

Machine specifications (NHX4000 NHX4000 HSC)

Item			NHX4000	NHX4000 HSC
Travel	X-axis travel <longitudinal movement of saddle>	mm (in.)	560 (22.0)	
	Y-axis travel <vertical movement of spindle head>	mm (in.)	560 (22.0)	
	Z-axis travel <cross movement of pallet>	mm (in.)	660 (26.0)	
	Distance from pallet surface to spindle center	mm (in.)	80—640 (3.1—25.2) [T-slot: 60—620 (2.4—24.4)]	
	Distance from pallet center to spindle gauge plane	mm (in.)	70—730 (2.8—28.7)	
Pallet	Distance from floor surface to pallet surface	mm (in.)	1,050 (41.3) [T-slot: 1,070 (42.1)]	
	Pallet working surface	mm (in.)	400×400 (15.7×15.7)	
	Pallet loading capacity	kg (lb)	400 (880)	
	Max. workpiece swing diameter	mm (in.)	630 (24.8)	
	Max. workpiece height	mm (in.)	Tap pallet: 900 (35.4) [T-slot pallet: 880 (34.6)]	
	Pallet surface configuration		M16 (1/2-13 UNC) Tap: 24 holes Pitch 80 mm (3 1/8 in.)	
	Minimum pallet indexing angle		1° [0.001° <full 4th axis rotary table>]	
	Pallet indexing time <including clamping and unclamping time> (90°)	s	1.3 <1° indexing> [0.65 <full 4th axis rotary table>]	
Spindle	Max. spindle speed	min ⁻¹	12,000 [8,000]	20,000
	Number of spindle speed ranges		1	
	Type of spindle taper hole		No. 40	
	Spindle bearing inner diameter	mm (in.)	80 (3.1)	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Y, Z: 60,000 (2,362.2)	
	Feedrate	mm/min (ipm)	0—60,000 (0—2,362.2) <when using look-ahead control>	
	Jog feedrate	mm/min (ipm)	0—5,000 (0—197.0) <20 steps>	
ATC	Type of tool shank		BT40 [CAT40] [DIN40] [HSK-A63] [Capto C5] [KM-50]	
	Type of retention knob		MORI SEIKI 90° type [45° (MAS-I)] [60° (MAS-II)] [DIN] [Special (center through)]	
	Tool storage capacity		Ring type: 40 [60] Chain type, direct change type: [40] Chain-type: [120] Rack-type: [180] [240]	
	Max. tool diameter <with adjacent tools>	mm (in.)	70 (2.7)	
	Max. tool diameter <without adjacent tools>	mm (in.)	170 (6.6): ring type [140 (5.5): chain type, direct change type, chain-type, rack-type]	
	Max. tool length	mm (in.)	450 (17.7)	
	Max. tool mass	kg (lb.)	8 (17.6)	
	Max. tool mass moment <from spindle gauge line>	N · m (ft · lbf)	7.84 (5.78) <a tool with a mass moment greater than the maximum tool mass moment may cause problems during ATC operations even if it satisfies other conditions>	
	Method of tool selection		Technical memory random: 40 [60] tools <ring type> Fixed address, shorter route access: [40 tools <chain type, direct change type>]	
	Tool changing time	Tool-to-tool	0.9 [2.4: 40 tools <chain type, direct change type>]	
		Chip-to-chip <MAS>	2.8: 40 tools <ring type> [3.2: 40 tools <chain type, direct change type>]	
		Chip-to-chip	40 tools <ring type> Max.: 7.7 Min.: 2.8 [60 tools <ring type>] Max.: 9.9 Min.: 2.8	
	● The time differences are caused by the different conditions (travel distances, etc.) for each standard.		[40 tools <chain type, direct change type>] Max.: 6.0 Min.: 3.1	
APC	Number of pallets		2	
	Method of pallet change		Turn-type	
	Pallet changing time	s	8	
Motor	Spindle drive motor	12,000 min ⁻¹	kW (HP)	15/11 (20/15) <10%ED/cont>
		8,000 min ⁻¹	kW (HP)	[30/18.5 (40/24.7) <15%ED/cont>]
		20,000 min ⁻¹	kW (HP)	—
	Feed motor	X/Y/Z axes	kW (HP)	3/3/3 (4/4/4)
		B axis	kW (HP)	3 (4)
Power sources <standard>	Coolant pump motor		kW (HP)	1.2 + 1.2 (1.6 + 1.6)
	Electrical power supply <cont>		I94296A01 kVA	31.3
Tank capacity	Compressed air supply	MPa (psi), L/min (gpm)	0.5 (72.5), 420 (110.9) (when the tool tip air blow is regularly used, air supply of more than 300 L/min (79.2 gpm) is separately required.) <ANR>	
	Coolant tank capacity	L (gal.)	800 (211.2) <external chip conveyor specifications>	
Machine size	Machine height <from floor>	mm (in.)	2,513 (98.9)	
	Floor space <width × depth>	mm (in.)	[2,720 × 4,224 (107.1 × 166.3) <external chip conveyor specifications>]	
	Mass of machine <including coolant tank>	kg (lb.)	7,600 (16,720)	

[] Option ISO: International Organization for Standardization JIS: Japanese Industrial Standard HSC: High Speed Cutting

NHX4000 specifications (101116)

- 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.
- Please use a dual contact tool when cutting at 15,000 min⁻¹ or higher.
- ANR: ANR refers to a standard atmospheric state; i. e., temperature at 20 °C (68 °F), absolute pressure at 101.3 kPa (14.7 psi) and relative humidity at 65%.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.
- Compressed air supply: please be sure to supply clean compressed air <air pressure: 0.7 MPa (101.5 psi), pressure dew point: 10 °C (50 °F) or below>.
- A criterion capacity to select a compressor is 90 L/min (23.8 gpm) per 0.75 kW (1 HP).
- However, this figure may differ depending on the type of compressors and options attached. For details, please check the compressor specifications.
- The details given above and the specifications are subject to change without notice.