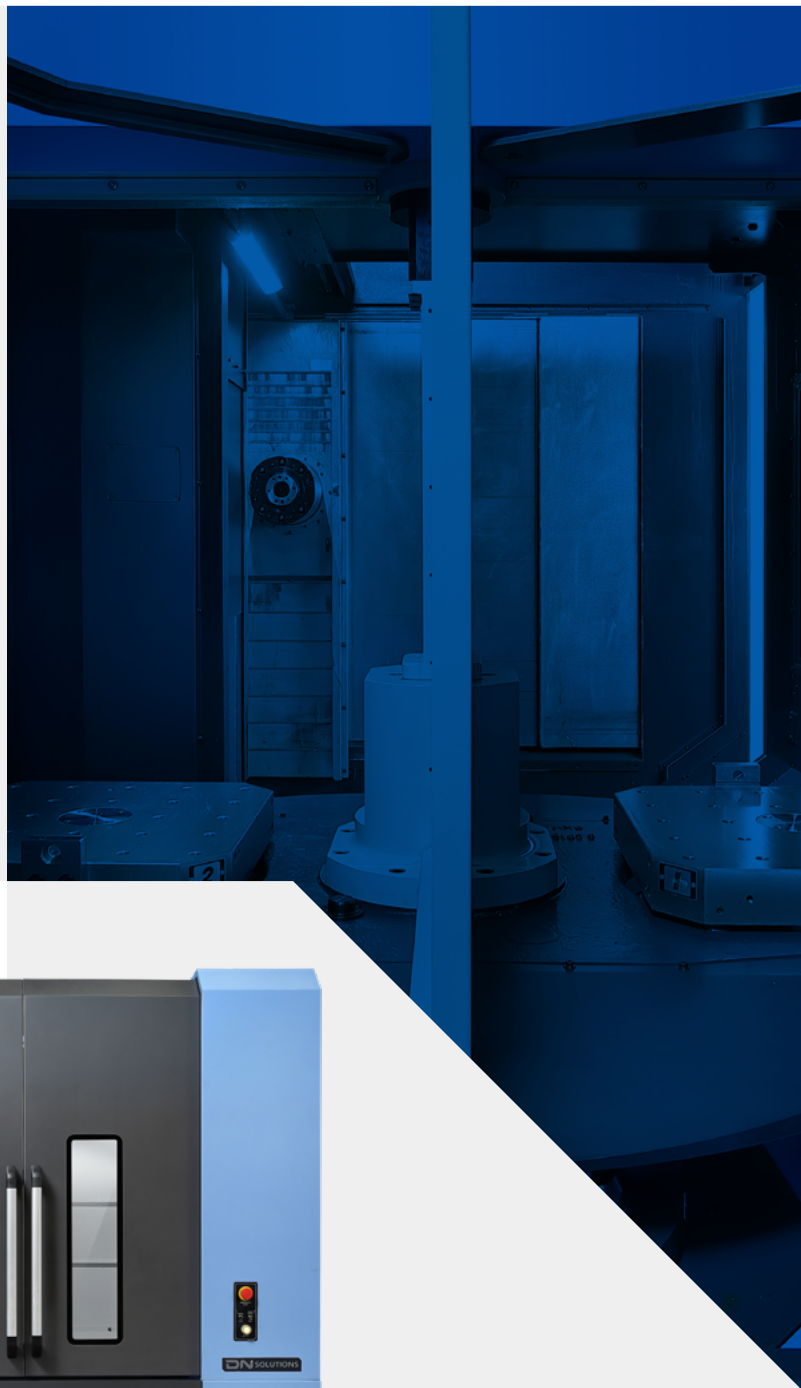
DN SOLUTIONS

NEW COMPACT HORIZONTAL MACHINING CENTER

# NHC 4000·5000



# NEW NHC 4000·5000

Compact horizontal machining center NHC 4000/5000 is designed to provide maximum productivity, accuracy, and number of convenient features. The compact design offers flexibility to utilize limited factory space efficiently.

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## ENHANCED DESIGN

A new design was applied considering user convenience, and usability was increased with a touch screen and a wide screen.

## INCREASED PRODUCTIVITY

The 15000r/min direct spindle option was added to expand customer choice and productivity was maximized by increasing rapid traverse.

## IMPROVED ERGONOMICS

Newly designed operation panel and built-in pallet setup switch further improves ergonomics of the machine.

# BASIC STRUCTURE

Highly rigid machine structure and compact design to meet all users' needs.

## Robust machine structure

DN Solutions engineers have performed FEM analysis to design the most durable and stable structure. As a result, the machine is capable of extensive heavy cutting process.

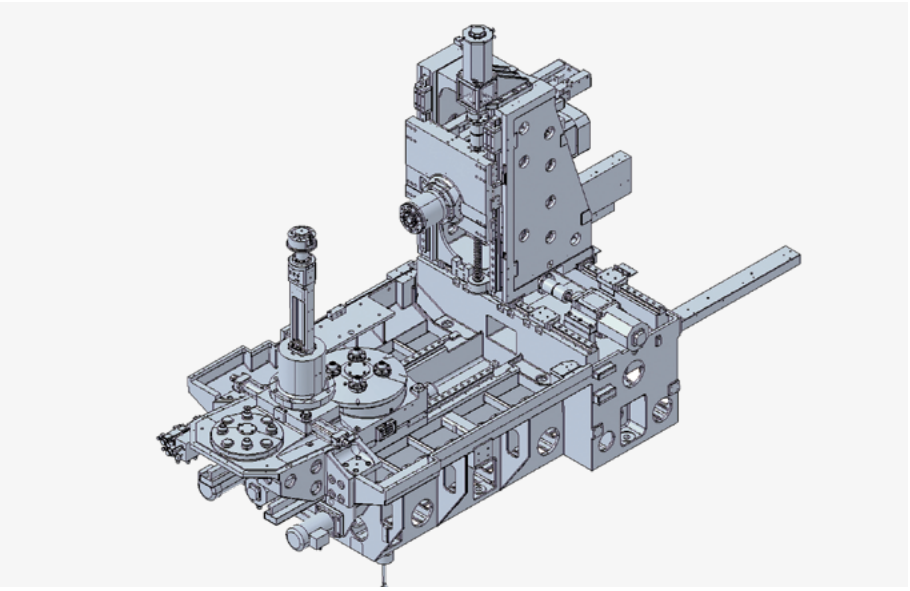
**Travel distance (X / Y / Z axis)**

**NHC** 4000

**600 / 560 / 565** mm
(23.6 / 22.0 / 22.2 inch)

**NHC** 5000

**850 / 700 / 750** mm
(33.4 / 27.5 / 29.5 inch)



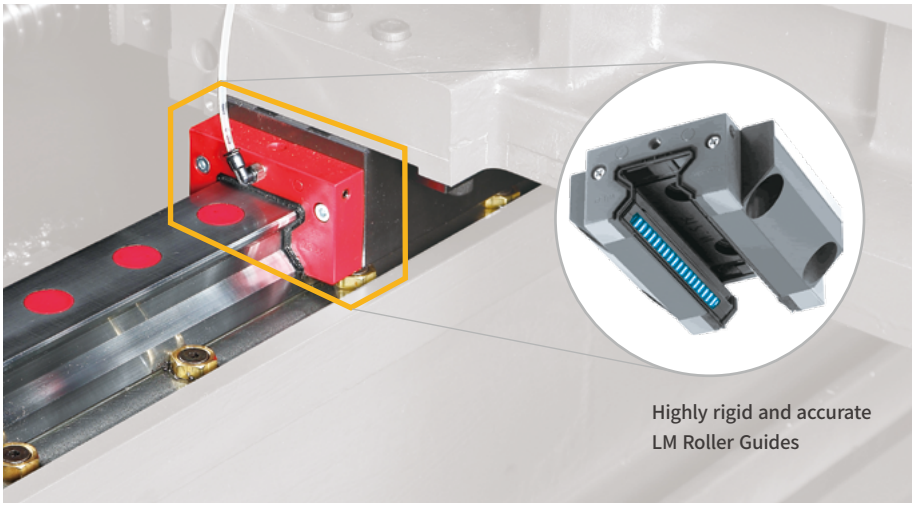
## High speed roller guides

LM roller guides on all axes increases machine reliability and productivity.

**Rapid traverse (X / Y / Z axis)**

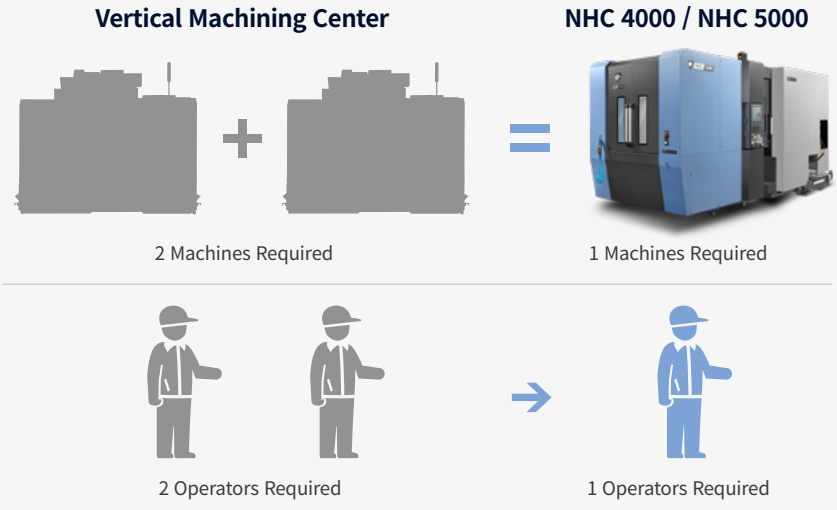
**NHC** 4000 / **NHC** 5000

**48 / 40 / 48** m/min
(1889.8 / 1574.8 / 1889.8 ipm)




## Compact design

The compact design allows users to utilize limited factory space efficiently.



# SPINDLE | TOOL MAGAZINE

15000 r/min spindle option has been added for optimum productivity in high speed machining application.

**Max. spindle speed**

**8000** r/min
{12000/15000} r/min OPTION

**Max. spindle power**

**18.5 / 11** kW (24.8 / 14.7 Hp)

**Max. spindle torque**

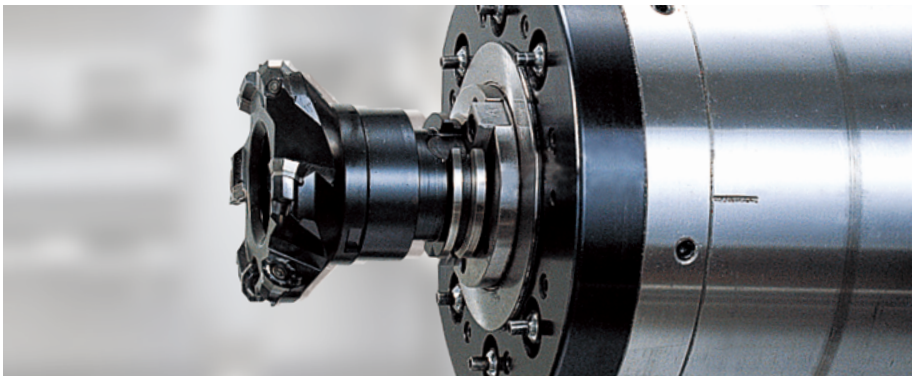
**353.4** N · m (260.6 ft-lbs)
117 N · m (86.3 ft-lbs) OPTION

**Type**

**ISO #40**

## High speed spindle

Users can select different types of high performance spindle to meet their machining needs. Standard 8000 r/min spindle can deliver up to 353.4 N·m of torque to perform extreme heavy cutting process, while 15000 r/min spindle option can provide maximum productivity in high speed cutting process.



## Automatic tool changer (ATC)

Cam-type ATC provides high reliability and durability, and minimizes non-cutting time.

**Tool storage capacity**

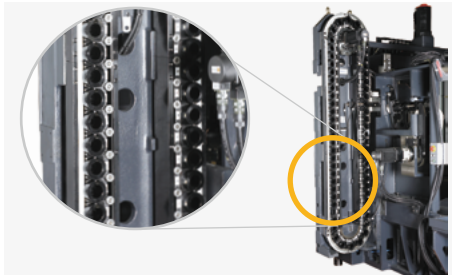
**40** tools
60 / 80 / 120 / 170 / 262 tools OPTION

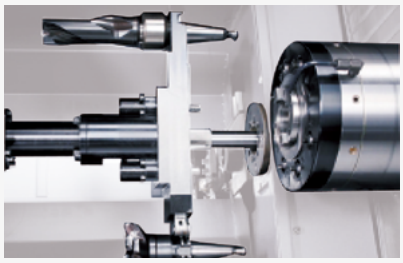
**Tool change time**

**1.5** s

## Wide range of options to meet more users' needs

Wide selections of tool magazines are available per user's preference. These automatic tool magazines are operated by our newest servo motor to minimize tool change time, and the fixed address tool storage system makes it easy for users to select desired tool without confusion.





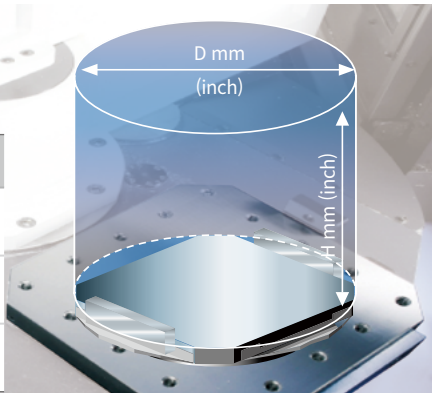
# AUTOMATIC PALLET CHANGER (APC)

More reliable and conveniently designed high speed automatic pallet changer.

## High speed automatic pallet changer

Standard high speed rotary type APC provide extreme reliability and a large work space allows users to easily setup the pallet.

| | NHC 4000 | NHC 5000 |
|---|---|---|
| Pallet Size | 400 x 400 mm (15.7 x 15.7 inch) | 500 x 500 mm (19.7 x 19.7 inch) |
| Max. Workpiece Size (DXH) | Ø600 x H800 mm (23.6 x 31.5 inch) | Ø800 x H900 mm (31.5 x 35.4 inch) |
| Max. Load | 400 kg (881 lb) | 500 kg (1102.3 lb) |



# STANDARD | OPTIONAL SPECIFICATIONS

A range of options is available to suit individual requirements.

| Division | Option | | NHC 4000 | NHC 5000 |
|---|---|---|---|---|
| Tool Magazine | 40 tools | | ● | ● |
| | 60 tools | | ○ | ○ |
| | 80 tools | | ○ | ○ |
| | 120 tools | | ○ | ○ |
| | 170 tools | | ○ | ○ |
| | 262 tools | | ○ | ○ |
| Tool Specifications | BT40 | | ● | ● |
| | CAT40 | | ○ | ○ |
| | DIN40 | | ○ | ○ |
| | HSK A-63 | | ○ | ○ |
| Mist Collector | Mist Collector | | ○ | ○ |
| Spindle | 8000 r/min | 18.5 / 11 kW | ● | ● |
| | 12000 r/min | 18.5 / 11 kW | ○ | ○ |
| | 15000 r/min | 18.5 / 11 kW | ○ | ○ |
| | Spindle air curtain | | ● | ● |
| Hydraulic fixtures | Hydraulic fixture line | 2 X 2 | ○ | ○ |
| | | 4 X 4 | ○ | ○ |
| | | 6 X 6 | ○ | ○ |
| | | 8 X 8 | ○ | ○ |
| | Hydraulic fixture unit | | ○ | ○ |
| Automatic Workpiece Measurement Device | OMP60_RENISHAW | | ○ | ○ |
| | RMP60_RENISHAW | | ○ | ○ |
| Automatic Tool Measurement Device | BK 9 | | ○ | ○ |
| | Limit Switch (OMRON) | | ○ | ○ |
| | TS27R | | ○ | ○ |
| Chip Handling System | Chip conveyor | Hinged type | ○ | ○ |
| | | Scraper type | ○ | ○ |
| | | Drum type | ○ | ○ |
| | Chip bucket | | ○ | ○ |
| Coolant | FLOOD | | ● | ● |
| | FLUSHING | | - | ○ |
| | SHOWER | | ○ | ○ |
| | TSC | 1.5 kW 2.0 MPA | ○ | ○ |
| | | 3.0 kW 3.0 MPA | ○ | ○ |
| | | 4.0kW 2.0MPA | ○ | ○ |
| | | 7.5 kW 7.0 MPA | ○ | ○ |
| | Water soluble Coolant Chiller** | | ○ | ○ |
| | Coolant gun | | ○ | ○ |
| | Oil skimmer | | ○ | ○ |
| Table | Index table (1°) | | ● | ● |
| | Rotary Table (0.001°) | | ○ | ○ |
| Pallet | Tapped pallet | | ● | ● |
| | T-Slot pallet | | ○ | ○ |
| AIR | Pallet air seat | | ○ | ○ |
| | AIR GUN | | ○ | ○ |
| MPG | Portable MPG | | ● | ● |
| Customized Special Option | Coolant level switch : Sensing level - Low / High | | ○ | ○ |
| | Tool ID (Internal-matrix) : Balluff Sensor | | ○ | ○ |
| | Tool Management (TMT1, TMT2, TMT8 DIGIT) | | ○ | ○ |
| | Ball screw shaft cooling(X/Y/Z axis) | | ○ | ○ |
| | Setup shower coolant | | ○ | ○ |
| | Auto door w/Safty edge | | ○ | ○ |
| | U-axis drive : DANDREA( TA-C125) | | ○ | ○ |
| | MQL(Maker : VOGEL) | | ○ | ○ |
| | Smart thermal control: Sensor type (Spindle & Structure) | | ○ | ○ |
| | TSA | | ○ | ○ |
| | Spin window for main door (Electric type/ Maker:T2K) | | ○ | ○ |

※ *Please contact DN Solutions for detailed specification information.*
* *When using a semi-synthetic type or synthetic type, contact our sales representative or service center in advance.*
** *Technical consultation is mandatory for the chilling of non-water soluble coolant*

● *Standard* ○ *Optional* X *Not applicable*



**Fire Safety Precautions** | There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before using the machine.

# PERIPHERAL EQUIPMENT

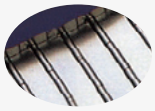
## Diverse Options

Proper chip disposal is very important for improving productivity and environment.  Therefore, we recommend better chip management for users to work in a safer working environment.

### Chip Conveyor OPTION

Scraper type

Hinge type



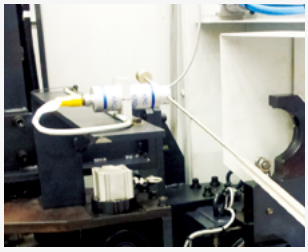
Drum filter type

### Environment-friendly Devices

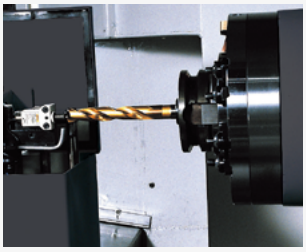
Oil skimmer OPTION


Mist Collector OPTION

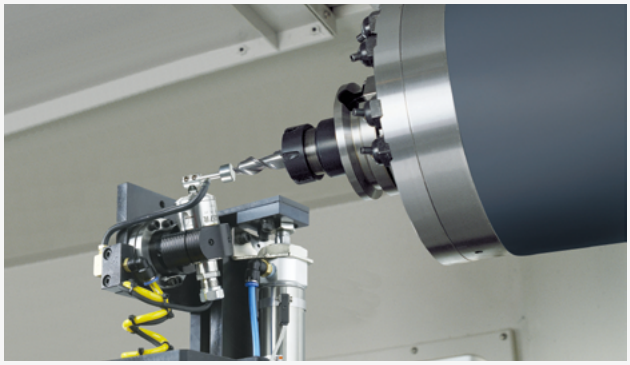
### Measurement Systems



Auto tool damage detection device I (BK 9) OPTION



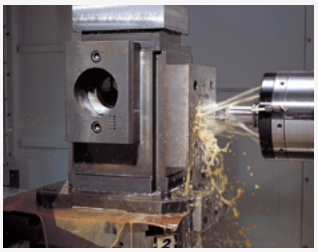
Auto tool damage detection device II (OMRON) OPTION



Automatic tool measuring device (TS 27R) OPTION

### Chip Disposal System

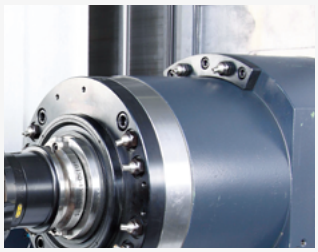
FLUSHING COOLANT OPTION



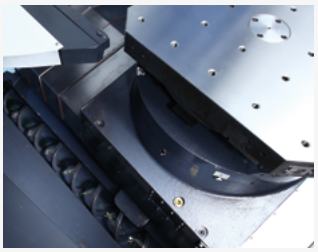
FLOOD COOLANT

SHOWER COOLANT OPTION

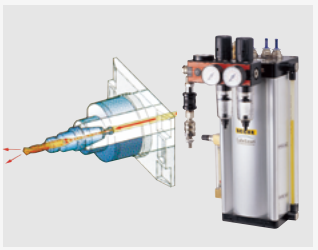
COOLANT GUN OPTION



COOLANT SPRAY GUN ON THE SPINDLE HEAD



SCREW CONVEYOR



MQL SYSTEM OPTION
MISTING DEVICE

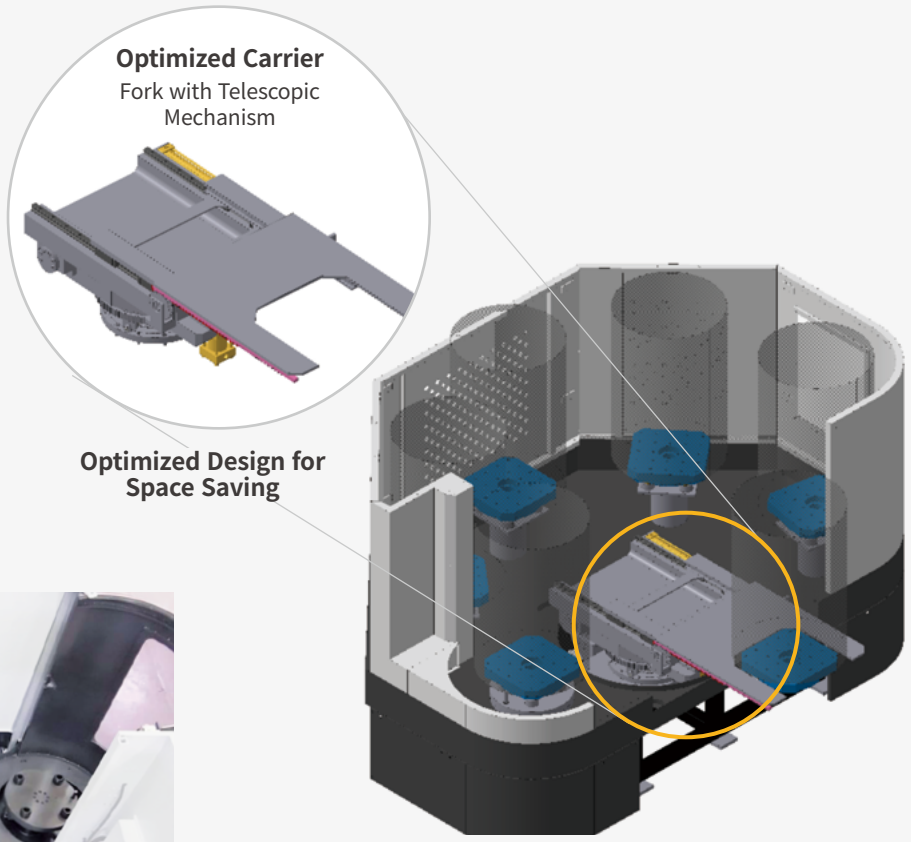
SPINDLE-THROUGH COOLANT SPRAY DEVICE (TSC) OPTION

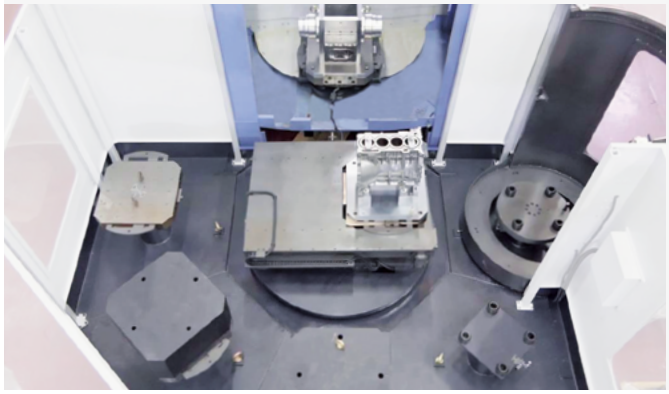
# DN ROUND STORAGE

**Compact size slim multi pallet system for new HMC taper #40 series.**

## Features

- Optimized slim design for space saving & minimal invest cost
- Telescopic mechanism fork like Linear Pallet System II
- Simple installation and easy maintenance
- Field retrofit available



## Machine Specifications

| Available model | | | DN Round Storage 4000 | DN Round Storage 5000 | DN Round Storage 5500 |
|---|---|---|---|---|---|
| | | | NHP 4000 / NHC 4000 | NHP 5000 / NHC 5000 | NHP 5500[2nd] / NHM 5000 / DHF 5500 |
| Pallet dimension | | mm (inch) | 400 x 400 (15.7 x 15.7) | 500 x 500 (19.7 x 19.7) | |
| Workpiece diameter | | mm (inch) | 630 (24.8) / 600 (23.6) | 800 (31.5) | 850 (33.5) |
| Workpiece height | | mm (inch) | 900 (35.4) / 800 (31.5) | 1000 (39.4) / 900 (35.4) | 1100 (43.3) |
| Workpiece weight | | kg (lb) | 400 (881.8) | 500 (1102.3)<br>{700 (1543.2) : NHP 5000}* | 800 (31.5)<br>{1000 (39.4) : NHP 5500 [2nd]} |
| Number of pallet | | ea | 6 | | |
| Magazine type | | | Buffer Station type with Carrier | | |
| Operation | | | PLC operation (Built-in Control) | | |
| Drlving mechanism | Rotating Axis | | Servo Motor & Reduction Gear | | |
| | Lifting Axis | | Hydraulic Cylinder | | |
| | Forking Axis | | Hydraulic Cylinder & Rack/Pinion | | |
| Dimension(Basic) | | mm (inch) | 3085 x 2015 (121.5 x 79.3) | 3630 x 2415 (142.9 x 95.1) | 3680 x 2440(144.9 x 96.1) |

*Please contact DN Solutions to select detail specifications

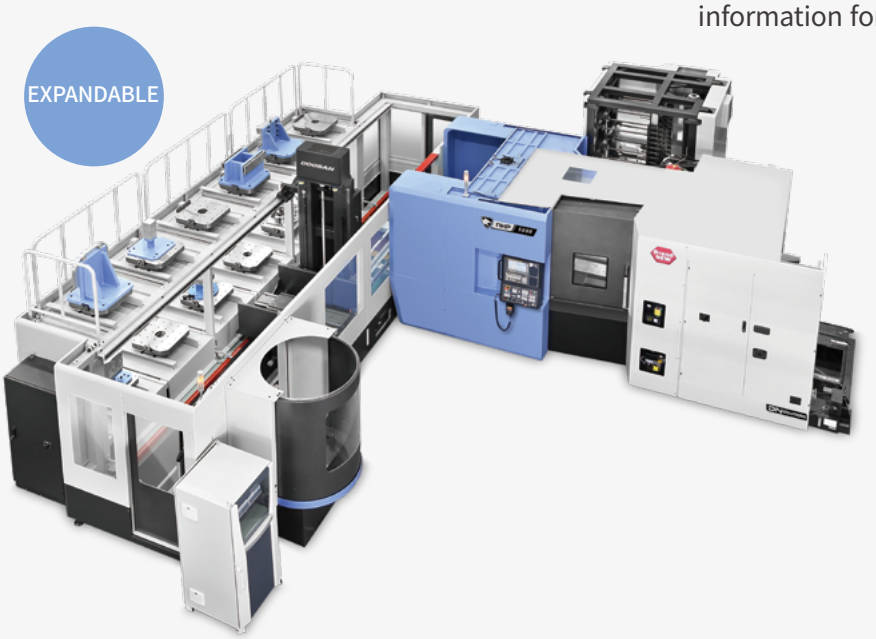
*{ } : option

# LPS (LINEAR PALLET SYSTEM)

LPS 4000 / 5000 is deigned to provide optimized system for the user wants space saving & high productivity linear pallet system
in pallet size both 400 mm x 400 mm (15.7 inch x 15.7 inch) and 500 mm x 500 mm (19.7 inch x 19.7 inch) with minimum invest cost.

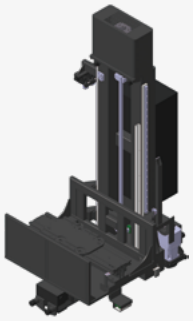
## Features

- Optimized Slim design for space saving & minimal invest cost
- Optimized AGV of single mast & single fork structure
- Simple installation in one piece
- Easy field retrofit to DN Solutions horizontal machining center
- User friendly intuitive way to register basic information for flexible manufacturing




## Optimized AGV

- Lifting axis with ball screw & LMG
- Optimized AGV of single mast & single fork structure



## Machine Specifications

| Available model | | LPS 4000 | LPS 5000 | |
|---|---|---|---|---|
| | | NHP 4000 / NHC 4000 | NHP 5000 / NHC 5000 | DVF 6500 W / APC |
| Pallet dimension | mm (inch) | 400 x 400 (15.7 x 15.7) | 500 x 500 (19.7 x 19.7) | |
| Number of pallet | ea | 12 - 72 | | |
| Workpiece diameter | mm (inch) | 630 (24.8) / 600 (23.6) | 800 (31.5) | 630 (24.8) |
| Workpiece height | mm (inch) | 900 (35.4) / 800 (31.5) | 1000 (39.4) / 900 (35.4) | 430 (16.9) |
| Workpiece weight | kg (lb) | 400 (881.8) | 500 (1102.3)<br>{700(1543.2) : NHP 5000}* | 500 (1102.3) |
| Axis control | | Servo | | |
| Forking type | | Single Fork (Telescopic Mechanism) | | |
| Turntable Indexing | | 45° | | |
| Power supply (AGV) | | Trolley Bar | | |
| Communication | | Optical | | |
| Number of machines | | 1 ~ 7 | | |
| Number of setup stations | | 1 ~ 4 | | |
| Dimension(Basic) | mm (inch) | 6890[L] x 2380 [w] (274.8 x 93.7) | | |

** Please contact DN Solutions to select detail specifications*

** { } : option*

# DN SOLUTIONS FANUC i PLUS

Fanuc i Plus maximizes customer productivity and convenience.

### 15” Touch screen + New OP

DN Solutions Fanuc i Plus’ operation panel enhances operating convenience by incorporating common-design buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.

### DN Solutions Fanuc i Plus

- 15-inch color display
- Intuitive and user-friendly design

### USB and PCMCIA card QWERTY keyboard

- EZ-Guide i standard
- Ergonimic operator panel
- 4MB Memory ▪ Hot keys
- Enhance AICC BLOCK
- Touch pen provided as standard

### PCMCIA Card

The PCMCIA card enables uploading and downloading of the NC program, NC parameters, tool information, ladder programs, and also supports DNC operation.

### USB Port

The USB memory stick enables uploading and downloading of the NC program, NC parameters, tool information and ladder programs. (DNC operation is not supported.)

## NUMERIC CONTROL SPECIFICATIONS

FANUC

| Division | | Specifications | NHC 4000 / NHC 5000 DN Solutions Fanuc i Plus |
|---|---|---|---|
| Controlled axis | Controlled axes | | 4 axes (X, Y, Z, B) |
| | Simultaneously controlled axes | | 4 axes |
| | Additional controlled Axis | Add 1 Axis (5th Axis) | ○ |
| Data input/output | Fast data server | | ○ |
| | Memory card input/output | | ● |
| | USB memory input/output | | ● |
| Interface function | Embedded Ethernet | | ● |
| | Fast Ethernet | | ○ |
| | Enhanced Embedded Ethernet function | | ● |
| Operation | DNC operation | Included in RS232C interface. | ● |
| | DNC operation with memory card | | ● |
| Program input | Workpiece coordinate system | G52 - G59 | ● |
| | Addition of workpiece coordinate system | G54.1 P1 X 48 (48 pairs) | ● |
| | Tool number command | | T2 digits |
| | Tilted working plane indexing command | G68.2 TWP | ○ |
| Feed function | AI contour control I | G5.1 Q_, 40 Blocks | X |
| | AI contour control II | G5.1 Q_, 200 Blocks | ● |
| | | G5.1 Q_,400Blocks | ✪ |
| | | G5.1 Q_, 600 Blocks | X |
| | | G5.1 Q_, 1000 Blocks | X |
| | High smooth TCP | | X |
| Operation Guidance Function | EZ Guidei (Conversational Programming Solution) | | ● |
| | iHMI with Machining Cycle | Note *1) Only with 15" Touch LCD standard | ● |
| | EZ Operation package | | ● |
| Setting and display | CNC screen dual display function | | ● |
| Network | FANUC MTConnect | | ✪ |
| | FANUC OPC UA | | ✪ |
| Others | Display unit | 10.4" color LCD | X |
| | | 15" color LCD | X |
| | | 15" color LCD with Touch Panel | ● |
| | Part program storage size & Number of registerable programs | 640M(256KB)_500 programs | X |
| | | 1280M(512KB)_1000 programs | X |
| | | 2560M(1MB)_1000 programs | X |
| | | 5120M(2MB)_1000 programs | ● |
| | | 10240M(4MB)_1000 programs | X |
| | | 20480M(8MB)_1000 programs | X |
| | | 2560M(1MB)_2000 programs | X |
| | | 5120M(2MB)_4000 programs | X |
| | | 10240M(4MB)_4000 programs | X |
| | | 20480M(8MB)_4000 programs | X |

*Network: FANUC MTConnect and FANUC OPC UA available.*

● *Standard* ○ *Optional* X *N/A* ✪ *Available*

**1) The number of look-ahead blocks may be changed or limited depending on the peripheral device or the configuration of the internal NC system.*

**2) Available Option only with Fanuc i plus iHMI*

# EZ WORK

The software developed by DN Solutions features numerous functions designed for convenience and ease of operation.

## EZ work

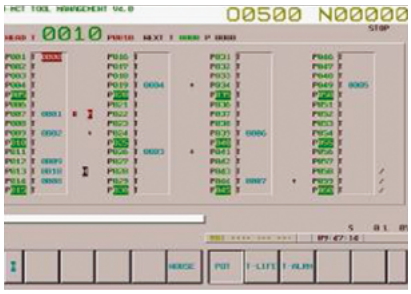
The EZ work package delivers speed and efficiency. This menu-driven innovation not only helps customers reduce setup times, but also simplifies common tasks and procedures, reducing the potential for errors. EZ work reduces operating time, protects machinery, enhances quality and speeds up maintenance interventions.

### Thermal Compensation

A function to maintain high-precision machining quality by analyzing and correcting the amount of thermal displacement of a structure through a temperature sensor

### Tool load monitor OPTION

- Detection of tool damage
- Detection of abnormalities during operation
- Detection of no-load air cutting



### Tool management I

- Tool magazine control
- Tool state display
- Fastems Tool Add/Remove Function OPTION

### Operation Rate

Machine operation history management function by date based on load

### Adaptive Feed Control

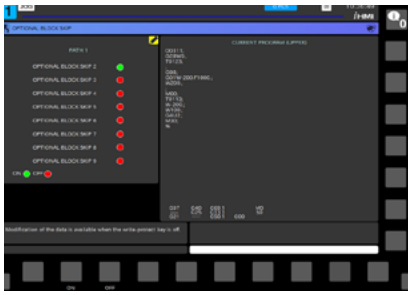
Function to control feedrate so that the cutting can be carried out at a constant load


### Spindle Warm Up

A function that assists spindle warm-up for spindle life when the spindle has not been used for a certain period of time

### Pallet magazine support functions

- PMC Soft Panel Switch
- Manual operations that occur continuously in each stages for APC, ATC change command



### Addition of Optional Block Skip

In addition to the OPTIONAL BLOCK SKIP of the operation panel, the function to skip a specific block selected in the machining program


### APC Setting Screen

A simple automation function that supports automatic processing of the next pallet by setting the processing program for each pallet of the equipment including APC in advance

# CONVENIENT OPERATION

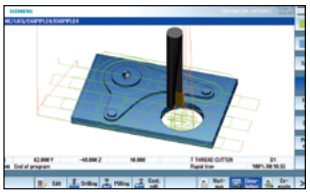
Siemens SINUMERIK ONE

## Even Faster & Easier processing + 398mm screen

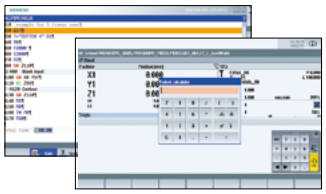
All programming, set-up, actual machining and verification process are getting easier and faster. Especially, intuitive conversational programming guidance with 3D UI(user interface) on 18.5” large touch screen is helpful for unskilled engineers.

- 18.5 inch touch screen
- 50% improvement in processing speed (compared to S840D)
- Graphic programming
- PLC-based flexible automation/ peripheral device expandability

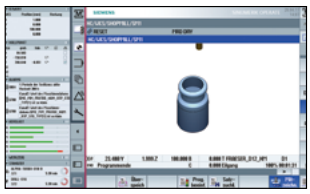
## Conversational convenient function



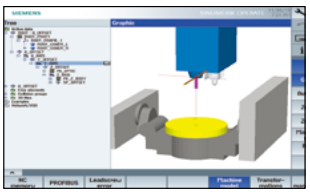
Simulation and machining contour monitoring



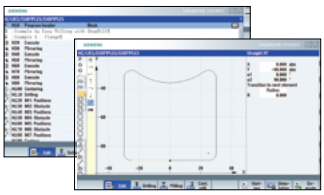
Smart function



Side screen widget



3D collision avoidance and collision avoidance ECO



Shop mill part programming

## NUMERIC CONTROL SPECIFICATIONS

SIEMENS

| Division | | Noto Sans KR | S-ONE |
|---|---|---|---|
| Controlled axis | Controlled axes | | 4 axes (X, Y, Z, B) |
| | Simultaneously controlled axes | | 4 axes |
| Data input/output | Memory card input/output | (Local drive) | ● |
| | USB memory input/output | | ● |
| Interface function | Ethernet | (X130) | ● |
| Operation | On network drive | (without EES option, Extcall) | ● |
| | On USB storage medium, e.g. memory stick | (without EES option, Extcall) | ● |
| Program input | Workpiece coordinate system | G54 - G57 | ● |
| | Addition of workpiece coordinate system | G505 - G599 | ● |
| Interpolation & Feed function | Top surface | | ○ |
| | Look ahead number of block | | 1000 |
| Programming & Editing function | 3D simulation, finished part | | ● |
| | Simultaneous recording | | ● |
| | DXF Reader for PC integrated in SINUMERIK Operate | | ○ |
| Operation Guidance Function | ShopMill | | ● |
| | EZ Work | | ● |
| Setting and display | Operation via a VNC viewer | | ● |
| Network | MTConnect | | ✪ |
| | OPCUA | | ○ |
| Others | 18.5" color display with touch screen | | ● |
| | 21.5" color display with touch screen | | ○ |
| | CNC user memory | 10 MB | ● |
| | Max. CNC user memory | 28 MB | ○ |
| | Collision avoidance (machine, working area) | | ○ |
| | Collision avoidance ECO (machine, working area) | | ○ |

● *Standard* ○ *Optional* X *N/A* ✪ *Available*

# POWER | TORQUE

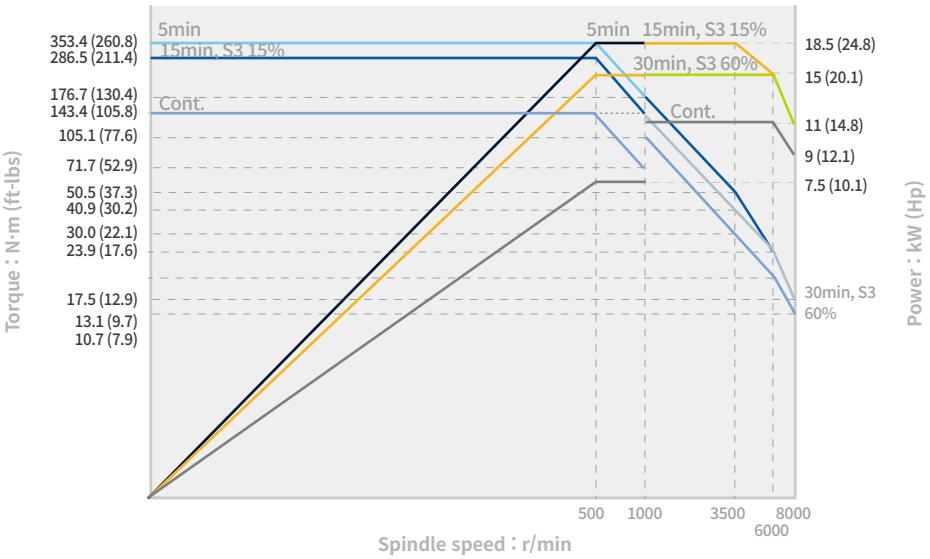
## 8000 r/min

**Spindle motor**

**18.5/7.5** kW
(24.8 / 10.1 Hp)

**Power torque**

**353.4** N·m
(260.8 ft-lbs)



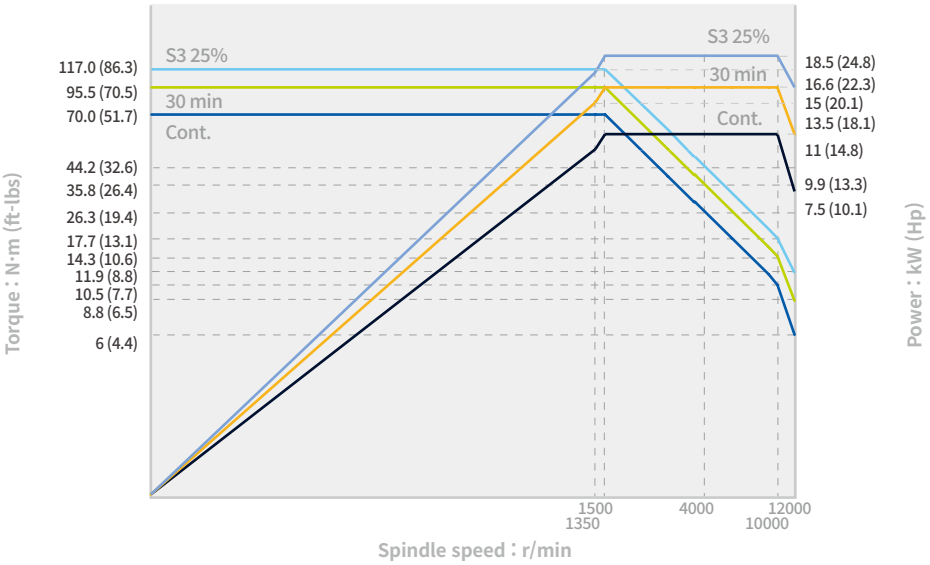

## 12000 r/min

**Spindle motor**

**18.5/7.5** kW
(24.8 / 10.1 Hp)

**Power torque**

**117.0** N·m
(86.3 ft-lbs)



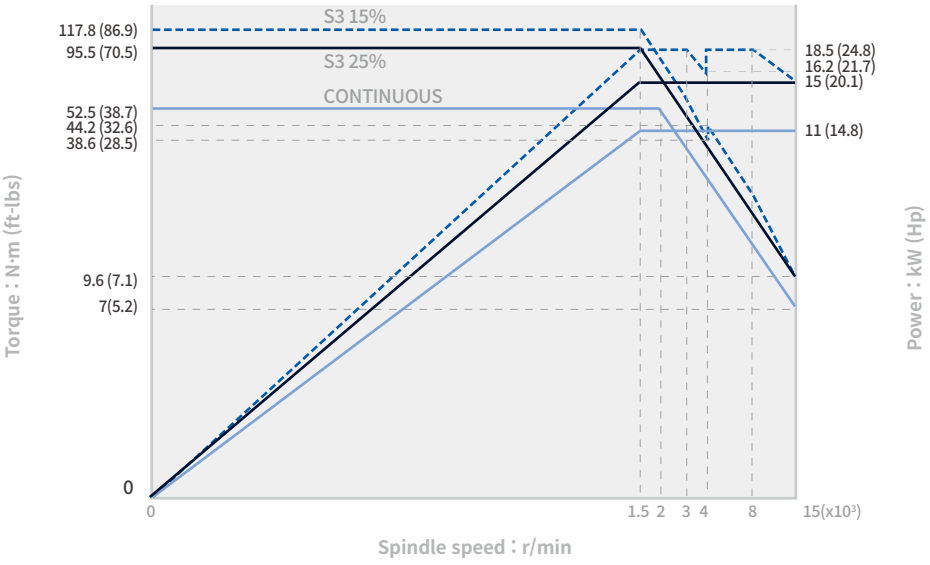

## 15000 r/min

**Spindle motor**

**18.5/11** kW
(24.8 / 14.7 Hp)

**Power torque**

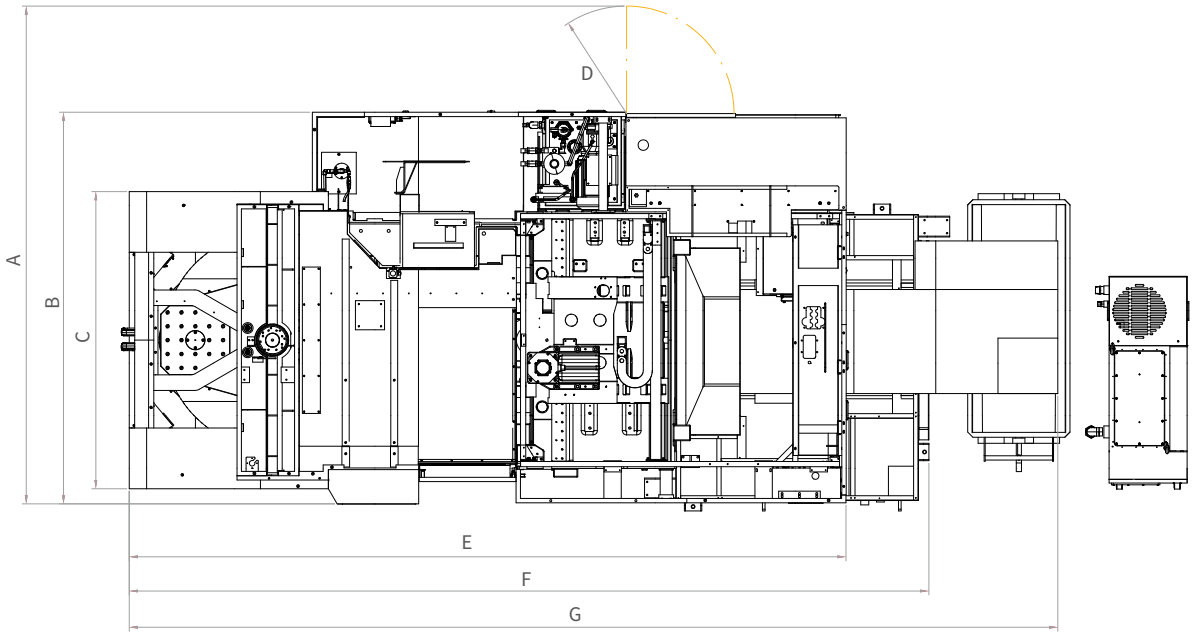
**117.8** N·m
(86.9 ft-lbs)



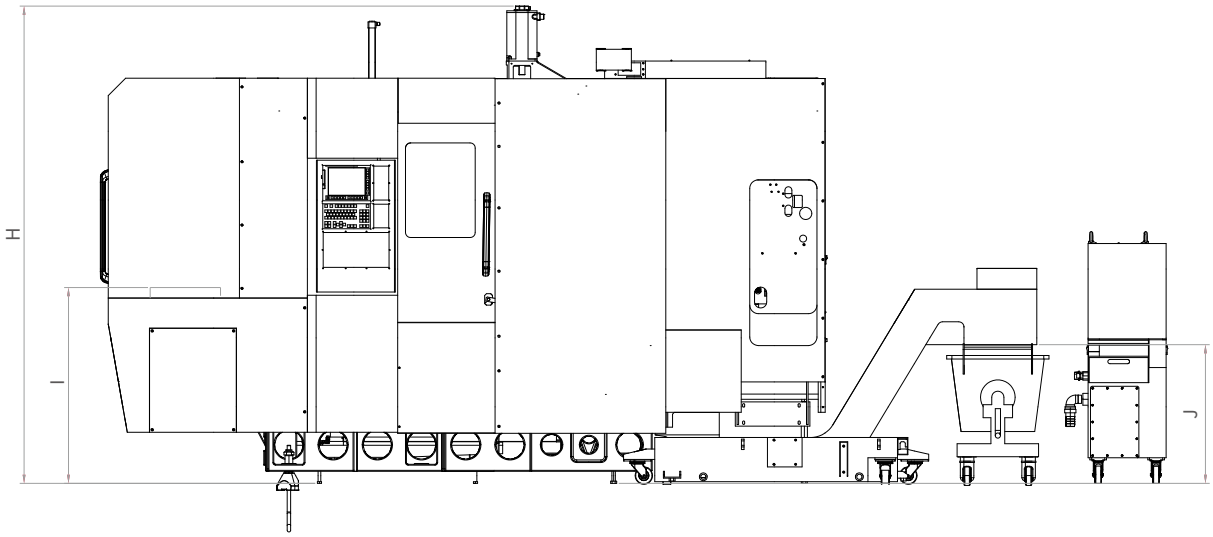
# EXTERNAL DIMENSIONS

*Unit: mm (inch)*

Top




Front




| Model | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| NHC 4000 | 2872 (113.1) | 2259 (88.9) | 1714 (67.5) | R620 (R24.4) | 4134 (162.8) | 4612 (181.6) | 5356 (210.9) | 2760 (108.7) | 1130 (44.5) | 800 (31.5) |
| NHC 5000 | 3309 (130.3) | 2678 (105.4) | 2084 (82.0) | R629 (R24.8) | 4877 (192.0) | 5292 (208.3) | 5940 (233.9) | 3017 (118.8) | 1160 (45.7) | 841 (33.1) |



** Some peripheral equipment can be placed in other areas.*

# MACHINE SPECIFICATIONS

| Description | | | Unit | NHC 4000 | NHC 5000 |
|---|---|---|---|---|---|
| Machining Capacity | Travel distance | X-axis | mm (inch) | 600 (23.6) | 850 (33.5) |
| | | Y-axis | mm (inch) | 560 (22) | 700 (27.6) |
| | | Z-axis | mm (inch) | 565 (22.2) | 750 (29.5) |
| | Distance from spindle nose to table center | | mm (inch) | 150 ~ 715 (5.9 ~ 28.1) | 150 ~ 900 (5.9 ~ 35.4) |
| | Distance from spindle center to table top | | mm (inch) | 50 ~ 610 (1.9 ~ 24) | 50 ~ 750 (1.9 ~ 29.5) |
| Feedrate | Rapid Feedrate | X-axis | m/min (ipm) | 48 (1889.8) | |
| | | Y-axis | m/min (ipm) | 40 (1574.8) | |
| | | Z-axis | m/min (ipm) | 48 (1889.8) | |
| | Cutting feedrate | | mm/min (ipm) | 20000 (787.4) | |
| Pallet | Pallet type | | | 24-M16 X P2.0 | |
| | Pallet indexing angle | | deg | 1 {0.001} | |
| | Max. loading capacity | | kg (lb) | 400 (881.8) | 500 (1102.3) |
| | Workpiece inertia* | | N·m² | 108 | 221 |
| | Max. workpiece size | | mm (inch) | 600 x 800 (23.6 x 31.5) | 800 x 900 (31.5 x 35.4) |
| | Pallet size | | mm (inch) | 400 x 400 (15.7 x 15.7) | 500 x 500 (19.7 x 19.7) |
| Spindle | Max. spindle speed | | r/min | 8000 {12000, 15000} | |
| | Data specification | | | ISO #40, 7/24 TAPER | |
| | Max. torque | | N·m (ft-lbs) | 353.4 {117} (260.6 {86.3}) | |
| Automatic Pallet Changer (APC) | No. of pallets | | ea | 2 | |
| | Pallet change time | | s | 8 | 8.5 |
| Automatic Tool Changer (ATC) | Tool shank type | | | BT40 {CAT40 / DIN 40 / HSK-A63} | |
| | Tool storage capacity | | ea | 40 {60 / 80 / 120} | |
| | | Matrix Type | ea | {170 / 262} | |
| | Max. tool diameter | W/O adjacent tool | mm (inch) | 75 (2.9) | |
| | | With adjacent tool | mm (inch) | 140 (5.5) | |
| | Max. tool length | | mm (inch) | 300 (11.8) | 400 (15.7) |
| | Max. tool weight | | kg (lb) | 10 (22) | |
| | Max. tool moment | | N·m (ft-lbs) | 11.8 (8.7) | |
| | Tool change time(T-T-T, tool weight less than 7.5Kg) | | s | 1.5 | |
| | Tool change time (C-T-C, tool weight less than 7.5 Kg) | | s | 4 | |
| Motor | Spindle motor power | | kW (Hp) | 18.5 / 11 (24.8 / 14.7) | |
| Power Source | Power consumption | | kVA | 65.52 | |
| | Compressed air pressure | | Mpa (psi) | 0.54 (78.3) | |
| Tank Capacity | Coolant tank capacity | | L (galon) | 550 (145.3) | 640 (169.1) |
| | Lube tank capacity | | L (galon) | 1.4 (0.37) | |
| Machine Dimensions | Height | | mm (inch) | 2760 (108.7) | 3017 (118.8) |
| | Length | | mm (inch) | 5356 (210.9) | 5940 (233.9) |
| | Width | | mm (inch) | 2259 (88.9) | 2678 (105.4) |
| | Weight | | kg (lb) | 11000 (24250.8) | 12500 (27557.8) |

*{ } : Option*

**When the workpiece inertia exceeds the specified limit, the M-code for the heaviest workpiece setting in the Work Load Control function must be applied*

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** For more details, please contact DN Solutions.*
** Specifications and information contained within this catalogue may be changed without prior notice.*

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