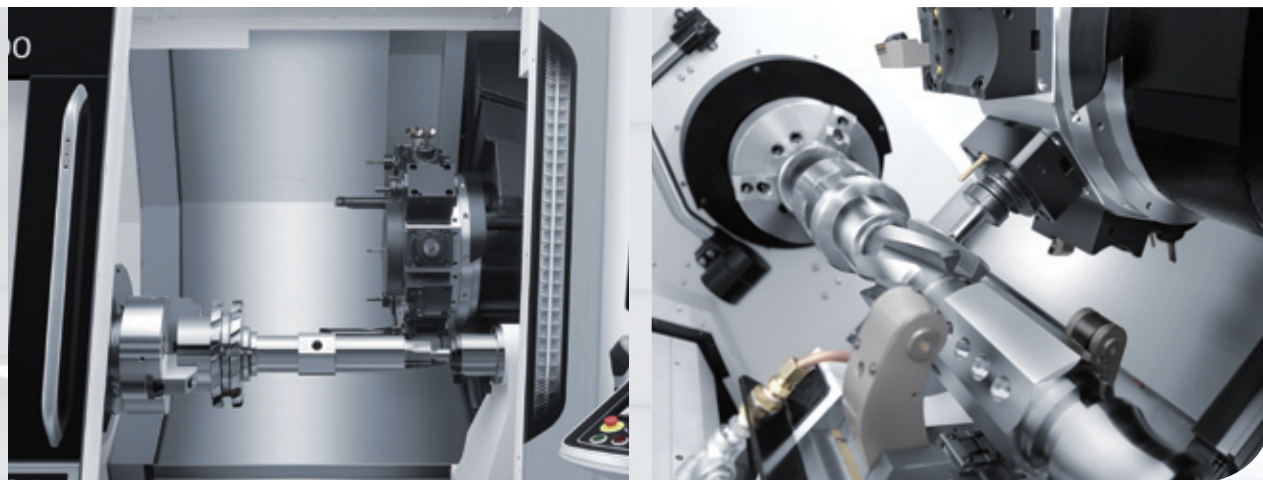
[| Option

*1 The chuck is optional.

*2 Depending on the chuck / cylinder used and its restrictions, it may not be possible to reach full bar work capacity.

*3 With a specific chuck / cylinder selected.

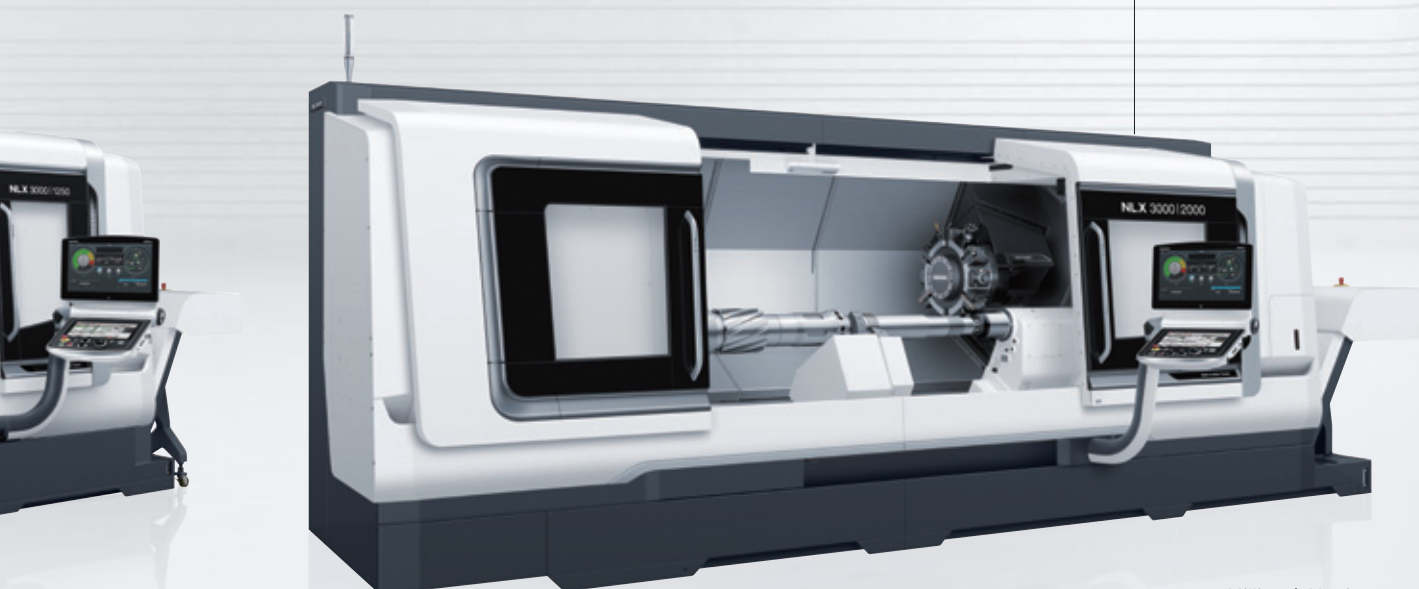
T: Turret
TS: Tailstock
MC: Milling (option)
Y: Y-axis (option)
 The basic model is equipped with **T** and **TS**.



NLX 3000 | 2000

Between centers 2000 type
 Max. turning length 2,123 mm (83.5 in.)

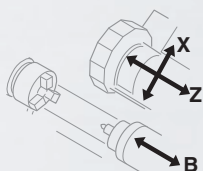
07



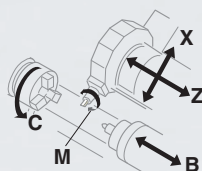
<Milling + Y-axis>

Variations

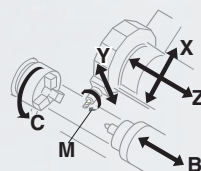
T TS Turret (turning) + Tailstock



T MC TS Milling + Tailstock



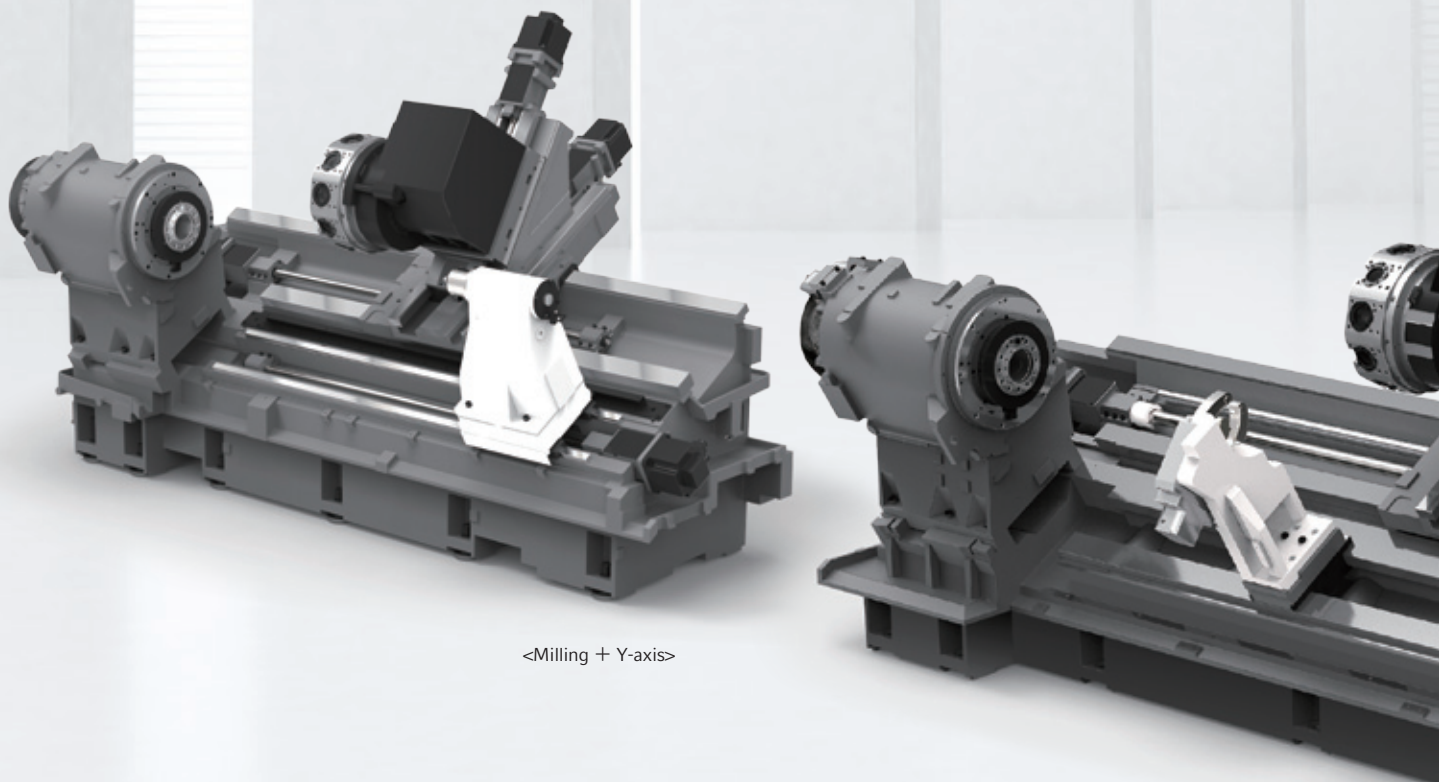
T MC Y TS Milling + Y-axis + Tailstock



NLX 3000

Outstanding Rigidity

A robust machine construction is essential for a machine to demonstrate its best cutting performance. We carry out simulations for torsional rigidity by the FEM analysis at the development stage to produce a robust machine structure that reflects the DMG MORI technologies in every part of it. The slideways are employed on the X-, Z-, and Y-axis for higher vibration damping performance and dynamic rigidity, which realizes outstanding cutting capabilities.



<Milling + Y-axis>

1 FEM analysis

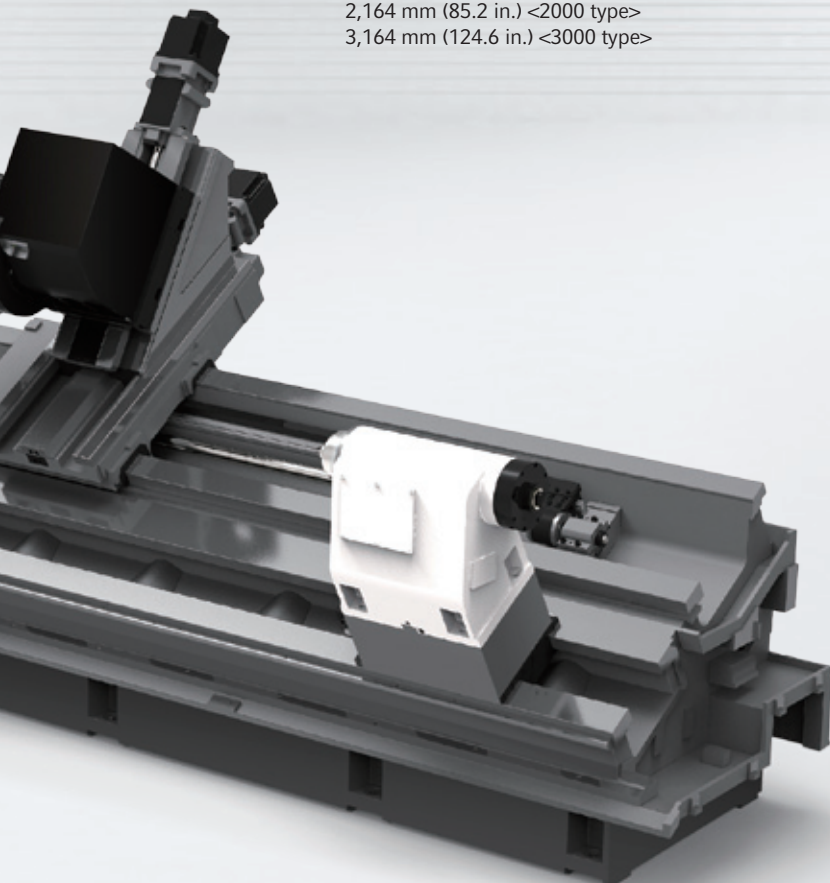
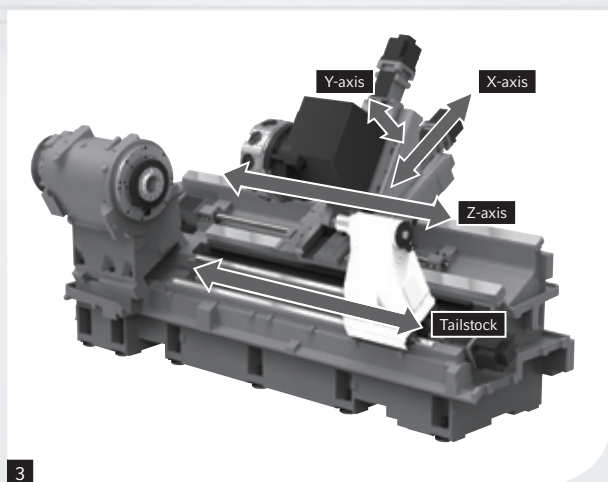
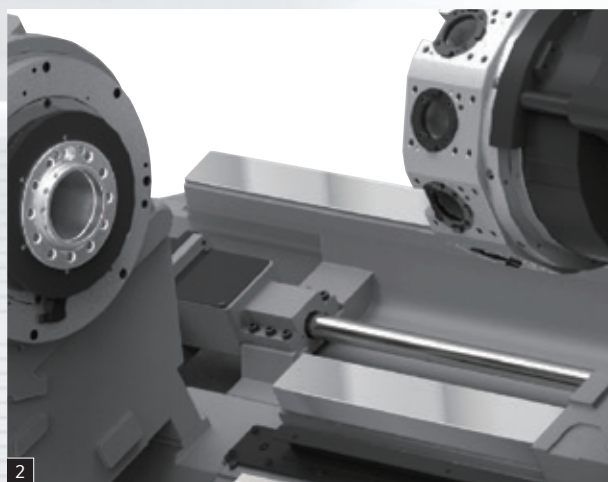
- + High-rigidity machine body designed by FEM analysis (Finite Element Method)

2 High-rigidity bed

- + High-rigidity bed with slideways on the X-, Z- and Y-axis for heavy-duty cutting
- + High-quality surfaces realized in machining of difficult-to-cut materials and intermittent machining
- + Rapid traverse rate: X-axis 30 m/min (1,181.1 ipm)
Z-axis 30 m/min (1,181.1 ipm)
Y-axis 10 m/min (393.7 ipm) <Y-axis specification>
Tailstock <forward / retract>
7 / 20 m/min (275.6 / 787.4 ipm)

3 Spacious work area

- + Travel: X-axis 280 mm (11.0 in.)
Z-axis 820 mm (32.3 in.) <700 type>
1,370 mm (53.9 in.) <1250 type>
2,170 mm (85.4 in.) <2000 type>
3,170 mm (124.8 in.) <3000 type>
Y-axis 120 ± 60 mm (4.7 ± 2.4 in.) <Y-axis specification>
Tailstock 734 mm (28.9 in.) <700 type>
1,284 mm (50.6 in.) <1250 type>
2,164 mm (85.2 in.) <2000 type>
3,164 mm (124.6 in.) <3000 type>

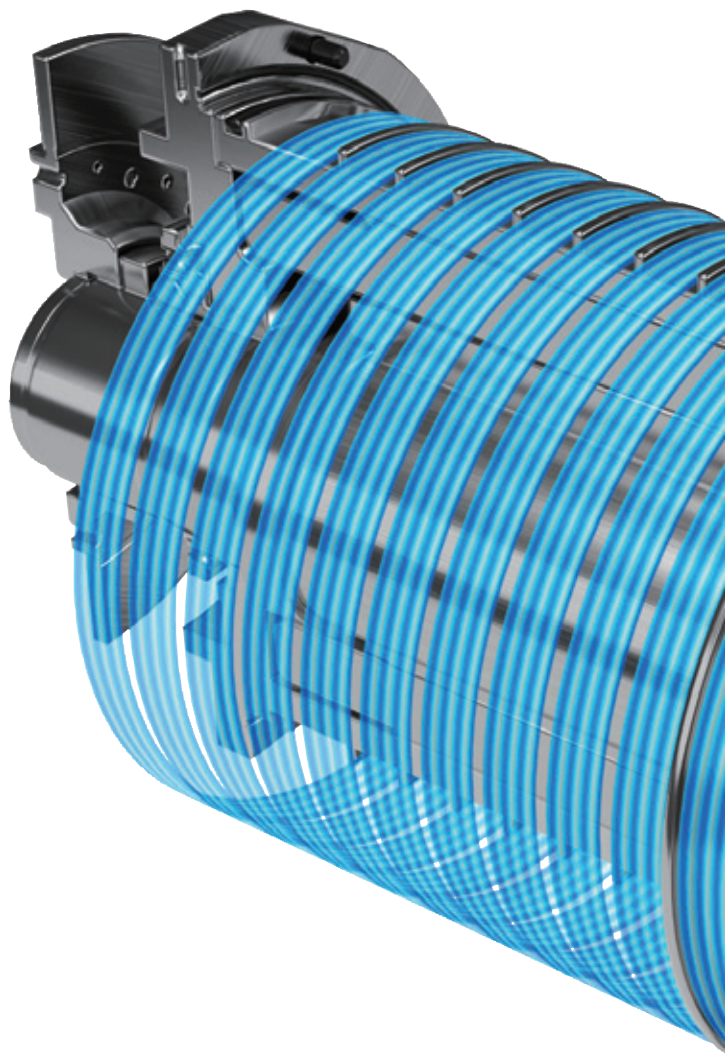


NLX 3000

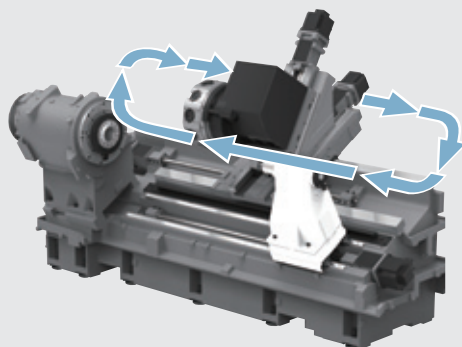
Thoroughly Controlled Thermal Displacement

There are varieties of factors leading to thermal displacement that has a major influence on machining accuracy, including heat generation during machine operation, changes in room temperature and increase in coolant temperature.

DMG MORI tackles the factors one by one with the original method for thoroughly controlling thermal displacement from every aspect. For the spindle, which is the prime heat source, we spirally arrange the oil jacket around the spindle unit to regulate the temperature increase.



Coolant circulation for casting parts (700 type / 1250 type)



← Coolant circulation pathway

DMG MORI has developed a new technology to circulate coolant through the casting parts as a measure against thermal displacement that directly affects machining accuracy. Thermal displacement is caused by various factors including non-uniform expansion and contraction due to difference in thickness of the casting; uneven heat generation in the slideways; operating environment; and changes in ambient temperature due to season and time of day. The coolant circulation maintains a uniform temperature inside the casting parts, and minimizes deformation in the machine.

- + Uniform thermal displacement
- + Resistance to changes in ambient temperature
- + High-accuracy long-term machining



(NLX 2500)

Coolant chiller <separate type> (option)

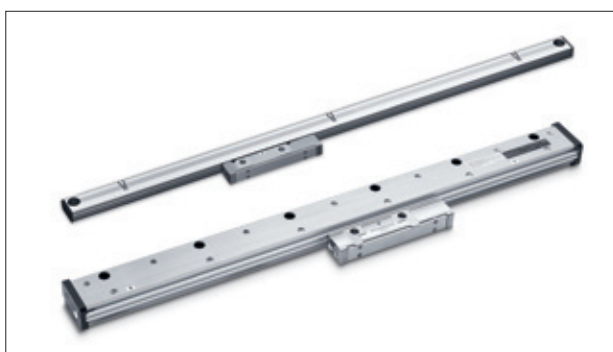


Increased coolant temperature causes thermal displacement in the fixtures and workpiece, affecting the machining accuracy of the workpiece. Use this unit to prevent the cutting coolant from heating up. When using oil-based coolant, the coolant temperature can become extremely high even with the standard 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.

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

Direct scale feedback (option)



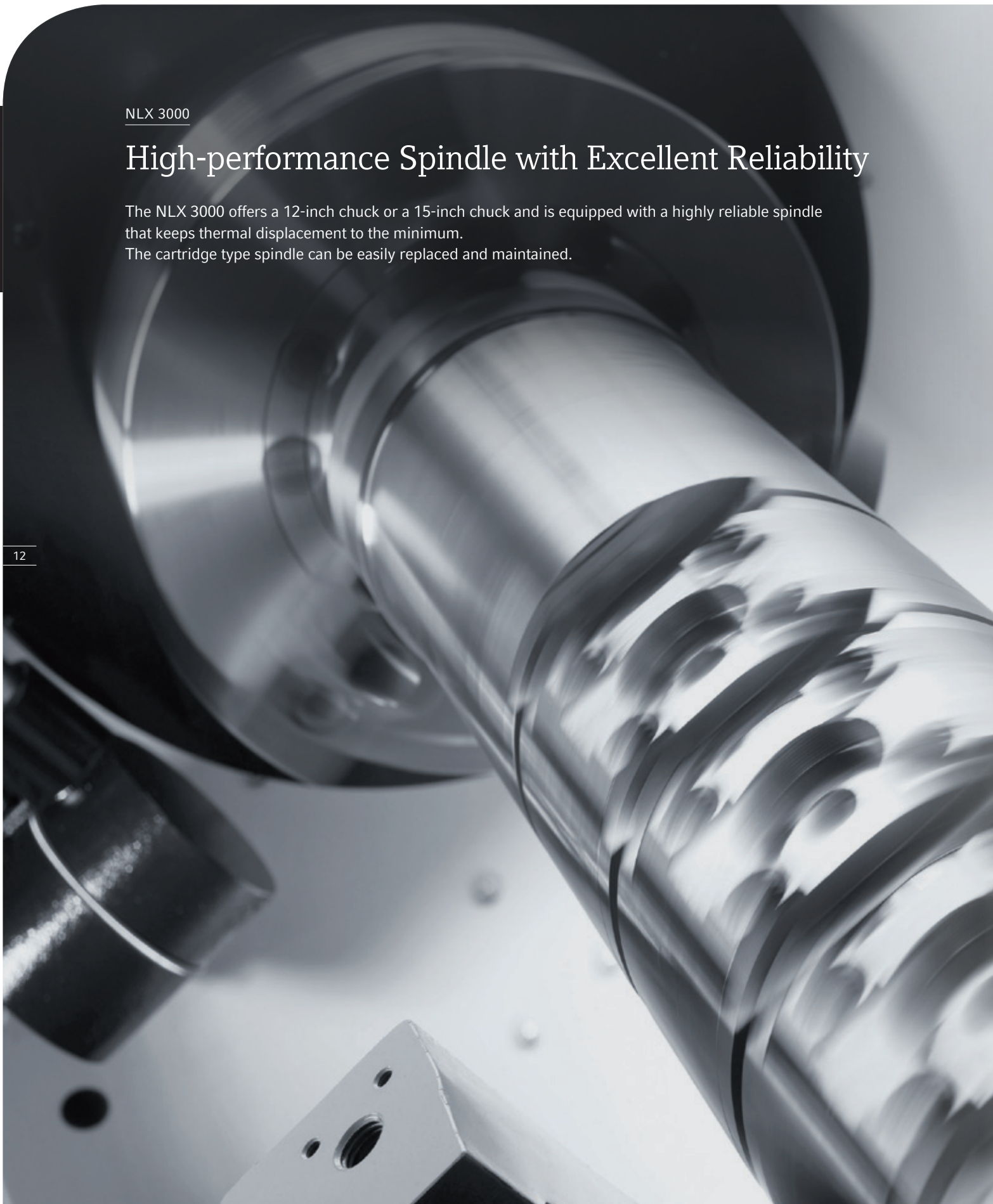
- + Superior precision with the Magnescale direct scale feedback system
- + Magnetic measuring system with a high resolution of 0.01 μm
- + Resistance to oil and condensation due to a magnetic detection principle
- + Impact resistance of 450 m/s^2 (17,716.5 in./s^2)
- + Vibration resistance of 250 m/s^2 (9,842.5 in./s^2)
- + High-accuracy machining is ensured by a scale with the same thermal expansion rate as the cast iron machine structure

NLX 3000

High-performance Spindle with Excellent Reliability

The NLX 3000 offers a 12-inch chuck or a 15-inch chuck and is equipped with a highly reliable spindle that keeps thermal displacement to the minimum.

The cartridge type spindle can be easily replaced and maintained.



Sophisticated spindle labyrinth + Air purge for spindle

- + The labyrinth structure has been enhanced, taking into account frequent use of high-pressure coolant
- + Spindle air purge offered as standard
- + Prevent coolant entry and improve spindle durability

Max. spindle speed

- + 3,000 min⁻¹ [3,000 min⁻¹ <high output>]

Output

- + 22 / 18.5 kW (30 / 24.7 HP) <30 min / cont>
[30 / 25 kW (40 / 33.3 HP) <30 min / cont> {high output}]

Spindle torque

- + 1,025 / 862 N•m (756.0 / 635.8 ft•lbf) <30 min / cont>
[1,194 / 995 N•m (880.6 / 733.9 ft•lbf) <30 min / cont> {high output}]

Standard chuck size*

- + 12 inches

[] Option

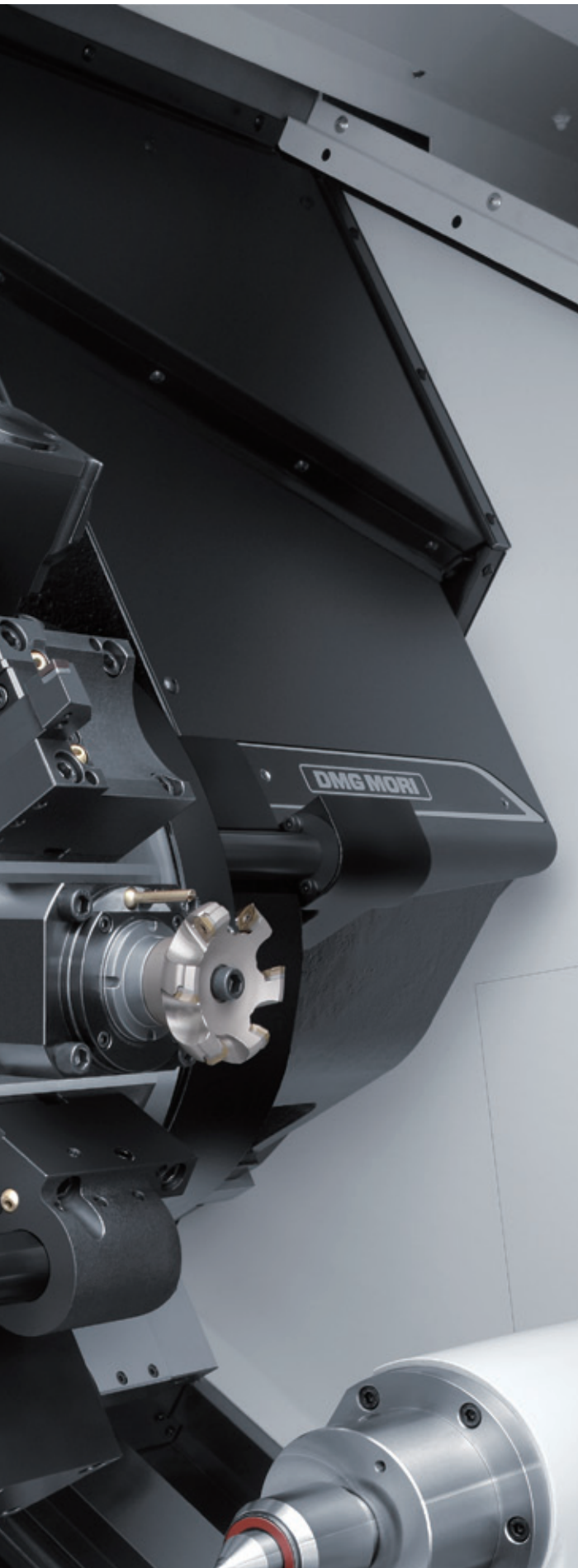
* The chuck is optional.

NLX 3000

BMT (Built-in Motor Turret) for Outstanding Milling

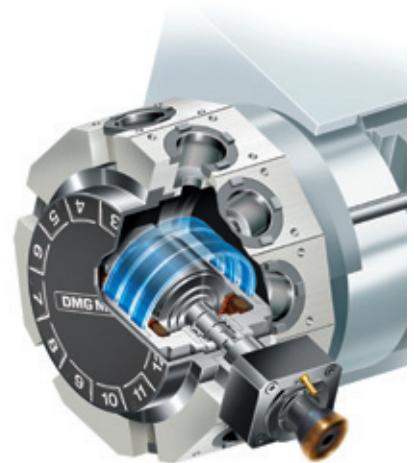
The Milling specification is equipped with the BMT as standard. The further evolved BMT enables high-speed machining with a maximum rotation speed of $10,000 \text{ min}^{-1}$ (option), while achieving vibration amplitude of one third or less compared with conventional machines. It ensures excellent machining precision with the cooling jacket that controls heat generation.





"Mature" and "Evolved" BMT Technology

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



- + Displacement amount: 3.05 μm
(previous model / 5,000 min^{-1})
→ 0.43 μm (NLX 2500 / 10,000 min^{-1})
- + Turret temperature increases: 1/10 or less
(compared with conventional machine)
- + Vibration amplitude: 1/3 or less
(compared with conventional machine)

The turret with an optimum center of gravity location offers significantly improved tool tip rigidity

- + Turret indexing time (1-station): 0.3 sec.
- + Overhang of O.D. cutting rotary tool: 50 mm (2.0 in.) [100 mm (3.9 in.)]

Number of tool stations

- + 10 tools [12 tools]

Max. rotary tool spindle speed

- + [10,000 min^{-1} <standard>] [4,000 min^{-1} <high torque>]

Output (rotary tool spindle)

- + [5.5 / 5.5 / 3.7 kW (7.5 / 7.5 / 5 HP) <3 min / 5 min / cont> {standard}]
[5.5 / 3.7 / 2.2 kW (7.5 / 5 / 3 HP) <10 min / 15 min / cont> {high torque}]
- + 2000 type / 3000 type: [10.0 / 6.0 kW (13.3 / 8 HP) <4 min / cont> {high torque}]

Rotary tool spindle torque

- + [40 / 30 / 14 N·m (29.5 / 22.1 / 10.3 ft·lbf) <3 min / 5 min / cont> {standard}]
[54 / 54 / 32 N·m (39.8 / 39.8 / 23.6 ft·lbf) <10 min / 15 min / cont> {high torque}]
- + 2000 type / 3000 type: [100 / 68 N·m (73.8 / 50.2 ft·lbf) <4 min / cont> {high torque}]

[] Option

BMT: Built-in Motor Turret

NLX 3000

Y-axis Specification Achieving High-precision Machining

The NLX 3000 with the Y-axis specification + Milling specification enables high-efficiency, high-precision machining of complex-shaped workpieces.

With the Y-axis control, unlike polar coordinate interpolation, machining surfaces are not affected by cutting condition changes led by reverse movements of the X-axis during grooving and contouring.



Y-axis specification

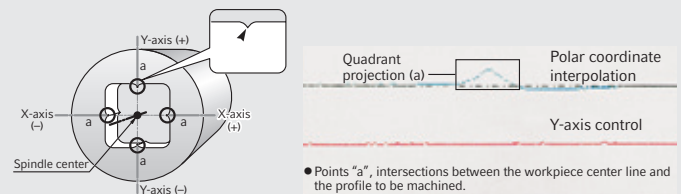


The Y-axis is created by linking the feed of the X-axis and the simulating axes. We have made the axis unit compact and restricted the height of the machine.

We also independently developed a powerful platform for maximizing performance in the Y-axis specification. This has achieved rigidity between the spindle and the tool tip that exceeds that of conventional two-axis turning centers.

+ Y-axis travel: ± 60 mm (± 2.4 in.)

Comparison between polar coordinate interpolation and Y-axis control (contouring)



With polar coordinate interpolation, the X-axis movement reverses at the intersections (a) between the workpiece center line and the profile, which changes cutting conditions and affects form accuracy.

+ Y-axis control: High form accuracy is achieved as machining surfaces are not affected by cutting condition changes

Tailstock



Digital tailstock <NLX 3000 | 700, NLX 3000 | 1250>

The high-rigidity digital tailstock driven by a servo motor significantly reduces setup time.

- + Fewer steps requiring operation of the tailstock
- + Setup time: Reduced by over 50%
- + Tailstock spindle operating time: Reduced by over 20%
- + Variable pressure control using program instructions
- + Simple operation using MAPPS

MAPPS: Mori Advanced Programming Production System



Programmable tailstock <NLX 3000 | 2000, NLX 3000 | 3000>

The tailstock is connected with the carriage and moved to any given position by a program command.

- + Tailstock travel: 2,164 mm (85.2 in.) <2000 type>
3,164 mm (124.6 in.) <3000 type>



Chip flushing coolant

Chip flushing coolant is featured as standard at the base of the tailstock, improving chip processing capability.

NLX 3000

Proven Quality and Reassured Service

We offer high-performance peripheral equipment which can lead to drastically improved setups and a higher operation rate.

As the DMG MORI peripheral equipment excels in maintainability as well as quality, customers can use them for a long term with peace of mind, and choose the best equipment according to their workpieces and needs.

Chip conveyor (option)

Provides highly efficient chip disposal.

Workpiece material and chip size	Steel			Cast iron	Aluminum / non-ferrous metal		
	Long	Short	Powdery	Short	Long	Short	Powdery
Hinge type	○	○	—	—	○	—	—
Hinge type <Aluminum>	—	—	—	—	—	○	—
Scraper type	—	○	○	○	—	—	—
Magnet scraper type	—	◎	◎	◎	—	—	—

- ◎: Ideal

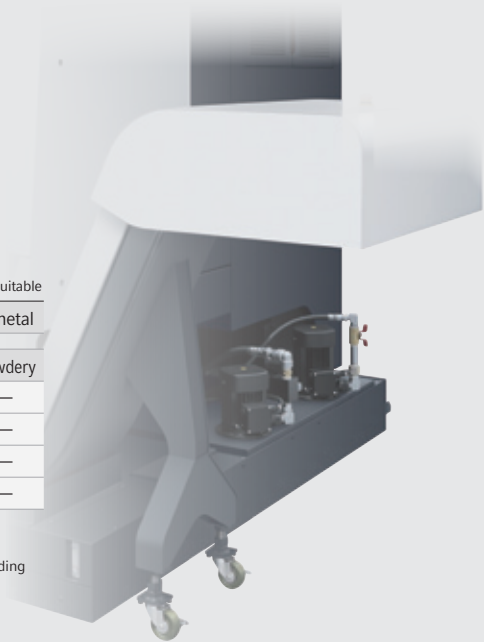
○: Suitable

—: Not suitable

[chip size guidelines] Short: chips 50 mm (2.0 in.) or less in length, bundles of chips ø 40 mm (ø 1.6 in.) or less

Long: bigger than the above
- The options table shows the general options when using coolant. Changes may be necessary if you are not using coolant, or depending on the amount of coolant, compatibility with machines, or the specifications required.
- Please select a chip conveyor to suit the shape of your chips.

When using special or difficult-to-cut material (chip hardness HRC45 or higher), please consult our sales representative.
- Chip conveyors are available in various types for handling chips of different shape and material. For details, please consult our sales representative.

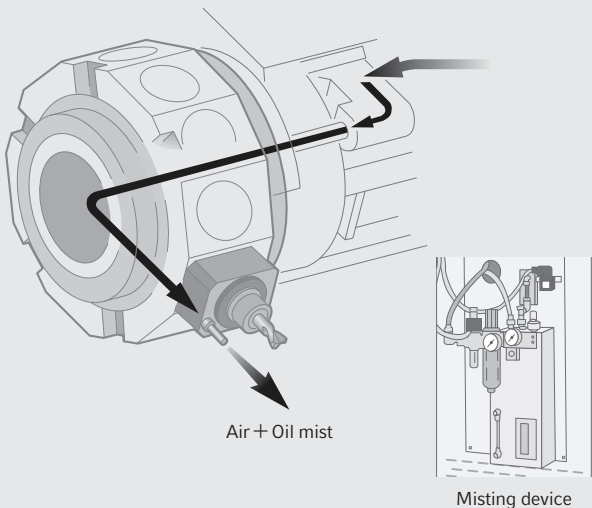


Manual type in-machine tool presetter



- + Perform tool measurement more efficiently, thereby improving setup

Semi-dry unit (option)



Mist collector (option)



Coolant float switch (option)



Hydraulic steady rest (option)



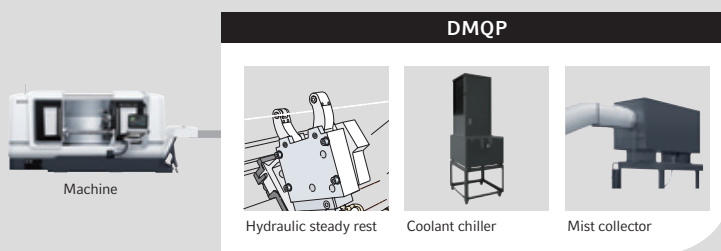
Collet chuck (option)



DMQP (option)

The DMQP program is designed to certify peripherals that meet DMG MORI standards in quality, performance and maintainability. DMQP provides customers with greater peace of mind. We provide total service from proposal to delivery and maintenance of peripheral equipment with outstanding quality, performance and maintainability.

Comprehensive support with machine + peripherals



Service Center

- + Qualified peripherals are arranged by DMG MORI
- + Toll-free phone support is available 24 hours a day, 365 days a year (Japan only)

● For more details on DMQP items, please consult our sales representative.

DMQP: DMG MORI Qualified Products

NLX 3000

Cutting-edge Design — Pursuit of Usability

The NLX 3000 is designed with features for ease of maintenance to increase the machine operating rate.

The NLX 3000 achieves shorter MTTR (Mean Time To Repair) by thorough analyses of customers' demands such as a wider door opening for better work efficiency and maintainability.

This ensures the machine is always in the best condition, thereby bringing greater productivity to the customer.



NLX 3000 I 1250 <Milling + Y-axis>

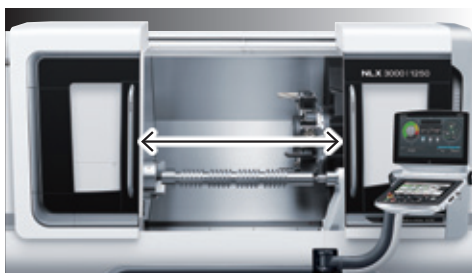
1 Pull out the coolant tank to front

The coolant tank itself can be easily pulled out to the front side, so it does not take up extra space in the back.
<700 type> <1250 type>



2 Wide door opening

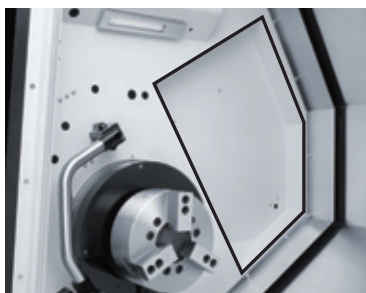
A wide door opening improves efficiency of setups.



- + Door opening: 900 mm (35.4 in.) <700 type>
1,442 mm (56.8 in.) <1250 type>
2,350 mm (92.5 in.) <2000 type>
3,338 mm (131.4 in.) <3000 type>

3 Interference prevention pocket

The chuck cover is provided with a pocket to accommodate tool overhang, preventing interference.



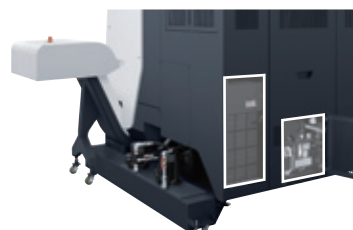
4 Lubricating oil (for sliding surfaces) tank

The supply hole for the lubricant tank for the box way is located in the front of the machine for easy refilling.



5 Oil chiller, Hydraulic unit

The oil chiller and hydraulic unit are placed together at the rear of the machine without a cover for easy access.



6 Pneumatic equipment

The air equipment is located on the right side of the machine in order to facilitate maintenance.



NLX 3000

Solutions Best Matched to Customers' Needs

The NLX 3000 offers various solutions to tackle customers' diversifying issues. Here are examples of a new machining technique using the DMG MORI's original technology, and a highly efficient automation solution.

(the photo shows the NLX 2500)

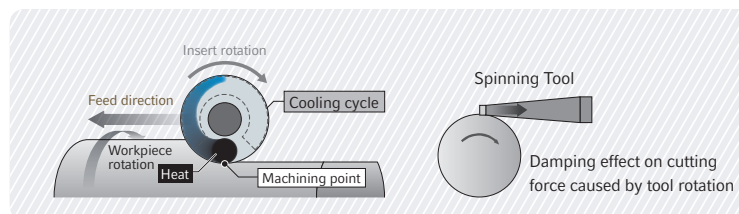
Cutting-edge technology to achieve high-precision machining

The Spinning Tool is an axially-loaded cutting tool that revolutionizes turning operation. It dramatically improves productivity and tool life for turning operation. Compared with conventional methods, the Spinning Tool significantly reduces tool temperature increases and wear, achieving new standards in high-precision, high-efficiency turning.

- + Improves productivity by 5 times*
- + Extends tool life by 20 times*
- + Dissipation of heat allows dry machining
- + Synchronizes with the spindle, allowing elliptical machining
- + Effective for machining difficult-to-cut material such as nickel alloy or heat-resistant alloy

* It differs depending on conditions.

● Separate consultation is required. For details, please consult our sales representative.



Comparison of material removal rate

		Conventional tool	Spinning Tool
Material removal rate	mL/min (in ³ /min)	6.0 (0.36)	29.0 (1.76)
Cutting speed	m/min (fpm)	365 (1,197.6)	914 (2,998.8)

● Material <JIS>: S45C* (Carbon steel) JIS: Japanese Industrial Standard

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

- + Material removal rate: Approx. 5 times greater

1 Workpiece unloader <built-in type> (option)

The evolved parts catcher enables easy adjustment by customers. It can handle workpieces up to double the previous length.

- + Applicable workpiece diameter: \varnothing 80 mm (3.1 in.)
- + Applicable workpiece length: 200 mm (7.8 in.)
- + Max. transfer weight: 4.0 kg (8.8 lb.)

- Not available when the steady rest is selected, because of interference. For standard machines, it is necessary to remove the workpiece unloader when the steady rest specifications are selected.
- The photo shows the NLX 2500



2 Bar feeder (option)

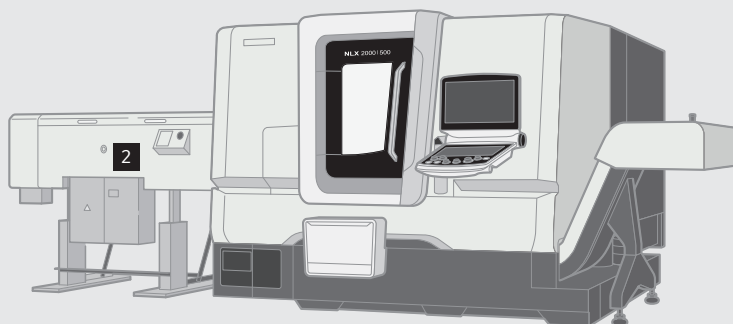
The combination with the workpiece unloader enables automation of machining of bar materials.

- + Bar work capacity:
 \varnothing 90 mm (\varnothing 3.5 in.)*

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

Recommended accessories for bar feeder specification

- Bar feeder
- Multiple counter
- Signal light
- Guide bush
- Work stopper

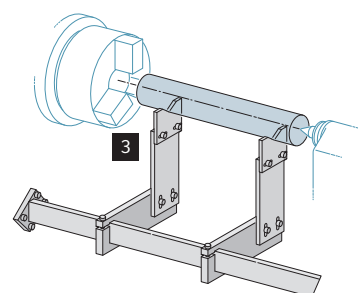


• The illustration shows the NLX 2000

3 Workpiece rest (option)

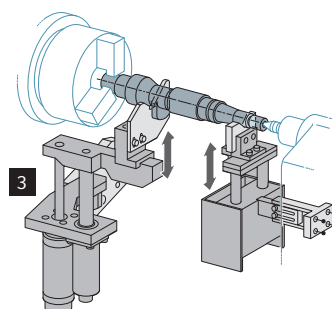
Fixed type

This temporary workpiece rest helps reliably carry out workpiece chucking in a short period.



Withdrawal type <Consultation is required>

Interference and accumulation of chips during machining is prevented by withdrawing the workpiece retainer.



NLX 3000

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 MANAGER



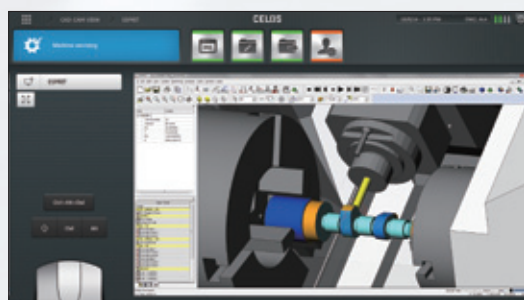
JOB ASSISTANT

Process-defined orders

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



JOB ASSISTANT



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



CAD-CAM VIEW

CELOS |

APP menu:
Central access to all available
applications



ERGOline operation
panel with 21.5-inch
multi-touch screen and
NC unit from
Mitsubishi Electric

25

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

NLX 3000

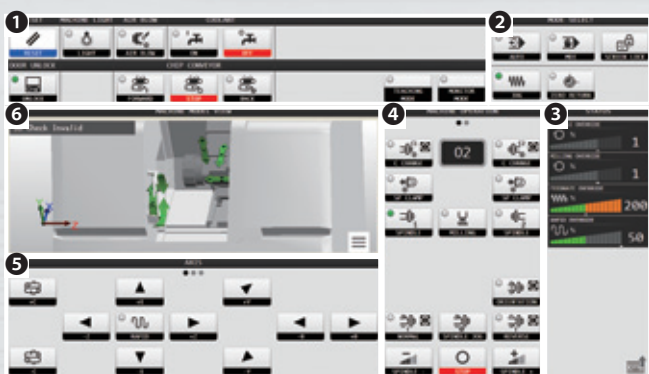
High-Performance Operation System MAPPS V

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



The 6-window display provides access to a variety of information at the same time »»»

The screen combinations can be freely customized »»»



Lower Touch Panel Screen Layout

- ① Individual function operation area : Displays function buttons at all times regardless of the operation mode.
- ② Operation mode selection area : Displays mode selection buttons at all times.
- ③ Status display area : Displays the override status.
- ④ Machine operation area : Displays buttons related to spindle / turret operation and optional functions over multiple pages.
- ⑤ 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.
- ⑥ In-machine display area : Displays the machine model view.

VPS: Visual Programming System

Three methods for inputting program

- + Directly inputting NC codes using the software keyboard
- + Inserting NC codes and predefined programs by following the guidance
- + Conversational programming to define geometry and automatically generate the tool paths

1: Unification of NC programs and conversational programming function



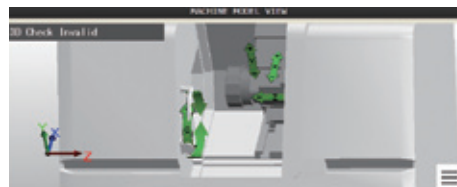
2: Simple machining order change

Changing the machining order



Machine Model View

- + Displaying an animation according to the movement of the machine
- + Standard with ERGOline Touch



TMS: Tool Management System

- + Enables restrictions to be set on tool offset data input to prevent data input errors
- + Monitors the cutting load to reduce tool breakages

NLX 3000

NLX 3000

Reduction in Environmental Burden

To conserve limited resources and protect global environment. NLX 3000 pursues a high “environmental performance” that is required of machine tools.

When the latest DMG MORI turning center “NLX 3000 <Milling specification>” and the “SL-300BMC” manufactured in 1997 are compared, the annual power consumption can be reduced by approximately 45%.*

* The effect indicated above may not be achieved depending on the machines, cutting conditions, environmental conditions at measurement.

Power-saving Functions

- + Inverter-controlled coolant supply
- + If the screen is not touched for a certain amount of time, the upper screen and the built-in worklight (LED) are turned off
- + If the screen is not touched for a certain amount of time and NC operation is not being performed, power is cut off to the servo motor, the spindle, the coolant pump and the chip conveyor, thereby saving energy
- + The latest, energy-efficient components with low power consumption and LED lighting are employed

Energy-saving Setting and Visualization of Energy-saving Effect

- + The energy-saving application enables visualization of the energy-saving effect
- + The running time, power consumption, and CO₂ emission statuses are displayed individually



Running time

Reduced Cycle Times

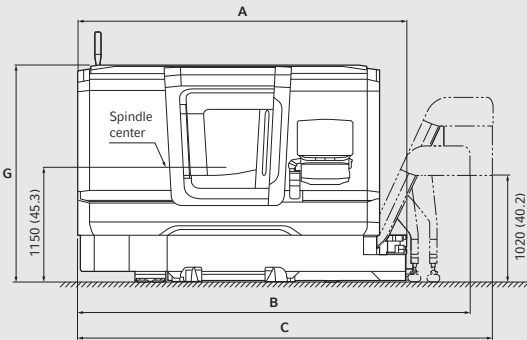
- + The next M-code command can be specified before the previous command is completed. This enables multiple operations to be overlapped, resulting in shorter cycle times
- + The number of pecking operations in a deep hole drilling cycle is automatically controlled according to the cutting load, shortening the machining time

NLX 3000

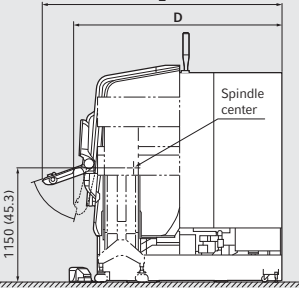
General View

NLX 3000 | 700 mm (in.)

Front view



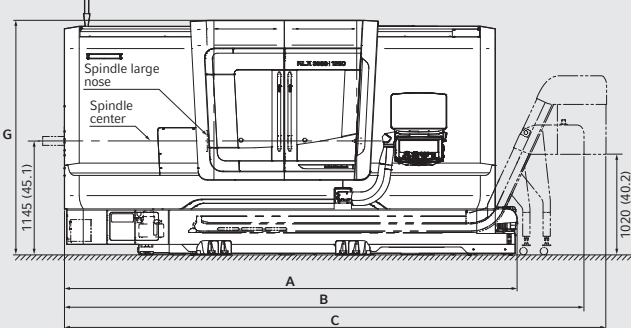
Side view



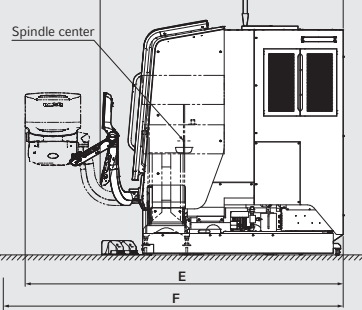
Q59341A03

NLX 3000 | 1250 mm (in.)

Front view



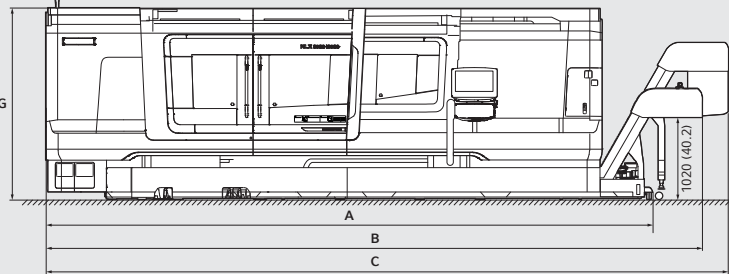
Side view



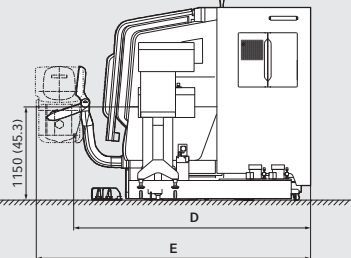
Q56231A02

NLX 3000 | 2000, NLX 3000 | 3000 mm (in.)

Front view



Side view



Q56335A03
Q56338A03

Machine type	Width			Depth			Height
	Machine only	Including chip conveyor	Including chip conveyor <EN>	Machine only	Machine only <with operation panel swiveled>	Including space to remove coolant tank	Machine only
	A	B	C	D	E	F	G
NLX 3000 700	3,585 (141.1)	4,291 (168.9)	4,524 (178.1)	2,198 (86.5)	2,524 (99.4)	—	2,273 (89.5)
NLX 3000 1250	4,572 (180.0)	5,246 (206.5)	5,478 (215.7)	2,480 (97.6)	3,211 (126.4)	3,523 (138.7)	2,362 (93.0)
NLX 3000 2000	6,512 (256.4)	7,147 (281.4)	7,477 (294.4)	2,807 (110.5)	3,352 (132.0)	—	2,403 (94.6)
NLX 3000 3000	7,592 (298.9)	8,227 (323.9)	8,557 (336.9)	2,941 (115.8)	3,486 (137.2)	—	2,405 (94.7)

NLX 3000

Main Machine Specifications

		NLX 3000 700			NLX 3000 1250		
Basic specification		T TS			T TS		
Optional specifications		—	MC	MC Y	—	MC	MC Y
Capacity							
Swing over bed	mm (in.)	978 (38.5) <interference with front cover 612 (24.1)>			978 (38.5) <interference with front cover 713 (28.1)>		
Swing over cross slide	mm (in.)	808 (31.8)					
Max. turning diameter	mm (in.)	430 (16.9)*1 / 420 (16.5)*2					
Max. turning length	mm (in.)	713 (28.0)			1,260 (49.6)		
Bar work capacity	mm (in.)	90 (3.5)*3 [102 (4.0)*3*4]					
Travel							
X-axis travel	mm (in.)	280 (11.0)					
Z-axis travel	mm (in.)	820 (32.3)			1,370 (53.9)		
Y-axis travel	mm (in.)	—	120 <±60> (4.7 <±2.4>)		—	120 <±60> (4.7 <±2.4>)	
Spindle							
Max. spindle speed	min ⁻¹	3,000 [3,000*5]					
Type of spindle nose		JIS A ₂ -8					
Turret							
Number of tool stations		10 [12]					
Shank height for square tool	mm (in.)	25 (1)					
Max. rotary tool spindle speed	min ⁻¹	—	[10,000] [4,000*6]		—	[10,000] [4,000*6]	
Feedrate							
Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1) Tailstock <forward / retract> 7,000 / 20,000 (275.6 / 787.4)	X, Z: 30,000 (1,181.1) Tailstock <forward / retract> 7,000 / 20,000 (275.6 / 787.4) C: 400 min ⁻¹	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock <forward / retract> 7,000 / 20,000 (275.6 / 787.4) C: 400 min ⁻¹	X, Z: 30,000 (1,181.1) Tailstock <forward / retract> 7,000 / 20,000 (275.6 / 787.4) C: 400 min ⁻¹	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock <forward / retract> 7,000 / 20,000 (275.6 / 787.4) C: 400 min ⁻¹	
Tailstock							
Tailstock travel	mm (in.)	734 (28.9)			1,284 (50.6)		
Taper hole of tailstock spindle		Live center <MT5> [Built-in center <MT4>]					
Motor							
Spindle drive motor <30 min / cont>	kW (HP)	22 / 18.5 (30 / 24.7) [30 / 25 (40 / 33.3)]					
Rotary tool spindle drive motor	kW (HP)	—	[5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont>] [5.5 / 3.7 / 2.2 (7.5 / 5 / 3) <10 min / 15 min / cont>*6]		—	[5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont>] [5.5 / 3.7 / 2.2 (7.5 / 5 / 3) <10 min / 15 min / cont>*6]	
Machine size							
Machine height <from floor>	mm (in.)	2,273 (89.5)			2,362 (93.0)		
Floor space <width × depth>	mm (in.)	3,585 × 2,198 (141.1 × 86.5) [4,291 × 2,198 (168.9 × 86.5)*7]			4,572 × 2,480 (180.0 × 97.6) [5,246 × 2,480 (206.5 × 97.6)*7]		
Mass of machine	kg (lb.)	6,800 (14,960)	6,850 (15,070)	7,100 (15,620)	8,400 (18,480)	8,500 (18,700)	8,900 (19,580)
Control unit							
Mitsubishi Electric		M730UM					

[] Option JIS: Japanese Industrial Standard

*1 For O.D. cutting tool with an overhang of 35 mm (1.37 in.). *2 For O.D. cutting tool with an overhang of 40 mm (1.57 in.).

*3 Depending on the chuck / cylinder used and its restrictions, it may not be possible to reach full bar work capacity.

*4 With a specific chuck / cylinder selected. *5 High output *6 High torque *7 Including chip conveyor.

● 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.

● The information in this catalog is valid as of April 2017.

T : Turret **MC** : Milling (option)
TS : Tailstock **Y** : Y-axis (option)
 The basic model is equipped with **T** and **TS**.

		NLX 3000 2000			NLX 3000 3000		
Basic specification		T TS			T TS		
Optional specifications		—	MC	MC Y	—	MC	MC Y
Capacity							
Swing over bed	mm (in.)	995 (39.2)					
Swing over cross slide	mm (in.)	825 (32.5)					
Max. turning diameter	mm (in.)	430 (16.9)* ¹ / 420 (16.5)* ²					
Max. turning length	mm (in.)	2,123 (83.5)			3,123 (122.9)		
Bar work capacity	mm (in.)	90 (3.5)* ³ [102 (4.0)* ^{3*4}]					
Travel							
X-axis travel	mm (in.)	280 (11.0)					
Z-axis travel	mm (in.)	2,170 (85.4)			3,170 (124.8)		
Y-axis travel	mm (in.)	—	120 <±60> (4.7 <±2.4>)		—	120 <±60> (4.7 <±2.4>)	
Spindle							
Max. spindle speed	min ⁻¹	3,000 [3,000* ⁵]					
Type of spindle nose		JIS A ₂ -8					
Turret							
Number of tool stations		10 [12]					
Shank height for square tool	mm (in.)	25 (1)					
Max. rotary tool spindle speed	min ⁻¹	—	[10,000] [4,000* ⁶] [4,000* ⁷]		—	[10,000] [4,000* ⁶] [4,000* ⁷]	
Feedrate							
Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1)	X, Z: 30,000 (1,181.1) C: 400 min ⁻¹	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) C: 400 min ⁻¹	X, Z: 30,000 (1,181.1)	X, Z: 30,000 (1,181.1) C: 400 min ⁻¹	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) C: 400 min ⁻¹
Tailstock							
Tailstock travel	mm (in.)	2,164 (85.2)			3,164 (124.6)		
Taper hole of tailstock spindle		Built-in center <MT5>					
Motor							
Spindle drive motor <30 min / cont>	kW (HP)	22 / 18.5 (30 / 24.7) [30 / 25 (40 / 33.3)]					
Rotary tool spindle drive motor	kW (HP)	—	[5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont>] [5.5 / 3.7 / 2.2 (7.5 / 5 / 3) <10 min / 15 min / cont>* ⁶] [10.0 / 6.0 (13.3 / 8) <4 min / cont>* ⁷]		—	[5.5 / 5.5 / 3.7 (7.5 / 7.5 / 5) <3 min / 5 min / cont>] [5.5 / 3.7 / 2.2 (7.5 / 5 / 3) <10 min / 15 min / cont>* ⁶] [10.0 / 6.0 (13.3 / 8) <4 min / cont>* ⁷]	
Machine size							
Machine height <from floor>	mm (in.)	2,403 (94.6)			2,405 (94.7)		
Floor space <width × depth>* ⁸	mm (in.)	7,147 × 3,352 (281.4 × 132.0)* ⁹			8,227 × 3,486 (323.9 × 137.2)* ⁹		
Mass of machine	kg (lb.)	11,700 (25,740)	11,750 (25,850)	12,200 (26,840)	13,700 (30,140)	13,750 (30,250)	14,200 (31,240)
Control unit							
Mitsubishi Electric		M730UM					

[] Option JIS: Japanese Industrial Standard

*1 For O.D. cutting tool with an overhang of 35 mm (1.37 in.).

*2 For O.D. cutting tool with an overhang of 40 mm (1.57 in.).

*3 Depending on the chuck / cylinder used and its restrictions, it may not be possible to reach full bar work capacity.

*4 With a specific chuck / cylinder selected.

*5 High output *6 High torque <54 N•m (39.8 ft•lbf)> *7 High torque <100 N•m (73.8 ft•lbf)>

*8 Including chip conveyor. *9 Depth includes operation panel.

● 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.

● The information in this catalog is valid as of April 2017.

NLX 3000 | 700, NLX 3000 | 1250

Main Standard & Optional Features

●: Standard features ○: Options
◇: Select one ☆: Consultation is required
—: Not applicable

		NLX 3000 700			NLX 3000 1250		
Basic specification		T TS			T TS		
Optional specifications		—	MC	MC Y	—	MC	MC Y
Spindle							
Spindle	3,000 min ⁻¹ : 22 / 18.5 kW (30 / 24.7 HP) <30 min / cont> {standard}	●	●	●	●	●	●
	3,000 min ⁻¹ : 30 / 25 kW (40 / 33.3 HP) <30 min / cont> {high output}	○	○	○	○	○	○
Turret							
10-station bolt-tightened turret for NL holders		●	●	●	●	●	●
12-station bolt-tightened turret for NL holders		○	○	○	○	○	○
Rotary tool spindle	10,000 min ⁻¹ : 5.5 / 5.5 / 3.7 kW (7.5 / 7.5 / 5 HP) <3 min / 5 min / cont> {standard}	—	◇	◇	—	◇	◇
	4,000 min ⁻¹ : 5.5 / 3.7 / 2.2 kW (7.5 / 5 / 3 HP) <10 min / 15 min / cont> {high torque}	—	◇	◇	—	◇	◇
Tailstock							
Tailstock spindle live center *1	MT5	●	●	●	●	●	●
Tailstock spindle built-in center *2	MT4	○	○	○	○	○	○
Tailstock with the hydraulic quill		○	○	○	○	○	○
Fixture / Steady rest							
Fixed steady rest *3	ø 20—ø 240 mm (ø 0.8—ø 9.4 in.)	○	○	○	○	○	○
Coolant							
Coolant system	0.20 / 0.30 MPa (29 / 43.5 psi) *4, 350 / 550 W <50 / 60 Hz>	●	●	●	●	●	●
	0.45 / 0.65 MPa (65.3 / 94.3 psi) *4, 800 / 1,100 W <50 / 60 Hz>	○	○	○	○	○	○
	1 / 1.5 MPa (145 / 217.5 psi), 1.1 / 2.2 kW (1.5 / 3 HP) <50 / 60 Hz>	○	○	○	○	○	○
Super-high-pressure coolant system (separate type) *6	3.5 MPa (507.5 psi)	○*5	○*5	○*5	○*5	○*5	○*5
	7 MPa (1,015 psi)	○*5	○*5	○*5	○*5	○*5	○*5
	Interface	○	○	○	○	○	○
Chip disposal							
Chip conveyor	Right discharge, hinge type	○	○	○	○	○	○
	Right discharge, hinge type (aluminum)	○	○	○	○	○	○
	Right discharge, scraper type	○	○	○	○	○	○
	Right discharge, magnet scraper type	○	○	○	○	○	○
	Rear discharge, hinge type	○	○	○	—	—	—
	Rear discharge, scraper type	○	○	○	—	—	—
	Rear discharge, magnet scraper type	○	○	○	—	—	—
	Rear discharge, hinge type (aluminum)	☆	☆	☆	—	—	—
Measurement							
Manual in-machine tool presetter	Pivoting type	●	●	●	●	●	●
	Removable type	○	○	○	○	○	○
Automatic in-machine tool presetter	Pivoting type	○	○	○	○	○	○
In-machine workpiece measuring system *7	Touch sensor (optical signal transmission type)	○	○	○	○	○	○

T: Turret **MC**: Milling (option)
TS: Tailstock **Y**: Y-axis (option)
 The basic model is equipped with **T** and **TS**.

●: Standard features ○: Options
 ◇: Select one ☆: Consultation is required
 —: Not applicable

		NLX 3000 700			NLX 3000 1250		
Basic specification		T TS			T TS		
Optional specifications		—	MC	MC Y	—	MC	MC Y
Improved accuracy							
Oil chiller		●	●	●	●	●	●
	X-axis	○	○	○	○	○	○
Direct scale feedback		—	—	○	—	—	○
	Z-axis	○	○	○	○	○	○
Automation							
Auto power off		●	●	●	●	●	●
Workpiece unloader (built-in type) *8		○	○	○	○	○	○
Other							
Built-in worklight (LED) (2 pieces for the model with a distance between centers of 1,250 mm (49.2 in.) <standard>)		●	●	●	●	●	●
Signal light	4 layers (LED type: red, yellow, green, blue)	○	○	○	○	○	○
Signal light buzzer		○	○	○	○	○	○
Chuck foot switch		●	●	●	●	●	●
	Double	○	○	○	○	○	○
Foot switch for tailstock		○	○	○	○	○	○
Total counter display		●	●	●	●	●	●
Workpiece counter display		●	●	●	●	●	●
Manual pulse generator (separate type)		○	○	○	○	○	○

*1 The center is optional.

*2 The center is standard.

*3 Not available when the workpiece unloader is selected.

*4 In the case that the discharge rate is 30 L/min (7.9 gpm). The values may vary depending on the shape of a tool to be used.

*5 DMQP (DMG MORI Qualified Products)

*6 When a super-high-pressure coolant system is used, a coolant chiller is recommended. For details, please consult our sales representative.

*7 Certain workpiece shapes cannot be measured.

*8 Not available when the steady rest is selected. For standard machines, it is necessary to remove the workpiece unloader when the steady rest is selected.

● DMQP: Please see Page 19 for details.

● The information in this catalog is valid as of April 2017.

● 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.

NLX 3000 | 2000, NLX 3000 | 3000

Main Standard & Optional Features

●: Standard features ○: Options
◇: Select one —: Not applicable

		NLX 3000 2000			NLX 3000 3000		
Basic specification		T TS			T TS		
Optional specifications		—	MC	MC Y	—	MC	MC Y
Spindle							
Spindle	3,000 min ⁻¹ : 22 / 18.5 kW (30 / 24.7 HP) <30 min / cont> {standard}	●	●	●	●	●	●
	3,000 min ⁻¹ : 30 / 25 kW (40 / 33.3 HP) <30 min / cont> {high output}	○	○	○	○	○	○
Turret							
10-station bolt-tightened turret for NL holders		●	●	●	●	●	●
12-station bolt-tightened turret for NL holders		○	○	○	○	○	○
Rotary tool spindle	10,000 min ⁻¹ : 5.5 / 5.5 / 3.7 kW (7.5 / 7.5 / 5 HP) <3 min / 5 min / cont> 40 / 30 / 14 N•m (29.5 / 22.1 / 10.3 ft•lbf) {standard}	—	◇	◇	—	◇	◇
	4,000 min ⁻¹ : 5.5 / 3.7 / 2.2 kW (7.5 / 5 / 3 HP) <10 min / 15 min / cont> 54 / 54 / 32 N•m (39.8 / 39.8 / 23.6 ft•lbf) {high torque}	—	◇	◇	—	◇	◇
	4,000 min ⁻¹ : 10.0 / 6.0 kW (13.3 / 8 HP) <4 min / cont> 100 / 68 N•m (73.8 / 50.2 ft•lbf) {high torque}	—	◇	◇	—	◇	◇
Tailstock							
Programmable tailstock		●	●	●	●	●	●
Tailstock spindle built-in center*1	MT5	●	●	●	●	●	●
Tailstock with the hydraulic quill		●	●	●	●	●	●
Fixture / Steady rest							
Fixed steady rest	ø 20—ø 240 mm (ø 0.8—ø 9.4 in.)	○	○	○	○	○	○
	ø 180—ø 350 mm (ø 7.1—ø 13.8 in.)	○	○	○	○	○	○
Coolant							
Coolant system		●	●	●	●	●	●
High-pressure coolant system	0.20 / 0.30 MPa (29 / 43.5 psi)*2, 350 / 550 W <50 / 60 Hz>	○	○	○	○	○	○
	0.45 / 0.65 MPa (65.3 / 94.3 psi)*2, 800 / 1,100 W <50 / 60 Hz>	○	○	○	○	○	○
Super-high-pressure coolant system (separate type)*4	1 / 1.5 MPa (145 / 217.5 psi), 1.1 / 2.2 kW (1.5 / 3 HP) <50 / 60 Hz>	○	○	○	○	○	○
	3.5 MPa (507.5 psi)	○*3	○*3	○*3	○*3	○*3	○*3
	7 MPa (1,015 psi)	○*3	○*3	○*3	○*3	○*3	○*3
Interface		○	○	○	○	○	○
Chip disposal							
Chip conveyor	Right discharge, hinge type	●	●	●	●	●	●
	Right discharge, scraper type	○	○	○	○	○	○

T: Turret **MC**: Milling (option)
TS: Tailstock **Y**: Y-axis (option)
 The basic model is equipped with **T** and **TS**.

●: Standard features ○: Options
 ◇: Select one —: Not applicable

		NLX 3000 2000			NLX 3000 3000		
		T TS			T TS		
Basic specification		—	MC	MC Y	—	MC	MC Y
Optional specifications							
Measurement							
Manual in-machine tool presetter	Pivoting type	●	●	●	●	●	●
	Removable type	○	○	○	○	○	○
Automatic in-machine tool presetter	Pivoting type	○	○	○	○	○	○
In-machine workpiece measuring system *5	Touch sensor (optical signal transmission type)	○	○	○	○	○	○
Improved accuracy							
Oil chiller		●	●	●	●	●	●
Direct scale feedback	X-axis	○	○	○	○	○	○
	Y-axis	—	—	○	—	—	○
	Z-axis	○	○	○	○	○	○
Automation							
Auto power off		●	●	●	●	●	●
Other							
Built-in worklight (LED) (3 pieces for the model with a distance between centers of 2,000 mm (78.8 in.) and 3,000 mm (118.1 in.) <standard>)		●	●	●	●	●	●
Signal light	4 layers (LED type: red, yellow, green, blue)	○	○	○	○	○	○
Signal light buzzer		○	○	○	○	○	○
Chuck foot switch	Single	●	●	●	●	●	●
	Double	○	○	○	○	○	○
Foot switch for tailstock		○	○	○	○	○	○
Total counter display		●	●	●	●	●	●
Workpiece counter display		●	●	●	●	●	●
Manual pulse generator (separate type)		○	○	○	○	○	○

*1 The center is standard.

*2 In the case that the discharge rate is 30 L/min (7.9 gpm). The values may vary depending on the shape of a tool to be used.

*3 DMQP (DMG MORI Qualified Products)

*4 When a super-high-pressure coolant system is used, a coolant chiller is recommended. For details, please consult our sales representative.

*5 Certain workpiece shapes cannot be measured.

● DMQP: Please see Page 19 for details.

● The information in this catalog is valid as of April 2017.

● 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.

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

+ The information in this catalog is valid as of July 2017. 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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The logo for DMG MORI, with "DMG" in green and "MORI" in red, both in a bold, sans-serif font.

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