MORI SEIKI
NVX5100II/40_M730BM

SERIAL NUMBER: NV502130614
OUR REFERENCE: M5738

Basic Machine

J-A00263* NVX5100II/40_M730BM

Control

J-000162* Control M730BM

Spindle

J-G01486 Standard spindle, 15/ 11 kW (including 7/24 Taper #40 (two-face contact specifications))

Applicable to two-face constraint specifications of a tool holder with BT grip.

Magazine

J-006058 Tool magazine door (/40)

Coolant

J-006012 Coolant gun for machining side

A coolant gun is equipped on the front side of the machine for cleaning chips accumulated inside the machine or adhering to the workpiece or the fixtures.

J-G00881 Through-spindle coolant system I/F (side through, 7.0 MPa) (KNOLL)

This is the I/F for mounting the high pressure coolant system manufactured by Knoll (separate type) (7.0 MPa).
The coolant path to the tool tip is a side through type.
The high pressure coolant system manufactured by Knoll (separate type) has eight pressure levels.

(The high pressure coolant system is not included, please purchase it separately.)

Chip disposal

J-006026 Chip conveyor internal (spiral) + external (hinge type + drum filter type) (NVX5100)

Install spiral conveyors inside the machine and a chip conveyor to discharge chips (ConSep2000) to the rear of the machine. The chip conveyor installed to the machine rear is suitable for discharge of the all types of metal chips except powdered stated ones. Long chips are conveyed and discharged by a hinge belt. Fine chips are accumulated on the inner pan and scraped out to the discharge port at the rear side of the belt. Also, a built-in drum filter with backwash system can reduce the frequency of cleaning inside the tank.

Other (Machine Option)

J-000855 Signal tower 3 layers (Red, yellow, green) LED type (front upper side)

This signal tower informs the operator of the machine's status with lights and a buzzer.
Red: When an alarm occurs a buzzer sounds and the signal tower light comes on.
Yellow: When the program end is executed, a buzzer sounds and the signal tower light comes on.
Green: During NC operation, the signal tower light comes on. (The buzzer does not sound.) PATLITE

Special constructions

SK001 Label Language: English

Special constructions services

SK002 Through-spindle coolant system (KNOLL) I/F modifications

SK006 Chip bin

Sales company services

UK0002 Transformer (35Kva, CMT35K/23/1)

UK0011 High Pressure (70 Bar*) Coolant Unit with twin cartridge filtration system (*only for tool / holder with Max. 2mm orifice - over 2mm will result in a reduction of pressure)

Services provided with both machines:

SK003	Transportation to BSL Industries Limited, Tamworth.
SK004	Installation on site at BSL Industries Limited, Tamworth.

Total Price for NVX5100II/40 machine **£135,000.00**

Attachment

Technical Description

Basic machine

The specifications below apply to a basic machine without additional options.
Specifications in square brackets [ ] are values or features for a machine with additional options.

Travel

X-axis travel <longitudinal of movement of table>	mm (in.)	1,050 (41.34)
Y-axis travel <cross movement of saddle>	mm (in.)	530 (20.87)
Z-axis travel <vertical movement of spindle head>	mm (in.)	510 (20.08)
Distance from table surface to spindle gage plane	mm (in.)	150 – 660 (5.91 – 25.98)

Table

Height from floor to table surface	mm (in.)	900 (35.43)
Table working surface	mm (in.)	1,350 x 600 (53.15 x 23.62)
Table loading capacity	kg (lb.)	1,200 (2,640)
Table surface configuration <T-slot width x pitch x number of T-slot>		18 mm x 100 mm x 6 (0.71 in. x 3.94 in. x 6)

Spindle

Maximum spindle speed	min^{-1}	13,000 [8,000]
Maximum spindle speed <HSC option>	min^{-1}	20,000
Number of spindle speed ranges	step	1
Type of spindle taper hole		No. 40
Spindle bearing inner diameter	mm (in.)	80 (3.15)

Feedrate

Rapid traverse rate:		
- X-axis	mm/min (ipm)	30,000 (1,181.10)
- Y-axis	mm/min (ipm)	30,000 (1,181.10)
- Z-axis	mm/min (ipm)	30,000 (1,181.10)
Cutting feedrate <with high precision control>	mm/min (ipm)	1 – 30,000 (0.04 – 1,181.10)
Jog feedrate	mm/min (ipm)	0 - 5,000 (0 – 196.85) <20-step>

ATC

Type of tool shank		BT40 [CAT40] [DIN40] [HSK-A63] [Capto C5] [KM-50]
Type of retention knob		MORI SEIKI 90 deg type [45 deg <MAS-I>] [60 deg <MAS-II>] [DIN] [HSK]
Tool storage capacity	tools	30 [60] [90]
Maximum tool diameter <with adjacent tools>	mm (in.)	80 (3.15)
Maximum tool diameter <without adjacent tools>:		
- 12,000 min^{-1}	mm (in.)	150 (5.91)
- 8,000 min^{-1}	mm (in.)	150 (5.91)
- 20,000 min^{-1}	mm (in.)	100 (3.94)
Maximum tool length	mm (in.)	300 (11.81)
Maximum tool mass	kg (lb.)	8 (17.60) [12 (26.40)]
Maximum tool mass moment <From spindle gauge line>	N·m (ft·lbf)	12 (8.85)
Method of tool selection		Technical memory random
Tool changing time <tool-to-tool>	sec	1.3
Tool changing time <cut-to-cut> <ATC standby mode OFF>:		
- DIN	sec	3.49 <adjacent>, 3.49 <farthest>
- MAS	sec	3.45
Tool changing time <cut-to-cut> <ATC standby mode ON>:		
- DIN	sec	2.98 < adjacent >, 2.98 < farthest >
- MAS	sec	2.98

Motor

Spindle drive motor:		
- 12,000 min^{-1} <10%ED/cont>	kW (HP)	15/11 (20.00/14.67)
- 8,000 min^{-1} <25%ED/cont>	kW (HP)	[30/22 (40.00/29.33)]
- 20,000 min^{-1} <10 min/30 min/cont>	kW (HP)	18.5/15/11 (24.67/20.00/14.67)
Feed motor:		
- X-axis	kW (HP)	3.0 (4.00)
- Y-axis	kW (HP)	3.0 (4.00)
- Z-axis	kW (HP)	4.5 (6.00)
Coolant pump motor <50Hz/60Hz>	kW (HP)	0.73 x 2/1.21 x 2 (0.97 x 2/1.61 x 2)

Power source

Power sources <cont>	kVA	26.2
Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.50), 300 (79.20)

Tank capacity

Coolant tank capacity:		
- Standard	L (gal.)	416 (109.82)
- External chip conveyor specification	L (gal.)	[636 (167.90)]

Machine Size

Machine height <from floor>	mm (in.)	2,597 (102.24)
Floor space <width x depth>:		
- Standard	mm (in.)	3,084×2,851 (121.42×112.24)
- External chip conveyor specification	mm (in.)	[3,877×3,512 (152.64×138.27)]
Mass of machine	kg (lb.)	7,000 (15,400)

NC Unit

CNC Unit M730BM

Controlled axis

Controlled axis	X, Y, Z, MG
Simultaneously number of controllable axes	4-axes
Least input increment	0.001 mm (0.0001 in.)
Max commandable value	±99,999.999 mm (9,999.9999 in.)
Inch/metric conversion	
Machine lock	
Overtravel	
Door interlock	
Load monitoring function C	Soft-key type

Operation

Dry run	
Single block	
Jog feed	0 - 5,000 mm/min <20 steps>
Manual return to reference position	
Manual handle feed	Manual pulse generator: 1 unit x1, x10, x100 <per pulse>
Pulse handle feed	x1, x10, x100
Z-axis neglect	
Synchronous peck tapping	

Interpolation functions

Nano interpolation	
Positioning	
Uni-directional approach/unidirectional positioning	
Exact stop mode	
Tapping mode	
Cutting mode	
Exact stop	
Helical interpolation	Optional 2 axes and other 1 axis
Return to reference position	
Reference position return check	
Return from reference position	
Return to second reference position	Used for ATC/APC

Feed functions

Rapid traverse rate	Max. 30,000 mm/min (1,181.10 ipm)
Feed per minute/cutting federate <when using high-precision control <look-ahead control>>	1 – 30,000 mm/min (0.01 – 1,181.10 ipm)
Rapid traverse override	F0/1/10/25/100%
Feed per minute	
Constant tangential feedrate control	
Cutting feedrate clamp	
Automatic acceleration and deceleration	Liner type <rapid traverse>/ Exponential function type <cutting feed>
Feedrate override	0 - 200% <10% increments>
Feedrate override cancel	
Linear acceleration and deceleration after cutting feed	
High accuracy control <Look-ahead control>	

Program input

Optional block skip	
Max commandable value	±8-digit
Program number	4-digit
Absolute/incremental command	
Decimal point programming	Electrical calculator type decimal point programming is changeable using parameter.
Diameter specification/Radius specification	
Plane selection	
Rotary axis designation	
Rotary axis roll-over	
Coordinate system setting	
Automatic coordinate system setting	
Work coordinate system	
Programmable data input	
Sub-program call	Up to 8 nestings
Drilling cycle	
Programmable mirror image	
Custom macro common variables	200 variables <#100 - #199, #500 - #599>

Miscellaneous function/spindle speed function

Miscellaneous function <M function>	M4-digit
Auxiliary function lock	
Spindle speed function <S function>	S5-digit
Spindle override	50 - 150% <10% increments>
Spindle orientation	
Synchronous tapping	

Tool function/Tool offset function

Tool function (T function)	T8-digit
Number of tool offsets	200 sets <A set is defined as radius and length combination. If radius and length offset data are set individually, the value indicates the number of data.>
Tool offset data memory C	D/H code, geometry and wear offset data
Tool length correction	
Tool radius offset	
Tool offset	
MAPPS tool management system	

Mechanical accuracy compensation

Backlash compensation	±9,999,999 pulses
Rapid traverse/cutting feed backlash compensation	
Stored pitch error compensation	
Interpolation type pitch error compensation	

Editing function

Part program storage <in total>	125 KB <320 m (1,050 ft)>
Number of registerable programs <in total>	200 programs
Part program edit or program editing	Deletion, insertion, and alteration
Program protect	
Background editing	
Undo/Redo function <MAPPS>	
Line no. display <MAPPS>	

Setting and display

Status display	
Clock function	
Position read-out, position display	
Program comment display	48 characters
Parameter setting display	
Alarm display	
Alarm history display	
Operator's message history display	
Operation history display	
Running time display/No. of parts display	
Actual feedrate display	
Operating monitor screen	Load meter display etc.
Help function	
Self-diagnosis function	Includes alarm display, I/O signal diagnosis, ladder diagram
Operation panel: Display section	10.4" TFT color LCD

Data input/output

Input/output interface	USB
50 MB Program storage area <for MAPPS-DNC operation function, for data backup> <MAPPS>	Files up to 10 MB in size can be edited

Standard Equipment

Control unit

- Operating system <operation panel>: MAPPS IV

Table

- T-slot table

Spindle

- Spindle drive motor is 15/11 kW (20/15HP) <10%ED/ cont.> and max. spindle speed is 13,000 min^{-1}.
- Spindle cooling specifications - Fan cooler
- Type of tool shank BT40
- Type of retention knob - MORI SEIKI 90°
- Tool storage capacity is 30 tools.

Coolant

- Coolant system

Chip disposal

- Air blow for tool tip <compressed air supply of 300 L/min (79.2 gpm) is required for regular use>

Safety features

- Full cover
- Door interlock system: front door/ set up station door <for APC>/ electrical cabinet door
  Mechanical lock: front door/ set up station door <for APC>
- Low air pressure detecting switch
- Residual pressure exhaust valve

Others

- Automatic power-off system
- ATC shutter
- LED worklight
- T-nuts for table slots
- Leveling block
- Hand tools
- One set of operation and programming manuals