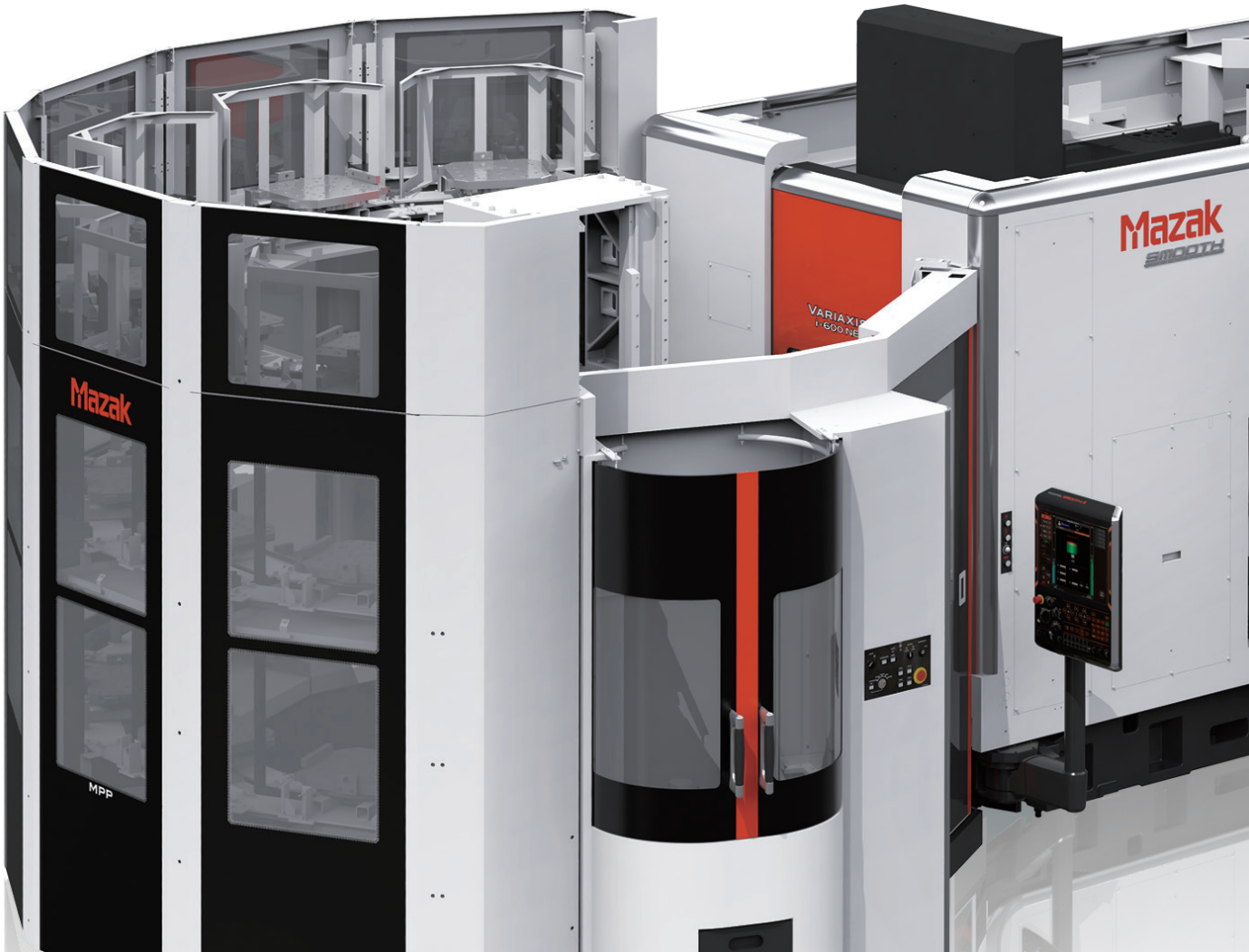
Mazak

MPP

SERIES



MPP SERIES

MPP (18PC)
VARIAXIS C-600

MPP (24PC)
HCN-5000 NEO

MPP (6PC)
VARIAXIS i-700 NEO

Loading station

Automatic operation system for high-mix, low-volume production with maximum 24 pallets*1

MPP (MULTI PALLET POOL) is an automation system that combines a simultaneous 5-axis machining center or a horizontal machining center with pallet stocker and a pallet loader. By scheduling the operation of multiple pallets, it enables continuous automatic operation to maximize system utilization. Additionally, the MPP system can be operated through the CNC system.

Compact floor space for multiple pallet stocker with maximum 24 pallets*1

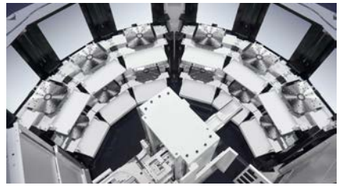
The stocker can be expanded after the initial installation of the MPP in response to increased production requirements. The MPP is also available for a retrofit to a previously installed machine.*2

The operation and management of the MPP is performed by the same software used by the PALLETECH system, which is highly regarded worldwide for its ease of operation and high productivity.

When is the MPP suitable?

- Small scale automation
- Limited floor space, not large enough for the industry-leading PALLETECH system
- Starting out with single machine automation with the capacity to add pallet stockers at a later date

*1 Please contact us for details regarding the compatible models.
*2 Available for the VARIAXIS i series machines (except for i-800 NEO) with optional MPP preparation specification, and the HCN-4000 NEO, HCN-5000 NEO and HCN-5000/50 with optional 2PC or FMS preparation specifications with 8 or 14PC



All pallets are located at the same distance from the center of the pallet loader for efficient pallet changing.

Servo motors on all axes enable fast and stable pallet loading/unloading.

The loading station is designed with ergonomic considerations for excellent accessibility to workpieces.

MPP compatible machines

Simultaneous 5-axis higher-accuracy vertical machining centers

VARIAXIS i-600 NEO, i-700 NEO, i-700T, i-800 NEO

Simultaneous 5-axis vertical machining centers

VARIAXIS C-600, C-700

High-speed 5-axis horizontal machining center

HCR-5000S

High speed, high accuracy horizontal machining centers

HCN-4000 NEO, 5000 NEO, 5000/50 (with MAZATROL SmoothG)

Multiple pallet stocker system for various production volumes

MPP with 6, 12 and 18PC

Compatible machine models

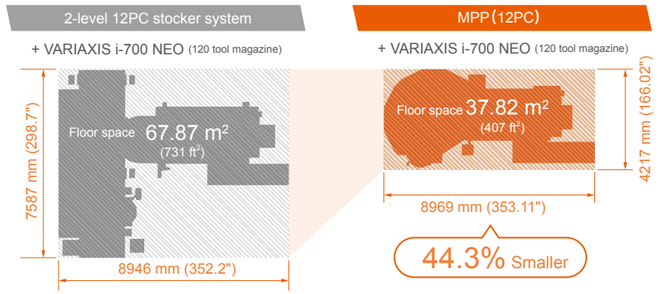
Simultaneous 5-axis high-accuracy vertical machining centers
- VARIAXIS i-600 NEO
- VARIAXIS i-700 NEO
- VARIAXIS i-700T
- VARIAXIS i-800 NEO

Simultaneous 5-axis vertical machining centers
- VARIAXIS C-600
- VARIAXIS C-700

High-speed 5-axis horizontal machining center
- HCR-5000S

Compact floor space

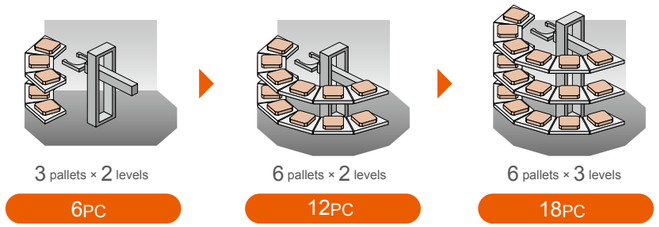
When compared to the PALLETECH system (a system with horizontal pallet stockers), the same amount of pallets can be stored in a smaller footprint.



Flexible pallet stocker capacity

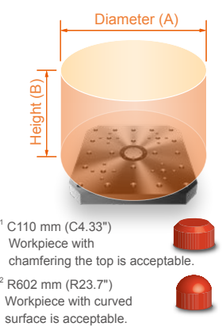
The stocker can be expanded from 6PC to 12 or 18PC after the initial installation of MPP in response to increased production requirements.

* The MPP can be retrofitted to the VARIAXIS i series machines (except for i-800 NEO) with optional MPP (single table) preparation specification. For more details, please contact your local Mazak sales office.



Workpiece specifications

Machine model	Pallet size	Max.load (without pallet)	Max. workpiece size (without pallet) [diameter (A) x height (B)]
VARIAXIS i-600 NEO	400 mm × 400 mm (15.75" × 15.75")	400 kg (882 lbs)	Φ600 mm × 425 mm (Φ23.62" × 16.73")
VARIAXIS i-700 NEO	500 mm × 500 mm (19.69" × 19.69")	600 kg (1323 lbs)	Φ730 mm × 500 mm (Φ28.74" × 19.69")
VARIAXIS i-700T	610 mm × 610 mm (24.02" × 24.02")	600 kg (1323 lbs)	Φ730 mm × 500 mm (Φ28.74" × 19.69")
VARIAXIS i-800 NEO	500 mm × 500 mm (19.69" × 19.69")	700 kg (1543 lbs)	Φ730 mm × 500 mm (Φ28.74" × 19.69")
VARIAXIS C-600	500 mm × 500 mm (19.69" × 19.69")	500 kg (1102 lbs)	Φ730 mm × 450 mm (C110)*1 (Φ28.74" × 17.72" (C4.33"))
VARIAXIS C-700	500 mm × 500 mm (19.69" × 19.69")	600 kg (1323 lbs)	Φ730 mm × 500 mm (Φ28.74" × 19.69")
HCR-5000S	500 mm × 500 mm (19.69" × 19.69")	500 kg (1102 lbs)	Φ700 mm × 643.6 mm (R602)*2 (Φ27.56" × 25.34" (R23.7"))



*1 C110 mm (C4.33") Workpiece with chamfering the top is acceptable.

*2 R602 mm (R23.7") Workpiece with curved surface is acceptable.

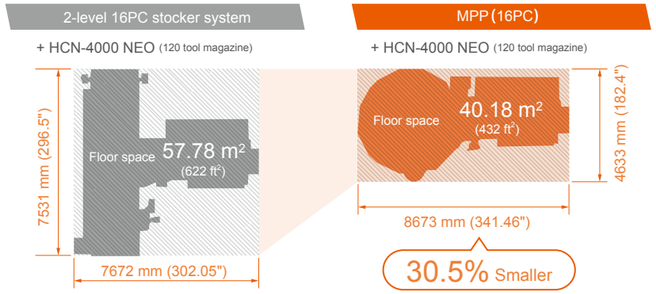
MPP with 10, 16 and 24*1PC

Compatible machine models

High speed, high accuracy orizontal machining centers
- HCN-4000 NEO
- HCN-5000 NEO
- HCN-5000/50 (with MAZATROL SmoothG)

Compact floor space

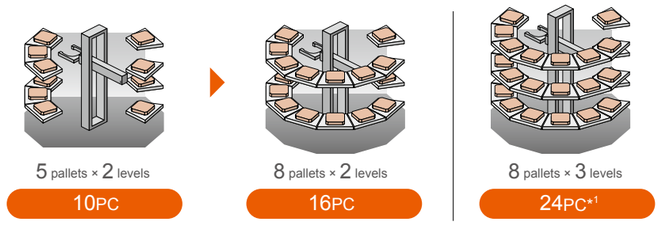
When compared to the PALLETECH system (a system with horizontal pallet stockers), the same amount of pallets can be stored in a smaller footprint.



Flexible pallet stocker capacity

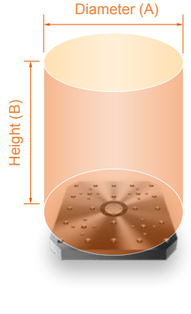
The stocker can be expanded from 10PC to 16PC after the initial installation of MPP in response to increased production requirements.

* The MPP can be retrofitted to an installed Mazak machine with optional 2PC or FMS preparation specification. For more details, please contact your local Mazak sales office.



Workpiece specifications

Machine model	Pallet size	Max.load (without pallet)	Max. workpiece size (without pallet) [diameter (A) x height (B)]
10 and 16PC			
HCN-4000 NEO	400 mm × 400 mm (15.75" × 15.75")	400 kg (882 lbs)	Φ630 mm × 900 mm (Φ23.62" × 35.43")
HCN-5000 NEO	500 mm × 500 mm (19.69" × 19.69")	700 kg (1543 lbs)	Φ800 mm × 1000 mm (Φ31.50" × 39.37")
HCN-5000/50	500 mm × 500 mm (19.69" × 19.69")	700 kg (1543 lbs)	Φ800 mm × 1000 mm (Φ31.50" × 39.37")
24PC*1			
HCN-5000 NEO	500 mm × 500 mm (19.69" × 19.69")	700 kg (1543 lbs)	Φ800 mm × 700 mm (1st and 2nd levels) (Φ31.50" × 27.56")
			Φ800 mm × 1000 mm (3rd level) (Φ31.50" × 39.37")



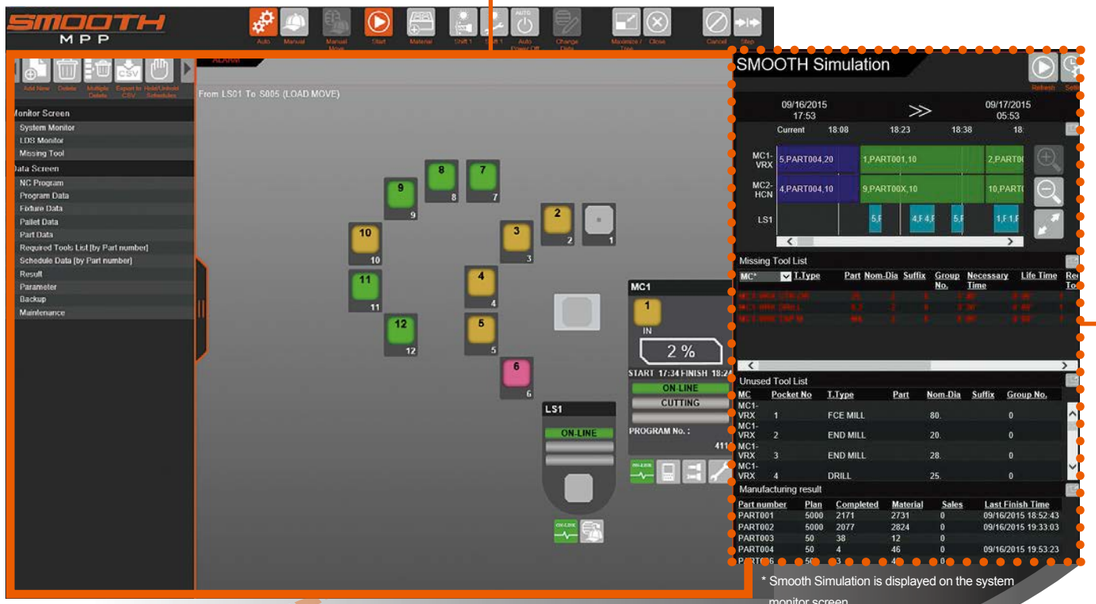
*1 Please contact us for details regarding the compatible models. The system cannot be expanded from10 and 16PC.

Management software

Smooth MPP Management software for high-mix, low-volume production

Once the production schedule is input, operations will be performed automatically.
Production results, system utilization and other data can be checked on the MAZATROL Smooth CNC.

Easy operation by simply switching the CNC screens



* Smooth Simulation is displayed on the system monitor screen.

Switch the screens

- Smooth graphical user interface for unsurpassed ease of operation
- Touch screen operation - similar to using your smartphone / tablet
- Operation of both a machine and an automation system by a single operator

CNC system supporting Smooth MPP

MAZATROL SMOOTH Ai　MAZATROL SMOOTH X　MAZATROL SMOOTH G

Monitoring

System and production status are displayed visually.
The monitoring of system operation is extremely convenient.

Simulation

Simulation results

System resources (tooling) are checked by simulation to confirm that the production schedule can be performed as well as forecast overall system utilization.

Required tools display

The list of tools not in a machine magazine is displayed. By preparing any missing tools in advance, you can achieve long periods of automatic operation.

Tools not required

By showing tools that are not required for the production schedule, tool magazines can be used with increased efficiency.

Production results

Expected production results are displayed for ease of production planning.

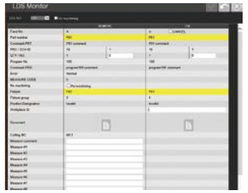
Remote monitoring

When connected to a network, system data can be accessed on office PCs and tablets. It supports an operator to setup away from the machine operational panel.

* When displaying data on a smartphone or tablet, the Wi-Fi environment is required.

Instruction display

To assist the operator, displays such as the workpiece loading instructions and the list of missing tools are available.



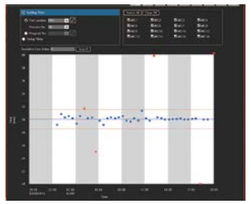
Workpiece loading instructions

Missing tools display

Production results display

A wide variety of graphs display the production results for convenient system utilization analysis.

Gantt chart screen
(Operation results data)



Analysis screen
(Analysis of machining time and setup time)

Dual monitor　OPTION

An optional dual monitor on the CNC control allows the Smooth MPP screen to be displayed on the sub monitor all the time for enhancing usability.

* Available with MAZATROL SmoothAi and MAZATROL SmoothG

MPP SERIES

Mazak

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