LNH-500 SPECIFICATION

SPECIFICATION	Unit	LNH-500
Controller		MITSUBISHI
X/Y/Z Travel		
X-axis Travel	mm (inch)	730 (28.7)
Y-axis Travel	mm (inch)	730 (28.7)
Z-axis Travel	mm (inch)	880 (34.7)
Distance From Spindle Center To Table Surface	mm (inch)	80-810 (3.1-31.9)
Spindle Nose To The Center Of Table	mm (inch)	70-950 (2.8-37.4)
Height From Table Surface To Floor	mm (inch)	1200 (47.2)
Distance From Machine To Center Of Table	mm (inch)	520 (20.5)
Spindle		
Spindle Type	Type	Built-in
Spindle Speed	rpm	15000
Spindle Motor	kw (hp)	28 (37.5)
Spindle Torque	Nm	95.2
Spindle Nose	Type	BBT-40(45°) OPT. HSK-A63
Rapid Travel		
Rapid Travel (X/Y/Z)	m/min (ipm)	60/60/60 (2362/2362/2362)
Cutting Feedrate	m/min (ipm)	20(787)
Motor		
X/Y/Z Axial Motor Power	kw (hp)	4.5 / 7 / 3 (6/9.4/4)
X/Y/Z Axial Motor Torque	Nm	37.2 / 49 / 22.5
B Axis Motor Power	kw (hp)	2 (2.7)
B Axis Motor Torque	Nm	13.7
APC Motor Power	kw (hp)	2 (2.7)
APC Motor Torque	Nm	13.7
Rotating Table		
Table Size	mm (inch)	500x500 (19.7x19.7)
Max. Table Capacity	kgf (lbs)	500 (1102)
Rotary table min. scale	degree	0.001°
T-Slot Size	mm	24-M16xP2.0 P=100
Max. Workpiece Range	mm (inch)	⌀ 800x1000 (⌀31.4x39.3)
APC		
Table Size	mm (inch)	500x500 (19.7x19.7)
Table Quantity	pcs	2
APC max. allowable workpiece load	kgf (lbs)	500x2 (1102x2)
APC Change Time	sec	9 (Full load 10 sec.)
Motor	kw (hp)	2 (Servo)(2.7)
Tool Magazine		
Tool Change Type	Type	Arm type
Cambox Reduction Ratio		1/28
Motor driver power	kw	1.5 (Inverter drive)
Tool Capacity	set	40 (OPT. 60)
Tool Weight	kgs (lbs)	12 (27)
Max. Tool Length	mm (inch)	550 (21.7)
Max. Tool Diameter (W/O Adjacent Tool)	mm (inch)	⌀70 / ⌀170 (⌀2.7/ ⌀6.7)
Tool Change Time	sec	4
Other Specification		
Machine Dimension(LxWXH)	mm (inch)	5388/4118/3043 (212.1/162.1/120)
Net Weight	kgs (lbs)	11000 (24251)
Compressed Air Supply	kgf/cm^2 (psi)	6-6.5(85.34-92.45)
Power Supply	kva	40
Lubricating Tank Capacity	L	4
Water Tank Capacity	L	800
Chip Conveyor	type	Link

OPTIONAL EQUIPMENT

- Controller FANUC / SIEMENS
- Built-in 12000/20000rpm spindle
- Arm Type 60/90
- Servo tool magazine
- CTS 40/70 bar
- 3 axes & B-axis linear scale (FAGOR/ HEIDENHAIN)
- Tool measurement system (TS-30)
- Work piece measurement system (OPM60)
- Grease lubrication
- Screw type chip conveyor
- 4 way APC distributor

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L.K. MACHINERY CORP.

LNH-500 | High Precision, High Speed Horizontal Machining Centers

LNH-500, the only one of main features is environmentally friendly machine, conserve the resources and beauty on earth.

High speed and rigidity of LNH-500 machine, is comparatively light in total machine weight, with up to 20% accelerated feed rate, and the structure of machine body is used the high rigid casting.

Potentially used from low speed in casting processing to high speed in aluminum processing, to meet a wide range of needs in variety, but mainly for automotive industry.

Basic Structure ▸▸ Rapid travel increased by 20%

Rapid Travel (X/Y/Z)	Cutting feedrate (X/Y/Z)	Max. Acceleration (X/Y/Z)
Prior model HT-500 48m/min → LNH-500 60m/min	Prior model HT-500 10m/min → LNH-500 60m/min	LNH-500 0.63/0.78/0.68G (6.2/7.6/6.7m/s²)

* SIEMENS Controller up to 60 m/min

▸▸ High-rigidity Bed

X axis and Y axis linear guideway configure high position to achieve high rigid machine body.

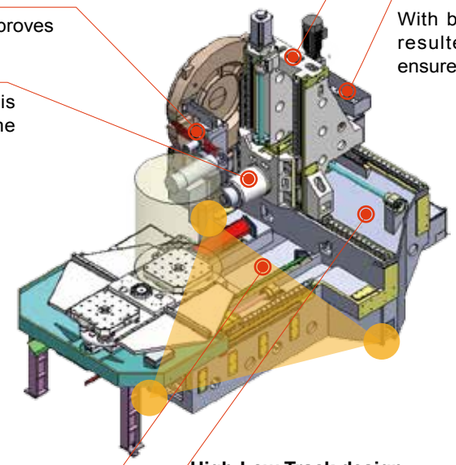
Symmetrical column design greatly reduce the effects of thermal displacement.

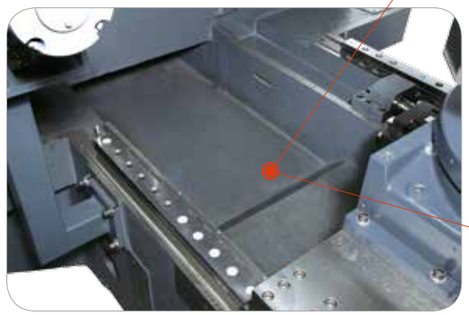
Three points support structure

Three points support structure improves the installation of stability.

With built-in spindle to avoid vibration resulted from high-speed cutting, to ensure processing quality.

60 m/min rapid travel of 3 axis is the fastest one among the same level in current industry.





High-Low Track design

The base is designed in high and low rails with lightweight column, which shows the lowest energy consumption and optimal characteristics.
The large gap between high and low rail design, not only with the best cutting rigidity, but largely enhance the stability of the base.

Central chip removal system design

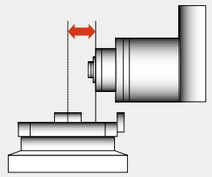
The middle of the base designed especially for chip removal system to clear chips efficiently.

▸▸ A shorter tool can be used

By shorten minimize the distance from spindle nose to the table centre for 84mm , and shorter tool can be used to achieve higher rigidity.

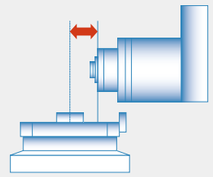
The minimum distance from the spindle nose to table center

Prior model HT-500



154mm

LNH-500

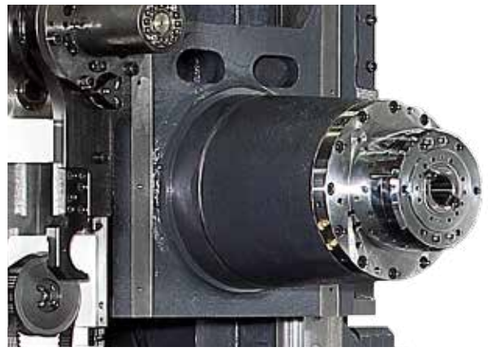


70mm

LNH-500 Traverse (X/Y/Z)

730 / 730 / 880mm

Spindle



LNH-500	Standard specification
The. max. spindle speed	15,000min^{-1}
Spindle power	35/28 kW (S6-40%, TS= 2min/continuous)

Increased the inner diameter of the spindle bearing

The inner diameter of the spindle bearing was increased to improve rigidity. At the same moment spindle motor provides the maximum output of the built-in spindle power.

Symmetric spindle configuration

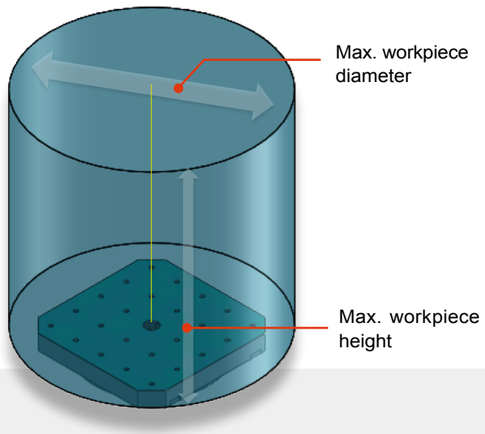
A spindle cutting fluid connection, a piping of cooling oil and an assembling bolt are assembled due to spindle center in a symmetric spindle configuration. Such feature may help to reduce heat distortion, vibration suppression and keep high rigidity of the structure.

Maze type spindle structure

Maze type spindle structure is used to prevent ingress the cutting fluid into the spindle, such feature improves the durability of the spindle.

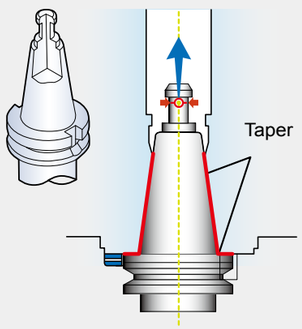
Workpiece dimension

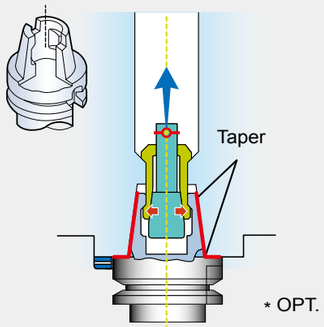
Max. workpiece height	Max. workpiece diameter	Max. table capacity
1000mm	Ø800mm	500kgs [OP 600kgs]



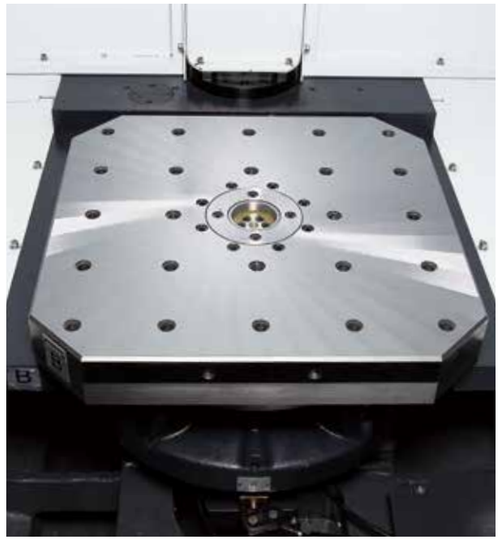
Double-sided constraint configuration

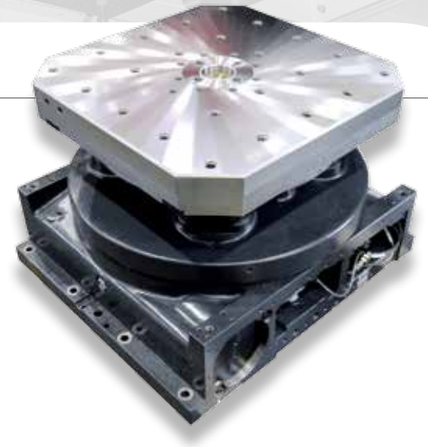
The flexural rigidity of the tool is increased by specifying the end surface slope in addition to the spindle slope. Such feature extends tool life, improves cutting performance and machining accuracy.





Rotary table (B-axis)





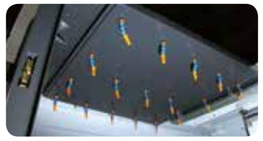
Machine is equipped with high-speed and high-precision will increase the machine work efficiency and reliability.

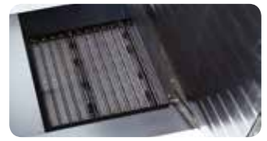
Type of rotary table	Standard	1° rotary table
Indexing	0.001°	1°

Chip removal system

Chip flushing device, cooling device

Chip conveyor is located in the middle of the machine, which provides fast and smooth removal of chips from working and loading areas of machine.





Magazine

Tool Storage Capacity

Disk type

40 set **60** set OP

Chain type

120 set OP

This machine is installed with the high speed indexing and disk type magazines (40 tool specs) as standard. It comes up with the disk and chain type magazines for optional usage.

Max. Tool length

Prior model HT-500 400mm → **LNH-500 550mm**

Max. tool weight

LNH-500 12kg

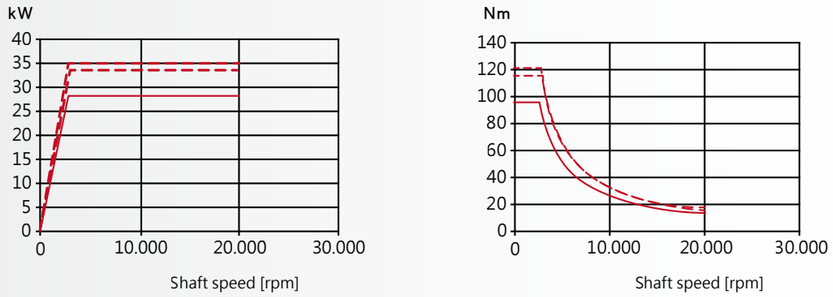
Max. tool diameter (no adjacent tool)

Prior model HT-500 Ø160mm → **LNH-500 Ø170mm**

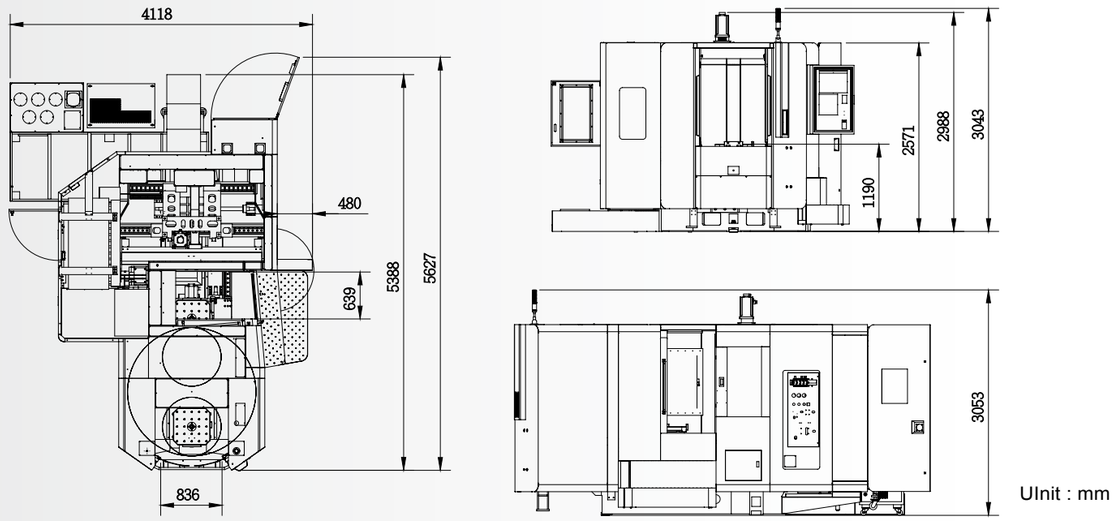
Tool changes per sec

LNH-500 4sec

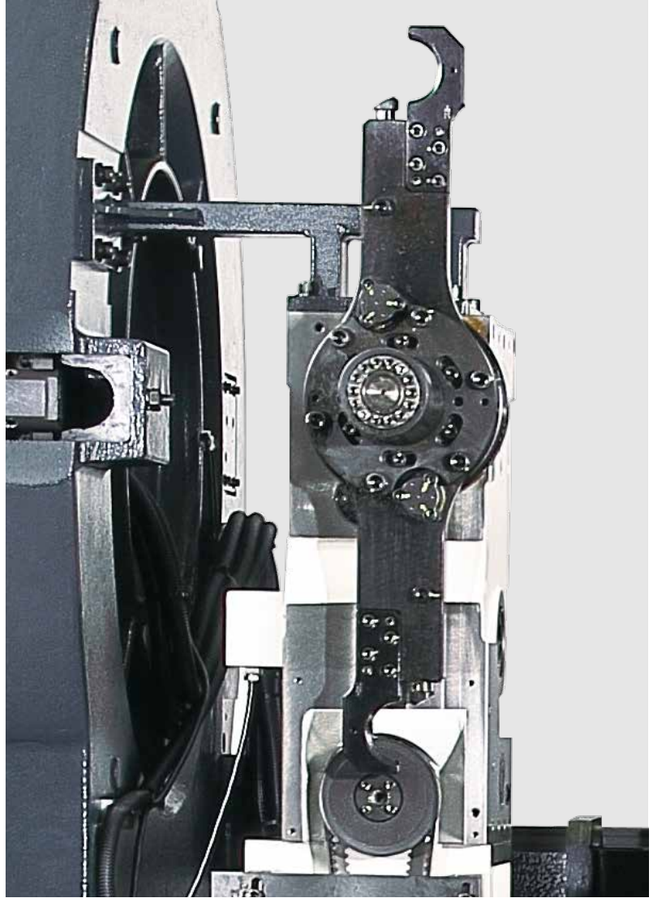
Torque Curve



Floor Plan



UInit : mm



Automatic Tool Changer (ATC)

Reliable ATC Automatic Tool Change System

ATC cam mechanism adopts inverter drive to increase the reliability of tool change, support the multivariate variable speed adjustment and use by hold control rod fix tool,even much longer and heavier tool also can be fixed will and achived reliable tool change.

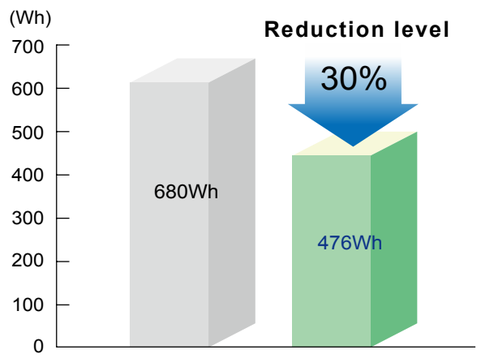
Environment Protection

For the global environment, the main design of LNH-500 is environment protection.

- Oil Pressure and Frequency inverter (for energy saving) design
- Lubricating grease is used to achieve ‘Environmental Performance’

Reduce power consumption 30%

The application of energy efficient motor system & power saving function reduce energy consumptions by 40%. Reduce cost effect obviously to meet the main design of environmental protection.



Reduce standby power consumption 57%

Power save operations of standby time is designed to minimize power consumption of machine’s standby up to 57% for energy saving.