DMG MORI
NLX 2500 | 1250

Machine and Options

Basic Machine

NLX 2500 | 1250 - Milling Specification	J-A01440*	1

Control

Control M730UM met CELOS	J-006140*	1
CELOS - ERGOline Touch to facilitate machine operation incl. 21.5 " ERGOline Touch ® control with multi touch screens. Uniform management, documentation and visualization of order, process - and machine data. Networkable with CAD / CAM User friendly and productive MAPPS system	J-003261*	1

Spindle

(Left Spindle) High-Output Spindle 26/26/22 kW, 4,000 min-1 The NLX 2500 adopts a highly reliable spindle designed to minimize thermal displacement. The advanced spindle labyrinth structure and the spindle air purge adopted for the machine (option for the 2-axis turning specification) achieves the highly durable spindle by preventing coolant from entering the spindle. Max. spindle speed: 4,000 min-1 Spindle nose type: JIS A2-8 Through-spindle hole diameter: Φ 91 mm (dia.3.58 inch.) Min. spindle indexing angle: 0.001° Spindle drive motor: 26/26/22 kW (34.7/34.7/30 HP) (25% ED/50% ED/cont) Spindle torque: 709/500/409 Nm (522.93/368.78/301.66 ft·lbf) (10 min/30 min/cont)	J-016102	1

(Right Spindle) Through-Spindle Hole Dia. 73 mm (2.87-inch) (Spindle Speed 5,000 min-1, 11/7.5 kW) The Right Spindle specification enables continuous machining of both surfaces. The combination of rotary tools and the Y-axis function enables integrated machining from turning to secondary/back face machining, and multi-axis machining, allowing for process integration. Max. spindle speed: 5,000 min-1 Spindle nose type: JIS A2-6 Min. spindle indexing angle: 0.001° Spindle drive motor: 11/7.5 kW (15/10 HP) (25% ED/cont) Spindle torque: 95.5/65.1 Nm (70.44/48.02 ft·lbf) (25% ED/cont)	J-016152	1

Chuck for Left spindle (Main spindle)

(Left Spindle) KITAGAWA 10-inch Hollow Chuck BR10A821 Three-jaw hydraulic chuck manufactured by Kitagawa Iron Works. Chuck outer diameter: Φ254 mm (dia.10 inch.) Through-hole diameter: Φ81 mm (dia. 3.18 inch.) Gripping diameter: Max. Φ254 mm (dia.10 inch.), Min. Φ31 mm (dia.1.22 inch.) Jaw stroke (diameter): 8.8 mm (0.35 inch.) Plunger stroke: 19 mm (0.75 inch.) Max. allowable pull force: 49 kN (11.01 klbf) Max. static gripping force: 123 kN (27.64 klbf) Dynamic gripping force at max. speed: 44 kN (9.88 klbf) Max. allowable speed: 4,500 min-1 Mass: 40.9 kg (89.99 lb.) *The data above are information on the chuck body. Since it may be limited by this machine specification, please check the contents of the mounted cylinder set for details.	J-013368	1
(Left Spindle) Hollow Cylinder Set for KITAGAWA 10-inch) Hollow Chuck BR10A821 (Bar work capacity dia. 80 mm (3.15 inch)) (Without Chuck Body) Hollow cylinder and draw bar are included as a set. Chuck is not included. Please see the chuck-cylinder combination diagram for the combination with chuck and the specification.	J-013383	1

* verdere beschrijving zie bijlage

Chuck for Right spindle (Counter spindle)

(Right Spindle) KITAGAWA 8-inch Hollow Chuck BR08A621 Three-jaw hydraulic chuck manufactured by Kitagawa Iron Works. Chuck outer diameter: Φ210 mm (dia.8.27 inch.) Through-hole diameter: Φ66 mm (dia.2.6 inch.) Gripping diameter: Max. Φ210 mm (dia.8.27 inch.), Min. Φ22 mm (dia.0.87 inch.) Jaw stroke (diameter): 7.4 mm (0.29 inch.) Plunger stroke: 16 mm (0.63 inch.) Max. allowable pull force: 32 kN (7.19 klbf) Max. static gripping force: 99 kN (22.25 klbf) Dynamic gripping force at max. speed: 33 kN (7.42 klbf) Max. allowable speed: 5,000 min-1 *The data above are information on the chuck body. Since it may be limited by this machine specification, please check the contents of the mounted cylinder set for details.	J-013366	1
(Right Spindle) Kitagawa Hollow Cylinder set (for Kitagawa BR08A621/ Heinbuch (SPANNTOP/TOPlus65)/ Roehm DURO-A210) (Bar work capacity dia. 65 mm (2.55 inch)) (without chuck body) Hollow cylinder and draw bar are included as a set. Chuck is not included. Please see the chuck-cylinder combination diagram for the combination with chuck and the specification.	J-013391	1

Equipment for Chucks

Chuck Foot Switch (Double) For Main And Counter Spindle Chuck unclamping and clamping are operated by separate foot switches to prevent mistakes. To activate a foot switch, you must first press the locking plate of the foot swtich forward to release the switch lock. Chuck unclamping and clamping are performed with two sets of double foot switches, one for the main spindle and one for the sub spindle.	J-002276	1
Veiligheidsinrichting met automatische spanwegcontrole, hoofdspindel	J-002349	1
Veiligheidsinrichting met automatische spanwegcontrole, tegenspindel	J-002350	1

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Options for Turret

Turret Y-axis Specification It moves the turret in the Y-axis direction. In combination with the rotary tool spindle and right spindle, it implements process integration for workpieces with complicated shapes. Please refer to the turret interference diagrams for the movable region. Travel: ± 50 mm (± 1.97 inch.) Rapid traverse rate: 10 m/min (393.7 ipm)	J-016110	1
High-Torque Rotary Tool Spindle 40/14 Nm (29.5/10.33 ft·lbf), 10,000 min-1 High-torque rotary tool spindle for the 10/12-station in-house bolt-tightened turret specification. BMT (Built-In Motor Turret) is installed with the milling specification, and the cooling jacket suppresses heat generation to implement excellent machining accuracy. Rotary tool machining ability: drill Φ 26 mm (dia.1.02 inch.), tap M20 Rotary tool spindle output: 5.5/5.5/3.7 kW (7.5/7.5/5 HP) (3 min/5 min/cont) Rotary tool spindle torque: 40/30/14 Nm (29.5/22.13/10.33 ft·lbf) (3 min/5 min/cont)	J-020756	1
12-Station Bolt-Tightened Turret (Standard Specification) (Y, SY, SMC) In-house 12 station turret. Please refer to the axis travel diagrams and turret interference diagrams for the movable region. Number of tool stations: 12 Shank height for square tool: 25 mm (0.98 inch.) Shank diameter for boring bar: Φ 50 mm (dia.1.97 inch.) (Right spindle side Φ 32 mm (dia.1.26 inch.)) Turret indexing time (1 station): 0.27 seconds Method for mounting tool on turret: Bolt-tightened BMT60	J-016106*	1

Tailstock

Right Spindle Tailstock Specification The specification to push a workpiece by the center mounted in the Right Spindle chuck. This allows you to machine the tip of the workpiece. When using Right Spindle as a tailstock, the motor equipped with a brake is installed as the spindle may be pushed back. *The center is not included. Please purchase it separately.	J-003188	1

* verdere beschrijving zie bijlage

Coolant supply / Chip removal

Usable coolant type: Water-soluble To avoid the risk of poor accuracy or machine trouble, do not use oil-based coolant. Please select oil-based coolant specification in case of using oil-based coolant.	J-G00428	1
Chip Conveyor (Right Discharge, Hinge Type) Chips are conveyed on the hinged plates and discharged to the right side of the machine. The hinged plate is effective in discharging long chips. Not suitable for minute powdery chips generated in machining castings and gun metals, etc. as their chips may flow into coolant tank. Suitable for conveying chips such as steels (long, short), aluminum (long), SUS (long, short), brass (long), copper (long), etc.. (For 2-Axis Turning) Chip conveying capacity: 310 L/h (81.84 gph), Max. coolant throughput: 100 L/min (26.4 gpm). (For Milling) Chip conveying capacity: 390 L/h (102.96 gph), Max. coolant throughput: 240 L/min (63.36 gpm).	J-G02918	1
Koelmiddelsysteem met verhoogde druk 5 bar Koelmiddelpomp met verhoogd motor-vermogen (800 W, 50 Hz/100 W, 60 Hz) en een opbrengst van 20 ltr./min. bij een druk van tot ca. 5 bar	J-002147	1
Without Coolant chiller If the coolant chiller is not selected, the units (spindle, tool post) inside the machine might be heated by the coolant, and thermal displacement might cause defective machining dimensions. Please select “Coolant Chiller” which is recommended option.	J-014458	1
Coolant Gun The magnet type coolant gun is attached to the machine front. Pressing the "coolant gun" button on the operation panel activates the coolant pump, and depressing its trigger starts the coolant discharge. The coolant pump automatically stops in 2 minutes. It can be used for flushing away chips in the machining chamber.	J-003220	1

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Chuck Top Coolant Unit (left spindle) The coolant is discharged through the coolant nozzle on the upper part of the chuck to flush away chips and reduce heat generated on the workpiece during cutting. It uses a different coolant pump from the tool tip coolant pump. For the machines with bed cover chip flush coolant, the bed cover chip flush coolant is discharged simultaneously. However, the chuck top coolant and bed cover chip flush coolant can be stopped individually using their respective manual valves. Coolant ON/OFF can be controlled by the M codes.	J-003239	1
Chuck Top Coolant Unit (Right Spindle) The coolant is discharged through the coolant nozzle on the upper part of the chuck to flush away chips and reduce heat generated on the workpiece during cutting. It uses a different coolant pump from the tool tip coolant pump. For the machines with bed cover chip flush coolant, the bed cover chip flush coolant is discharged simultaneously. However, the chuck top coolant and bed cover chip flush coolant can be stopped individually using their respective manual valves. Coolant discharge ON/OFF can be switched by the M codes.	J-003242	1
Perslucht blow-off systeem voor snijgereedschap Programmeerbare persluchttoevoer naar de revolver, met uitlaat in het bereik van de gereedschappen voor het reinigen en koelen van het snijgereedschap	J-003273	1
Mist Collector Interface (Duct Φ150 mm (dia.5.91 inch.) + Electric Parts for AFS 1100) I/F for mounting the mist collector AFS1100 that collects, absorbs and dehydrates mist generated during machining using the filter. The 150 mm (5.91 inch.)-diameter duct and electrical components set are included. The mist collector, duct hose, drain hose and stand are not included. Please arrange them separately.	J-005073	1

Measuring / Monitoring

Manual In-machine Tool Presetter (Pivoting Type) (Standard) It simplifies the complicated setup work at the tool change. The position of the tool nose is measured precisely by just bringing the tool nose into contact with the sensor, and the measured value is fed back to NC. The tool presetter can be tilted to the chuck cover side when not used.	J-017110	1

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Full-Closed Loop Control for X-Axis (Direct Scale Feedback) The magnetic scale is used for the X-axis position sensing, instead of the axis servomotor pulse encoder. It is not susceptible to ball screw precision error or thermal displacement. The magnetic scale is mounted parallel to the X-axis, and the coordinates of the turret position are directly fed back to the NC unit. This enables the higher precision positioning. Resolution: 0.01 µm (Magnescale)	J-003331	1
Manual in-machine tool presetter (removable type) (Spindle 2)	J-017114	1

Automation

Signal lamp 4 colors (Red, yellow, green, blue) Indicate machine status by the LED color. Mounted at top front of machine for visibility from distance. Bright LED lighting with 360 degree viewing angle. Low maintenance and low power consumption. Color Specification (2 type): <Type 1 (Standard)> · Red: general error · Yellow: intervention necessary (Machine Error) · Green: automatic mode · Blue: set-up mode <Type 2> · Red: general error · Yellow: Program end (M02/M30) · Green: automatic mode *Does not include buzzer, can be ordered separately I lamp 4 kleuren (rood, geel, groen, blauw)	J-004166	1

* verdere beschrijving zie bijlage

Standard Workpiece Unloader (Built-In Type) This device automatically receives the completed workpiece and carries it outside the machine. Unmanned consecutive operation is possible by combining it with a bar feeder (separate option). Can be operated in conjunction with the workpiece conveyor (separate option). Max workpiece diameter: 80 mm (3.15 in) Max workpiece length: 200 mm (7.87in) Max workpiece mass: 3.0 kg (6.6 lb) Manual mode operation method): by soft key. Automatic mode operation method: by M-code. × Can only be operated with door closed. × With workpiece length 20 mm (0.79 in) or less, the workpiece may not unload properly. For such workpieces, consult with DMG MORI in advance.	J-020288	1

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Interface for Bar Feeder (LNS, IRCO, IEMCA, Edge Technologies) (Multiple) The Bar feeder interface is used for connection to the bar feeder which achieves higher productivity by the automatic bar stock feed. Bar feeder body is not included in this specification. To install any bar feeder other than the LNS or IRCO or IEMCA or Edge Technologies-made, the I/F needs to be changed. Please consult DMG MORI Service Department. (Caution) It is necessary to arrange the guide bush or guide pipe by separate quotation. *Because the guide bush is solid, please machining it according to the inner diameter required by the customer. *When arranging the guide pipe, specify the pipe inner diameter in advance. *In automated machine operations using the bar feeder, the machine door or shutter is not opened or closed for long hours. As a result, a temperature inside the machine can rise, affecting machining accuracy. So the mist collector is recommended that can prevent the temperature from rising. *When using a bar feeder that cannot discharge the remaining material inside the bar feeder equipment, please arrange a workpiece unloader separately because it is necessary to discharge the remaining material into the machine. (Although DMGMORI do not recommend it, when discharging the remaining material by dropping it onto chip conveyor without a workpiece unloader, please cut down the remaining material as much as possible before dropping it onto chip conveyor. (If the remaining material is too long, it may get caught in chip conveyor and cause chip conveyor to break prematurely.) *When the machine is shipped, the circuit is short-circuited if there is no external device connected. Please make sure to remove the jumper wire when installing machine at the customer's factory.	J-020316	1

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General Options

Dry Anchor The machine is fixed to the floor to minimize the movement due to vibration during operation or small earthquakes. Generally, factories with concrete 500 mm (19.69 inch.) or more in thickness does not require foundation work. However, please perform the vibration isolation foundation work in the area with weak ground or susceptible to vibrations from other machines. The appropriate quantity and depth of piles and the thickness of concrete differ depending on the ground conditions. Please consult a civil engineer. *Special attention must be given to the foundation and installation work to sufficiently exert and maintain the machine accuracy and performance for long. *Drilling for the anchor bolts is required before installing the machine body in place.	J-000860	1
Voltage of Customer Factory 380 V This machine is shipped with voltage set to 200 V specification. Transformer is necessary. Please order on DMG MORI or make alternative arrangement. (Caution) If the setting is incompatible, there is a possibility of trouble such as operation abnormality and alarm occurrence. Be sure to check the supply voltage and frequency of the customer's factory.	J-G00952	1
Frequency 50 Hz This machine is shipped with frequency set to 50 Hz specification. (Caution) If the setting is incompatible, there is a possibility of trouble such as operation abnormality and alarm occurrence. Be sure to check the supply voltage and frequency of the customer's factory.	J-G00960	1
Instelling in mm	J-004471	1
54 kVA three phase autotransformer with cabinet CLPB 41F- 1427T16001. Cable lugs of transformer cable might have to be replaced during installation.	J-EU0004	1

* verdere beschrijving zie bijlage

Technology Cycle

Alternating Speed It can suppress regenerative chattering by fluctuating spindle speed. The cycle is automatically calculated only by setting the fluctuation width in the guidance screen. *Regenerative chatter is created by excitation resulting from the fluctuation in chip thickness. In general, the spindle speed needs to be adjusted as a countermeasure for keeping the chip thickness constant. This function is not available when left and right spindles are synchronized(M34 or M35 command)	J-015571	1

Options for Control

Islands, open pockets Islands · Simplifies programming by minimizing input operations, even for complex pocket machining. · Number of island shape definitions: 127. Open pockets · Optimizes tool path by eliminating paths with no machining allowance. · Greatly reduces air cutting. · Cycle time can be reduced by 30%. Available only when milling specification is selected.	J-007791	1
High-speed Canned Cycle The screen guidance induces input of the canned cycle arguments. The high-speed cutting can be specified in one program line. - The machining time is reduced by the high-speed machining. - The cycle that simplifies complicated programming of high speed machining programming are newly added. - The programming time is shortened. - The optimum tool paths are automatically created for the high-speed machining. - The shapes which require perplexing programs are supported. - The manual-less screen guidance method is adopted. The number of pattern: 21 patterns The number of patterns for programming from the interactive machining menu: 15 patterns	J-008657	1

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Program restart When restarting the machine after a tool has broken, after a day off or when resuming from the middle of a program, this function specifies the block, and machining will restart from that block. There are two methods of restarting: Type 1 and Type 2. Type 1: after reset because of a broken tool, etc., machining is restarted by specifying the sequence number or block number. Type 2: if you have operated a different program in tape, memory or HD before you search for the machining program you want to restart, use Type 2 to restart the program. The operating sequence is same as Type 1, but it is necessary to set the coordinates, etc., before you search for the program you want to restart before you run the machining program. Also, top search is either done automatically or by the customer, depending on the parameter setting.	J-008228	1
Addition of Optional Block Skip (Soft Key Type) Adds 8 independently activated block skip commands for NC programming use. Soft key activation at the operation panel. NC control expansion includes: ・ 8 independent block skip numbers (2～9) Usage: Specify block skip as slash followed by number (/n) at the head of an NC block. Set using block skip soft keys on the operating panel.	J-008201	1
X-axis Direction, JIS/ISO-compliant The X-axis movement direction is compliant with the JIS/ISO standard.	J-G00618	1

Screen Text Language

Screen display Dutch Language on MAPPS Screen: Dutch Language on MAPPS Warning Screen: Dutch Language on NC Screen: Dutch Language on PC Screen: English	J-000086	1

* verdere beschrijving zie bijlage

Options for MAPPS / CELOS Control*

DMG MORI Messenger	J-004769	1
IoTconnector The IoTconnector allows the use of online services of DMG MORI (e.g. NETservice)	J-011731*	1
NETservice A software installed on IoTconnector for qualified support by Internet-based remote diagnostics	J-011732*	1
Machine Data Connector (MDC) A software installed on IoTconnector for uniform machine data interface as an integrated function of the DMG MORI Connectivity Hardware	J-011734*	1

* verdere beschrijving zie bijlage