DMG MORI NLX 2500 | 700 SY – Technical Specification

Machine

Manufacturer: DMG MORI

Model: NLX 2500 | 700

Machine No.: J-A01439*

Machine type: Single-spindle, single-turret turning center with C-axis and milling function

Distance between centers: 700 mm

Main Spindle

Maximum speed: 4,000 rpm

Power: 18.5 / 18.5 / 15 kW

Bar capacity: Ø 80 mm

Turret

12 stations for bolt-on tool holders

Driven tools: 10,000 rpm, 5.5 / 5.5 / 3.7 kW

Tailstock

Fixed quill tailstock

Morse taper: MT5

Supplied without center

CNC Control

M730UM CNC with CELOS

21.5-inch ERGOline Touch touchscreen

CAD/CAM connectivity and MAPPS user interface

Control references: J-006140*, J-003261*

Standard Turning Spindle

Permissible chuck diameter: 8"

Maximum speed: 4,000 rpm

Torque: 599 / 505 / 409 Nm

Spindle bore diameter: 91 mm

Spindle nose: A2-8"

Standard Sub-Spindle

Maximum speed: 6,000 rpm

Spindle bore diameter: 43 mm

Spindle nose: A2-5"

Clamping Solutions – Spindle 1

Kitagawa 10" BB210A821 Through-Hole Chuck

Hydraulic 3-jaw chuck with through bore

Maximum chuck diameter: Ø 250 mm

Spindle bore: Ø 81 mm

Maximum speed: 4,500 rpm

Clamping capacity: min. Ø 41 mm / max. Ø 254 mm

Maximum clamping force: 126 kN

Independent lubrication of each jaw

Jaw serration: 1.5 mm x 60°

Compatible with hard jaws and soft jaws

Spindle line 1 with full through bore for 10" Kitagawa chuck

Draw tube SR1781C21 with drawbar R75245

Draw tube length: 771 mm

Draw tube diameter: internal Ø 81 mm / external Ø 90 mm

Piston stroke: 25 mm

Spindle bore diameter: Ø 81 mm

Operating pressure: 3.4 MPa

Supplied without chuck

Clamping Solutions – Spindle 2

Kitagawa 6" B206A521F Through-Hole Chuck

Hydraulic 3-jaw chuck with through bore

Maximum chuck diameter: Ø 170 mm

Spindle bore: Ø 45 mm

Maximum speed: 8,000 rpm

Clamping capacity: min. Ø 16 mm / max. Ø 169 mm

Maximum clamping force: 57 kN

Independent lubrication of each jaw

Compatible jaws (not included):

• Height 35 mm – Type B: B81025

• Height 35 mm – Type D: B81003, B81015

• Height 45 mm – Type B: B81026

Compatible with hard jaws and soft jaws

Spindle line 2 without full through bore for 6" chuck

Supplied without chuck

Accessories for Clamping Systems

Dual-control foot pedal for spindles 1 and 2

Allows opening/closing of both spindle chucks via dual foot pedals

Stroke monitoring of clamping cylinder – Spindle 1

Stroke monitoring of clamping cylinder – Spindle 2

Visual monitoring via linear gauge displayed on screen

Turret

Turret equipped with Y-axis

Y-axis travel: +50 mm

Maximum driven tool speed: 10,000 rpm

Driven tool torque: 40 / 30 / 14 Nm (3 min / 5 min / continuous)

Standard equipment for 10- and 12-station turrets

Direct-drive motor (BMT) enables milling operations

Motor jacketing reduces heat generation and maintains high machining accuracy

Machining capacity:

• Drilling capacity: Ø 26 mm

• Tapping capacity: M20

Motor power: 5.5 / 5.5 / 3.7 kW (3 min / 5 min / continuous)

12-Station Turret

12-station turret with bolt-on tool holders

Compatible with NL-series tool holders

Modified guarding for radial tools with maximum length of 100 mm

Note: This option may limit the Y-axis travel

Coolant & Chip Evacuation

Machine configuration designed for operation with water-soluble cutting oil

Belt-type chip conveyor with right-side discharge

Chips are transported via a metal belt conveyor and discharged outside the machine

Especially suitable for long chips

Also suitable for:

• Steel (long and short chips)

• Aluminum (long chips)

• Stainless steel (long and short chips)

• Brass (long chips)

• Copper (long chips)

Turning center – 2-axis configuration:

• Chip conveyor capacity: 370 L/h

• Coolant flow rate: max. 100 L/min

Turning center types MC, Y, S, SMC, SY:

• Chip conveyor capacity: 470 L/h

• Coolant flow rate: max. 240 L/min

High-Pressure Coolant System

Motor power: 800 W

Maximum pressure: 0.8 MPa

Pump type: LBK2-60/6-MR-e (TERAL)

Coolant Gun

Coolant unit equipped with a spray gun for targeted coolant application

Effective for removing chips stuck in machine corners

Coolant is drawn directly from the coolant tank via a dedicated pump

The pump starts automatically when the gun is removed from its holder

When the gun is placed back in its holder, the pump stops

Coolant & Air Options

Chuck coolant from above (Spindle 2)

This option allows coolant to be supplied from above onto the spindle 2 chuck, ensuring improved chip evacuation and reduced heat generation during machining.

Air blow at tool tip

This function directs compressed air onto the tool tip to improve chip removal. Air is supplied through the coolant channels of the turret.

Mist extractor interface – Ø 150 mm

Mist extractor and electrical interface not included

Oil skimmer

Removes oil floating on the surface of the coolant in the coolant tank by means of a rotating belt, preventing coolant deterioration. Suitable for water-soluble coolants. The belt is made of polyurethane. Avoid using coolant containing alkaline detergents. Consult the Development Department before use.

Measuring Systems

Manual swiveling arm for tool measurement

The tool measuring system simplifies measurement operations. For precise measurement of the tool nose position, the tool tip is brought into contact with the probe and the measured value is transmitted directly to the CNC control.

Direct position linear scale for X-axis

This option maintains machine accuracy by compensating for ball screw thermal expansion. A magnetic scale is mounted parallel to the X-axis and transmits the actual turret position to the CNC, enabling high-precision positioning control. Air purging inside the scale prevents dust ingress.

Resolution: 0.01 μm

J-G00951

Customer factory voltage 220 V
This machine is delivered with voltage set to 220 V.
(Caution)
If the setting is incompatible, malfunctions or alarms may occur.
Be sure to check the customer's factory supply voltage and frequency.

J-G00960

Frequency 50 Hz
This machine is delivered with frequency set to 50 Hz.
(Caution)
If the setting is incompatible, malfunctions or alarms may occur.
Be sure to check the customer's factory supply voltage and frequency.

J-EU0004

54 KVA three-phase autotransformer with cabinet CLPB 41F-1427T16001.
Transformer cable lugs may need to be replaced during installation.

J-004471
Measurement unit in mm

Technological cycles

J-015571
Alternating speed

CNC option

J-007791

Open pockets with islands:

the number of definable islands has considerably increased.
Thanks to improved NC processing capacity, complex tool paths can be created quickly.
Number of definable islands: 127
Open pocket:
Defining the part as open eliminates tool paths where there is no cutting allowance, allowing optimal tool paths.
Machining time can be reduced as non-cutting times are significantly minimized.

J-008657
Optimized fixed cycles for high-speed machining
This option allows optimized conversational programming of high-speed machining cycles.
Different screens allow intuitive and secure data entry.
Some cycles can be condensed into a single line of programming.
High-speed machining cycles provide significant reductions in machining time.
Number of available cycles: 21

J-008201
Addition of an optional block skip (programmable keys 2 to 9)

J-G00618
X-axis direction ISO

Display of texts on the screen

J-000082
Screen display German

Language on MAPPS Screen: German
Language on MAPPS Warning Screen: German
Language on NC Screen: German
Language on PC Screen: German