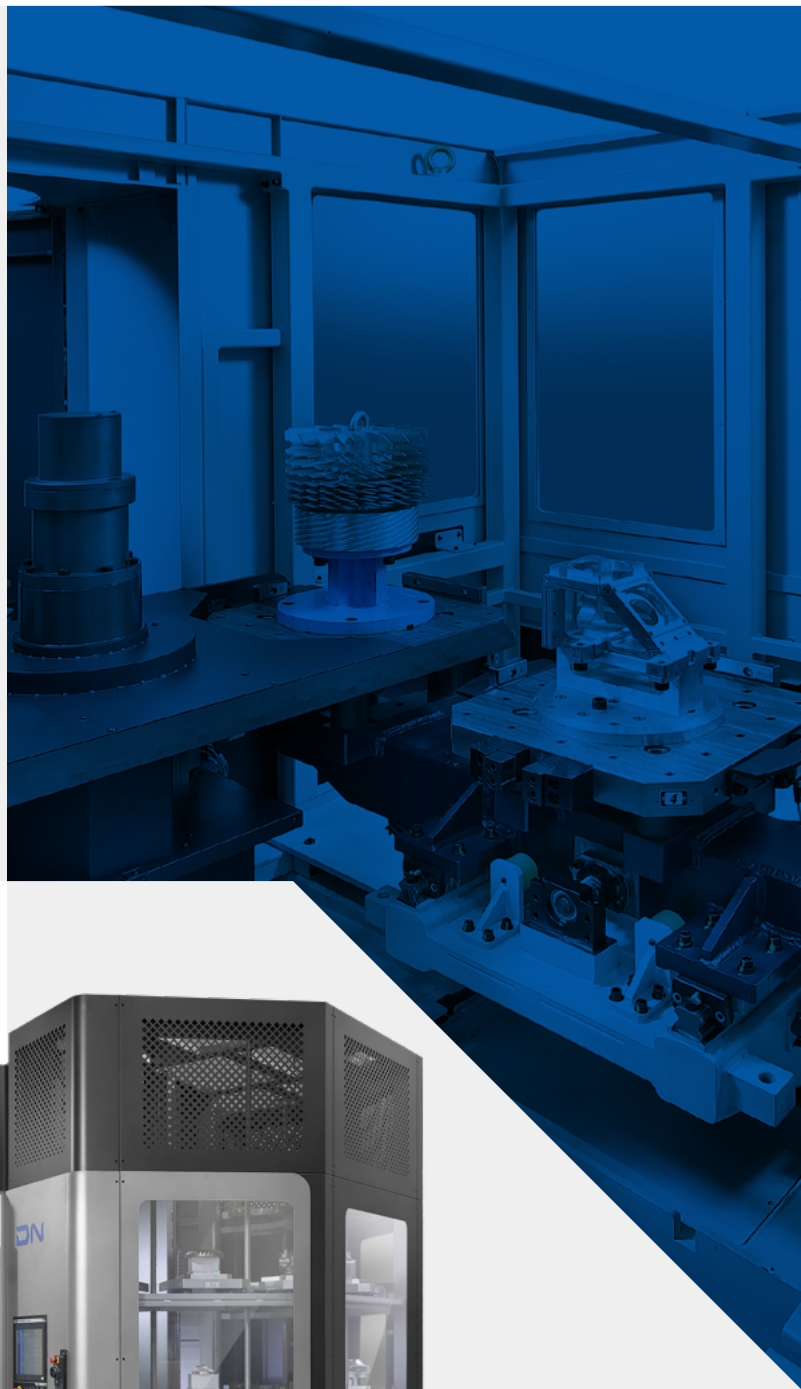


AUTOMATION SYSTEM

PALLET POOL SYSTEM

LPS
ROUND PALLET SYSTEM
APC
AWC



DN SOLUTIONS PALLET POOL SYSTEM

Optimal Solution for your Pallet Automation System

Automated system now offer the reduce labor costs and increase productivity in your factory. At the same time, the production capacity and utilization rate of the machine tools are increased.



HOW WE PROVIDED FOR CUSTOMER DN SOLUTIONS AUTOMATION SYSTEM?

We have 4-steps process. We will offer you the best optimal solution with our best engineers.

STEP 01

Inquiry from customer

The first step, we got the inquiries from the customer, and reviewing then we offer the best solution system for customer.

STEP 02

Assembly and test

The Second step, we do assembly, and test. We assemble main machine with automation system and test it in our system building.

STEP 03

Try-out

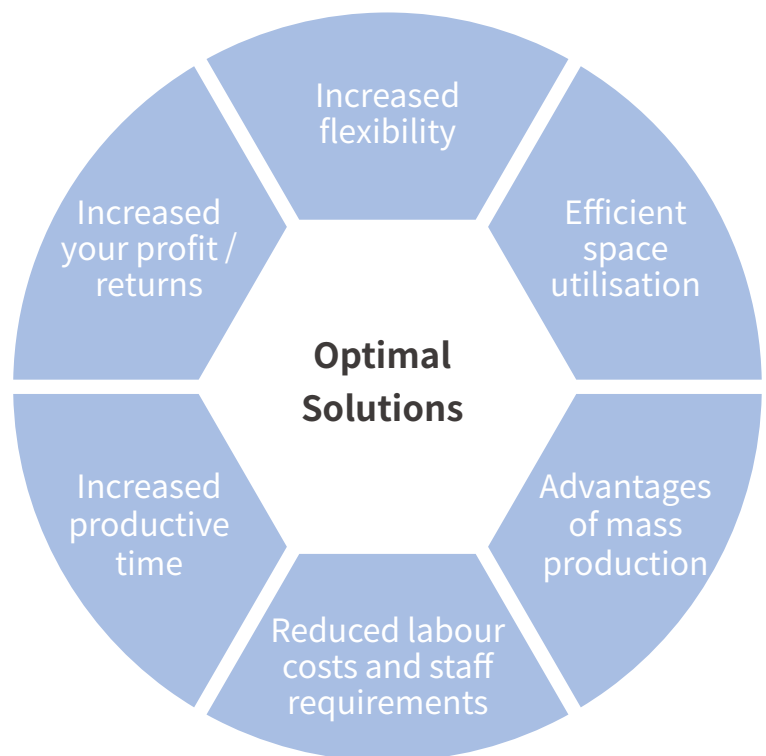
The entire system will be supervised by our control system which takes care of order handling and production control. The training of operators is facilitated by customized training programs.

STEP 04

Customer support

We provide A/S when customer need any support of our system. (Improving Cycle time, maintenance, supply spare part etc.)

How are you going to offer price reductions unless you automate in some way and become more efficient?

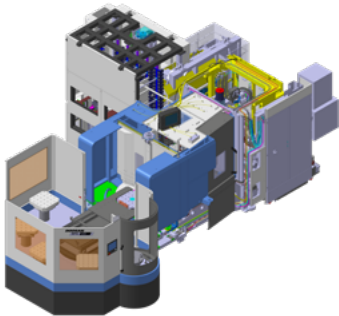
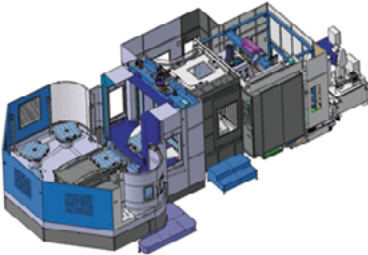


PALLET AUTOMATION SYSTEM

Line-up

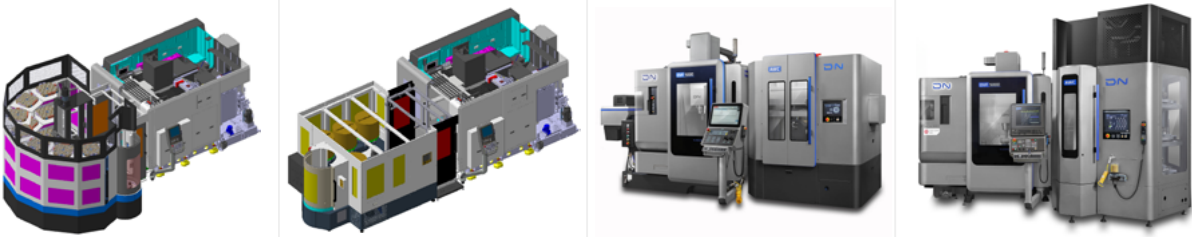
Type	LPS 4000 / 5000	LPS 5500 / 6300 / 8000
Features	- Optimized Slim design - Optimized AGV of Single Mast & Single Fork Structure - Easy installation - Flexible expansion - Easily expandable with additional Machines, Racks, and Setup Stations	- Ready to expansion for machine, washing station, setup station, pallet - Full Line-up for all HMC - Flexible expansion - Easily expandable with additional Machines, Racks, and Setup Stations
Available Model	NHP 4000 / NHC 4000 NHP 5000 / NHC 5000 DVF 6500 w/APC	NHM 5000 / NHP 5500 / NHP 5500 ^{2nd} NHM 6300 / NHP 6300 / NHP 6300 ^{2nd} NHM 8000 / NHP 8000 / DHF8000
Workpiece Size	NHP 4000 : Ø630 x 900h x 400kg NHP 4000 : Ø600 x 800h x 400kg NHP 5000 : Ø800 x 1000h x 500kg(700kg) NHP 5000 : Ø800 x 900h x 500kg DVF 6500 : Ø630 x 430h x 500kg	NHM5000/NHP5500/NHP5500 ^{2nd} : Ø850 x 1100h x 800kg NHM6300/NHP6300/NHP6300 ^{2nd} : Ø1050 x 1350h x 1200kg DHF8000 : Ø1400 x 1400h x 2000kg NHM8000/NHP8000 : Ø1450 x 1550h x 2000kg
Number of Machine	1~7 (AUX. +1)	1~7 (AUX. +1)
Number of Setup Station	1~4	1~4
Number of pallet	Pallet 400 Class : 12 ~ 72 Pallet 500 Class : 12 ~ 72	Pallet 500 Class : 12 ~ 72 Pallet 630 Class : 10 ~ 72 Pallet 800 Class : 8 ~ 72 Pallet 1000 Class : 6 ~ 30
Control Methods	PLC + Windows-based PC with DPMS Software	
Operational Features	- Use of a standalone industrial PC and monitor - Management of NC programs, fixtures, and pallets - Automatic operation based on the production plan - Reporting and remote monitoring	
Machine		

PALLET AUTOMATION SYSTEM

Type	Round Pallet System 4000 / 5000 / 5500	Round Pallet System 5500 / 6300 / 8000	Round Pallet System 1000 / 1250
Features	- Optimized slim design for space saving & minimal invest cost - Telescopic Mechanism Fork - Simple installation and easy maintenance - Field retrofit available	- Long time unmanned operation - High reliability by servo driven - Simple installation - Field retrofit available	- Long time unmanned operation - High reliability by servo driven - Simple installation - Field retrofit available
Available Model	NHP 4000 / NHC 4000 NHP 5000 / NHC 5000 NHP 5500 ^{2nd} / NHM 5000 / DHF 5500	NHM 5000 / NHP 5500 NHM 6300 / NHP 6300 NHM 8000 / NHP 8000 / DHF 8000	HM 1000 / HM 1250 <i>(only for pallet size 1000 x 1000, 1250 x 1000)</i>
Workpiece Size	NHP 4000 6/14p : Ø630 x 900h x 400kg - 1p : Ø630 x 700h x 400kg NHC 4000 6/14p : Ø600 x 800h x 400kg - 21p : Ø600 x 700h x 400kg NHP 5000 6/14p : Ø800 x 1000h x 500kg(700kg) - 21p : Ø800 x 700h x 500kg(700kg) NHC 5000 6/14p : Ø800 x 900h x 500kg - 21p : Ø800 x 700h x 500kg NHP5500 ^{2nd} / NHM5000 / DHF5500 - 6/12p : Ø850 x 1100h x 800kg - 18p : Ø850 x 750h x 800kg - 24p : Ø850 x 350h x 800kg <i>(1000kg Option only for NHP5500^{2nd})</i>	Ø850 x 1100h x 800kg Ø1050 x 1350h x 1200kg NHM 8000 / NHP 8000 : Ø1450x1550h x 1700kg DHF 8000 : Ø1400 x 1400h x 1700kg	Ø2000 x 1475h / 1725h x 3000kg <i>(Adjacent pallets empty)</i>
Number of pallet	Round Pallet System 4000/5000 : 6/14/21 Round Pallet System 5500 : 6/12/18/24	7 & 9	6
Control Methods	PLC + HMI with Embedded Software	CNC-based Control System	
Operational Features	- Deployment of an independent touch operated control panel - Pallet scheduling and status management - Automatic operation based on schedule	- 2-path NC system control - Pallet scheduling and status management - Automatic operation based on schedule	- PMC control - Pallet scheduling and status management - Automatic operation based on schedule
Machine			

PALLET AUTOMATION SYSTEM

Line-up

Type	MULTI LEVEL Round Pallet System 6500 / 8000	APC	AWC (Single/Multi)	AWC (Multi level/HSK 100T Type)
Features	- Slim design optimized for a 5-axis machine. - Large maintenance space for optimal machine tool accessibility. - Easy to install. - Field retrofit available	- Automatic pallet changer optimized for 5-axis machine tools. - Large maintenance space easily accessible to the operator. - Easy to install. - Field retrofit available	- Slim design. - Side loading/unloading for optimal access to the front. - Easy to install. - Field retrofit available	- By applying HSK 100T clamp type, space utilization is improved compared to single layer AWC. Multi level automation system optimized for multiple item production.
Available Model	DVF6500 / DVF6500T DVF8000(/50) / DVF8000T(/50)	DVF6500 / DVF6500T DVF8000(/50) / DVF8000T(/50)	DVF 4000 / 5000 DNM 4500 / 5700 / 6700 Mynx 6500 BVM5700	DVF 4000 / 5000
Workpiece Size	DVF6500: ø630 x 430h x 600kg DVF6500T: ø630 x 430h x 500kg DVF8000T(/50) : ø850 x 490h x 700kg DVF8000(/50) : ø850 x 490h x 850kg <i>(Weight : Pallet Included)</i>	DVF6500(T) : ø630 x 430h x 500kg DVF8000(/50) : ø850 x 490h x 850kg DVF8000T(/50) : ø850 x 490h x 700kg <i>(Weight : Pallet Included)</i>	ø550 x 350h x 300kg <i>(DVF 4000 is not applicable)</i> ø450 x 350h x 300kg ø400 x 350h x 300kg ø300 x 350h x 130kg <i>(Weight : Pallet Included)</i>	ø350 x 315h x 80kg <i>(Weight : Pallet Included)</i>
Number of pallet	DVF6500 : 7/14/21 DVF8000 : 6/12/18	2/4	Pallet 500 Class : 4/24 Pallet 400 Class : 6/28 Pallet 350 Class : 8/32 Pallet 250 Class : 12/40	4
Control Method	PLC + HMI with Embedded Software			
Operational Features	- Deployment of an independent touch-operated control panel - Pallet scheduling and status management - Automatic operation based on schedule			
Machine				

LPS (LINEAR PALLET SYSTEM)

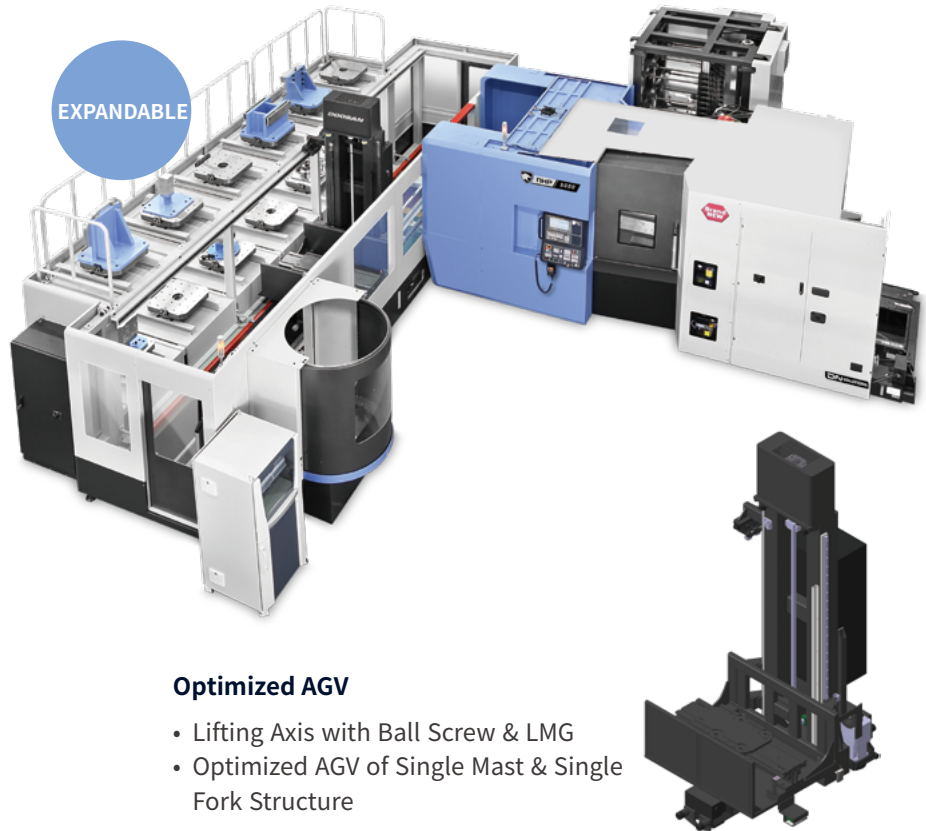
LPS 4000 / 5000

LPS 4000 / 5000 is designed 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 System with outstanding space saving
- Minimal Invest Cost for automation solution
- Easy Installation & Easy Field Retrofit to DN solutions HMC
- Enhancing User Safety by Applying CE/ETL Safety Regulations



Optimized AGV

- Lifting Axis with Ball Screw & LMG
- Optimized AGV of Single Mast & Single Fork Structure

Machine Specifications

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 / 600 (24.8 / 23.6)	800 (31.5)	630 (24.8)
Workpiece Height	mm (inch)	900 / 800 (35.4 / 31.5)	1000 / 900 (39.4 / 35.4)	430 (16.9)
Workpiece Weight	kg (lb)	400 (881.8)	500 (1102.3) {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	mm (inch)	6980 [L] x 2380 [W] (274.8 x 93.7)		

Note) Please contact DN Solutions sales representative for further information

* { } : Option

LPS (LINEAR PALLET SYSTEM)

LPS 5500 / 6300 / 8000

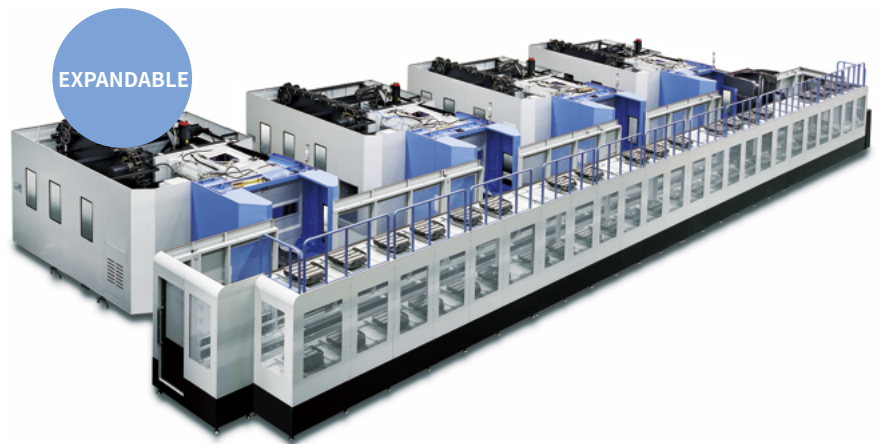
LPS 5500 / 6300 / 8000 is designed to provide a high level of automation system for the customer wants high storage capacity.

Features

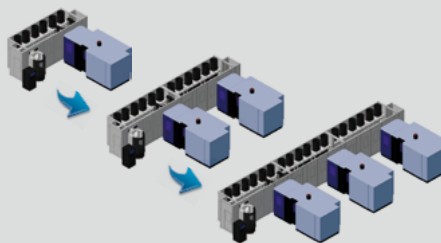
- Optimized Slim System with outstanding space saving
- Minimal Invest Cost for automation solution
- Easy Installation & Easy Field Retrofit to DN solutions HMC
- Enhancing User Safety by Applying CE/ETL Safety Regulations

Special Order

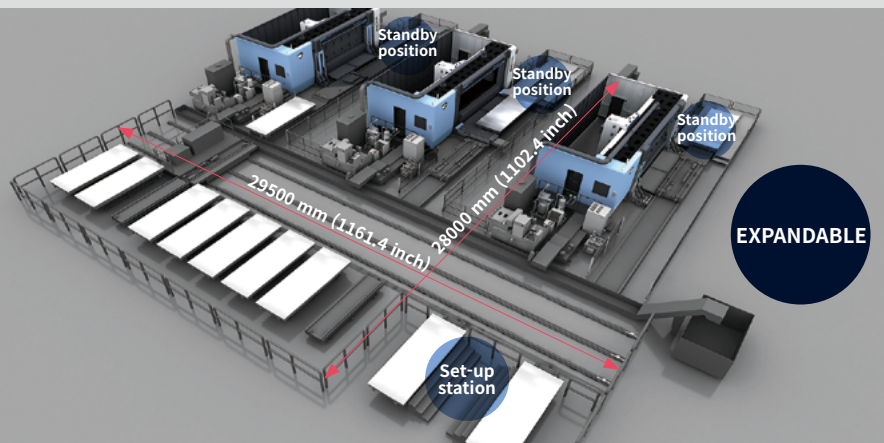
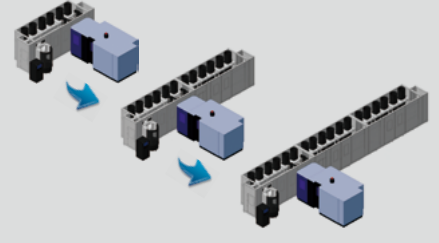
- Automation solutions (LPS) for processing large aircraft fuselages
- Securing reliability with servo-driven driving
- Reduced pallet exchange time by configuring the standby position
- High-capacity centralized chip processing solution



Increased production



Increased automated operation time



Machine Specifications

Model		LPS 5500	LPS 6300	LPS 8000	
		NHM 5000 / NHP 5500 / NHP 5500 ^{2nd}	NHM 6300 / NHP 6300 / NHP 6300 ^{2nd}	NHM 8000 / NHP 8000	DHF 8000
Pallet Dimension	mm (inch)	500 x 500 (19.7 x 19.7)	630 x 630 (24.8 x 24.8)	800 x 800 (31.5 x 31.5)	
Number of Pallet	ea	12 - 72	10 - 72	8 - 72	
Workpiece Diameter	mm (inch)	850 (33.5)	1050 (41.3)	1450 (57.1)	1400 (55.1)
Workpiece Height	mm (inch)	1100 (43.3)	1350 (53.1)	1550 (61.0)	1400 (55.1)
Workpiece Weight	kg (lb)	800 (1763.7)	1200 (2645.5)	2000 (4409.2)	
Axis Control		Servo			
Forking Type		Twin Fork			
Turntable Indexing		45°			
Power Supply (AGV)		Trolley Bar			
Communication		Optical			
Number of Machines		1 ~ 7			
Number of Setup Stations		1 ~ 4			
Dimension	mm (inch)	7886 [L] x 2400 [W] (310.5 [L] x 94.5 [W])	7958 [L] x 785 [W] (313.3 [L] x 30.9 [W])	8750 [L] x 3500 [W] (352.4 [L] x 344.5 [W])	

Note) Please contact DN Solutions sales representative for further information

LPS (LINEAR PALLET SYSTEM)

DPMS (DN Solutions Production Management System) for LPS

The DPMS is to schedule the automatic pallet transfers between the setup stations, machining centers, and buffer stations. After operator set a part on pallet and enter detailed information to DPMS, the pallet will be transferred to the Machining Center or the Buffer Station by priority order of AGV. If there is not pallet in Machining Center, the pallet will be sent to the Machining Center by the top priority order. If there is pallet in the Machining Center, the pallet will be sent to the Buffer Station until the machining center is emptied. The operation of the LPS is based on automatic operation. Basically, the sequence of pallet transfer in the system will be performed according to the due-date.

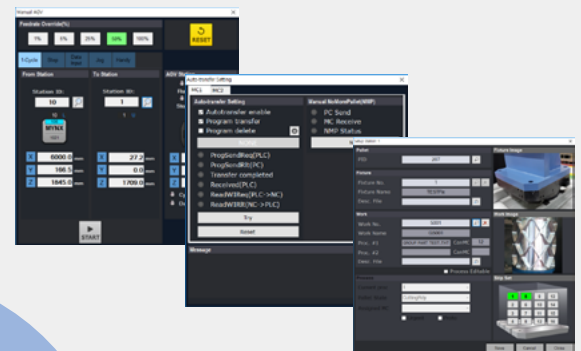
Preparation

- Program/Fixture/Part Data
- Planning & Schedule
- Supports up to 16 parts on a pallet



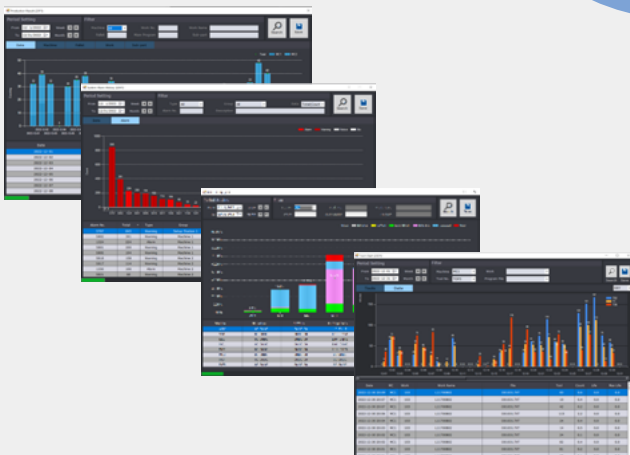
Production

- Job Dispatching in order of Due-date
- Automatic Pallet Call
- Program Auto-transfer



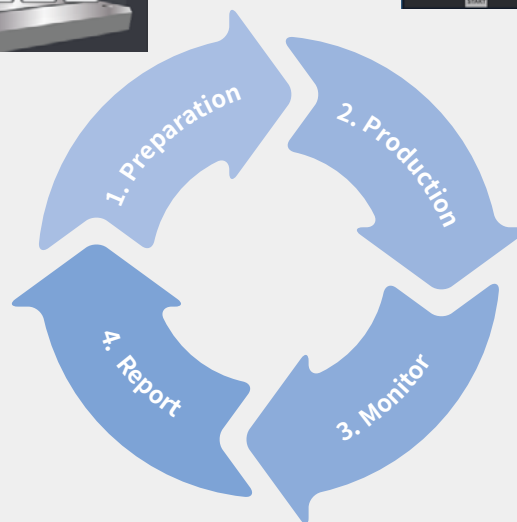
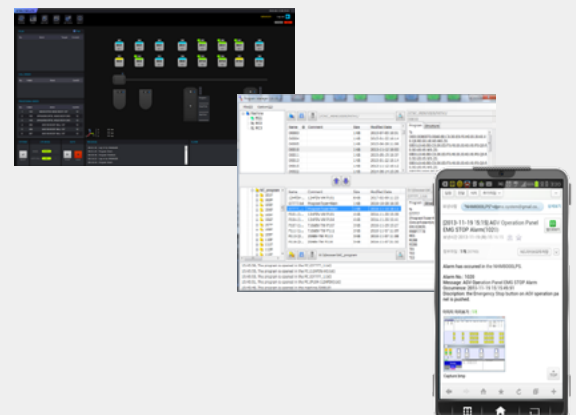
Report

- Production Results
- Alarm History
- Status Monitor



Monitor

- Program Manager
- Tool Manager
- Remote Alarm / Remote DPMS

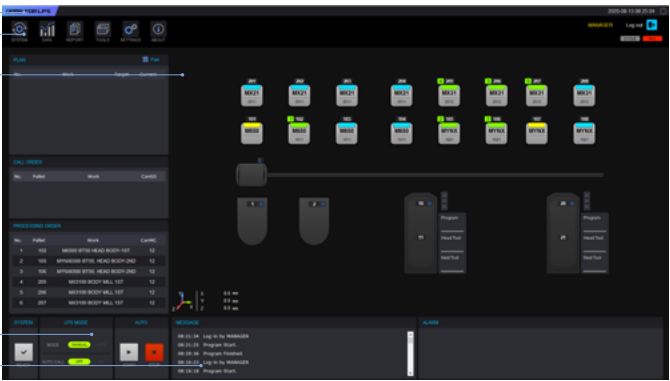


LPS (LINEAR PALLET SYSTEM)

Main Screen

- Menu : Execute the main functions of DPMS
 - Work list : List the progress of the pallet
- System layout : Visually display pallet and station information

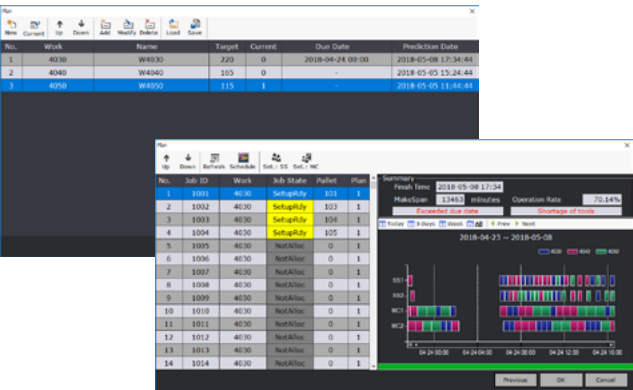
- Message : Display AGV operation log and alarm message
- PC OP panel : Panel operating system on PC



Standard function

Planning

- It makes a production plan and job schedule easier



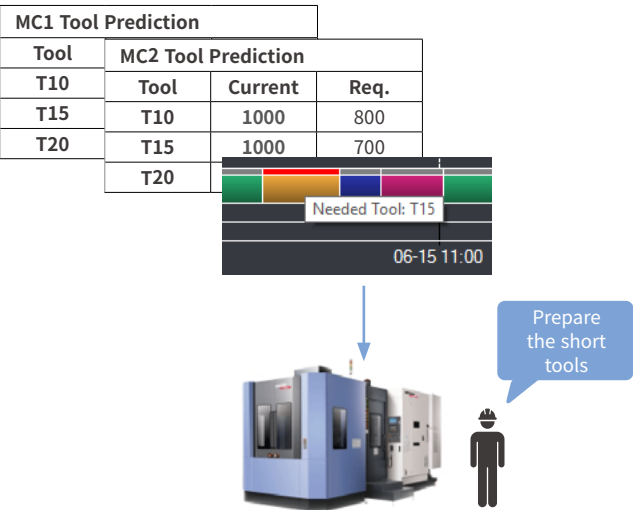
Setup function

- Max 16EA different sub programs and offsets can be assigned to a pallet.
- It supports skip part set, proto set, urgent set



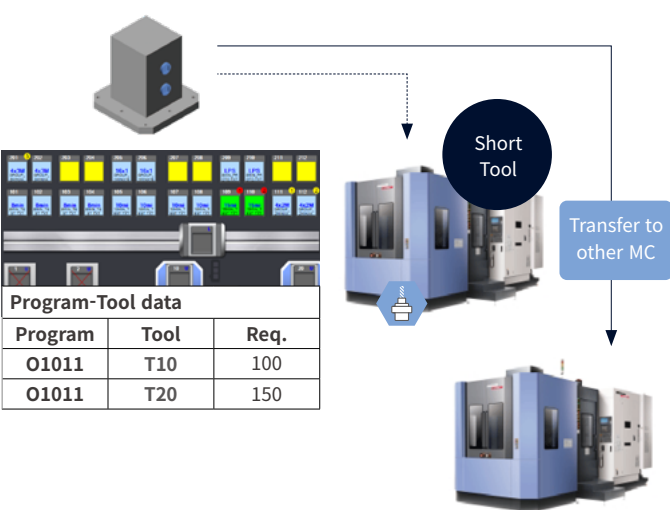
Tool use prediction

- This function is a predictable for tool life at the planning step.



Tool pre-check

- Before sending the pallet to the MC, check the tool status of the MC.



LPS (LINEAR PALLET SYSTEM)

Standard function

Automatic resume after tool alarm

- When using the Advanced Pallet & Tool Retract function, automatic operation resumes automatically even if a tool alarm occurs.

Schedule preview

- Display pallet schedules of setup and MC so operator can prepare job ahead of time.
- Display the next movement of AGV.



Next AGV Move

14:32	1	→	10	(101)
14:33	102	→	1	(102)

Setup Schedule

Time	Pallet	Work	SS
17:2			
17:2	17:17	103	16x1Min
17:4	17:27	201	4x2Min
17:4			

Short Tool

MC	Time	Tool No.	Life	Status
MC1	00:00	15	-1 / 100	A
MC2	00:00	15	-1 / 100	A

Remote alarm

- By the registered alarm, the Remote Alarm sends e-mail to system manager.



Optional function

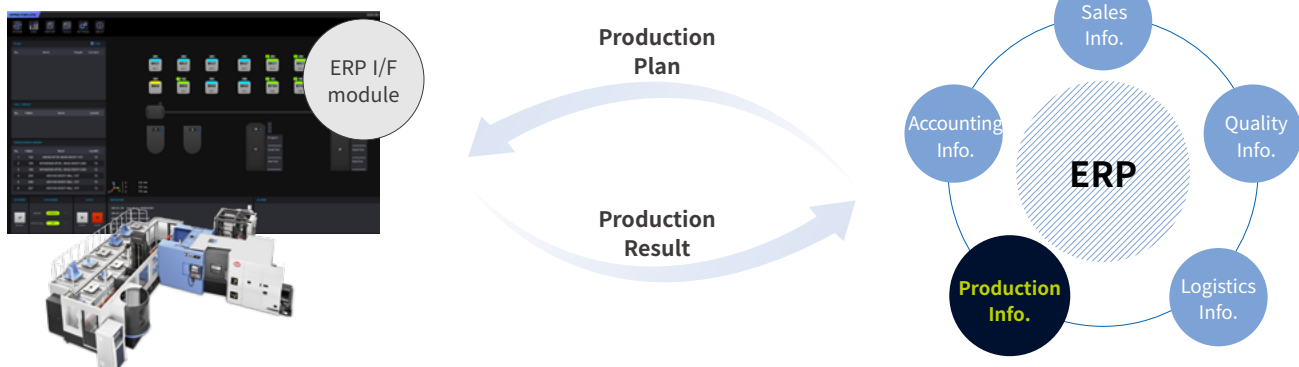
Remote DPMS

- The status of the LPS can be checked remotely through a web browser.
- Data can be registered and viewed using a web browser.
- A monitoring screen for dashboards can be displayed. (Optional - Additional Purchase Required)



ERP interface

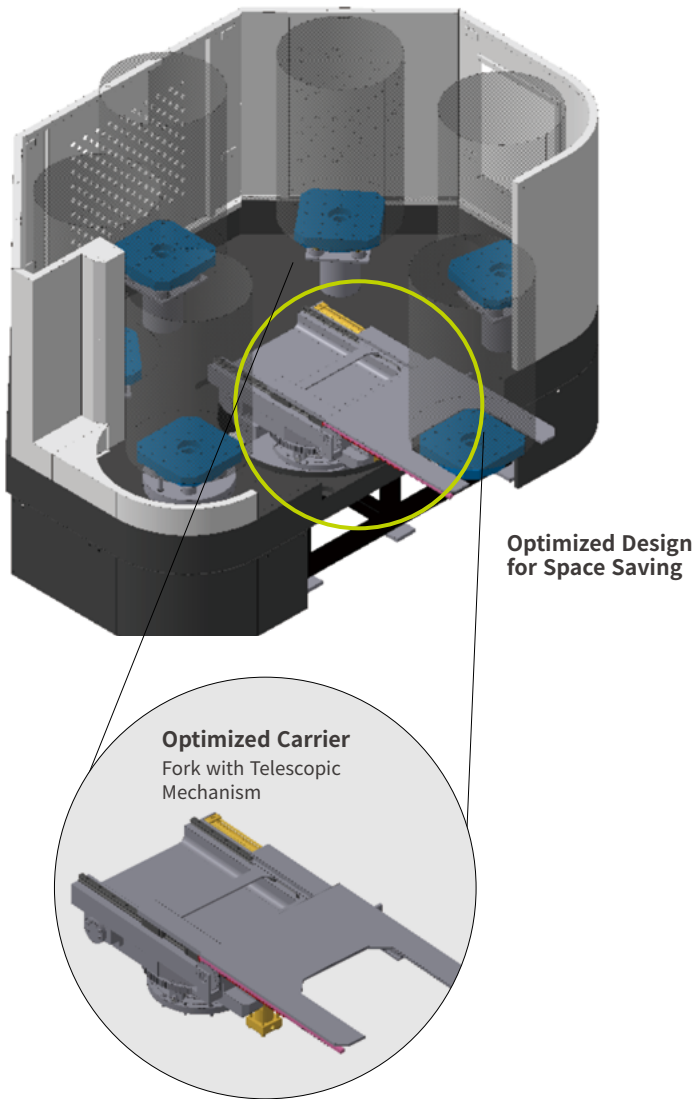
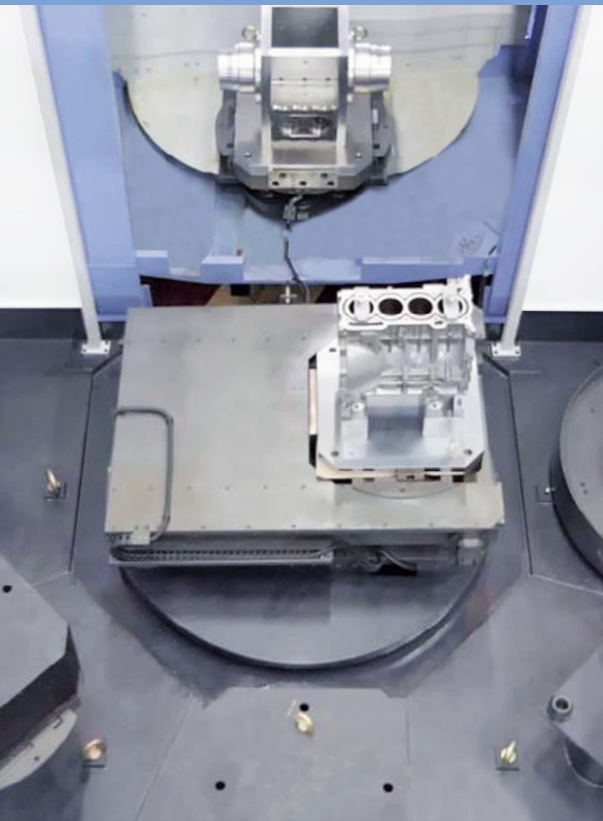
- Support sharing of information between LPS and your system such as ERP and MES.



ROUND PALLET SYSTEM

Round Pallet System 4000 / 5000 / 5500

Compact size Slim Round Pallet
System for New HMC Series.



Features

- Optimized slim design for space saving & minimal invest cost
- Telescopic Mechanism Fork
- Simple installation and easy maintenance
- Field retrofit available

Machine Specifications

Model		Round Pallet System 4000 NHP 4000 / NHC 4000	Round Pallet System 5000 NHP 5000 / NHC 5000	Round Pallet System 5500 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 / 600 (24.8 / 23.6)	800 (31.5)	850 (33.5)
Workpiece Height	mm (inch)	900 / 800 (35.4 / 31.5)	1000 / 900 (39.4 / 35.4)	1100 (43.3)
Workpiece Weight	kg (lb)	400 (881.8)	500 (1102.3) 700 (1543.2) option for NHP 5000	800 (1763.7) 1000 (2204.6) option for NHP 5500 ^{2nd}
Number of Pallets	ea	6		
Magazine Type		Buffer Station type with Carrier		
Operation		PLC operation (Built-in Control)		
Driving Mechanism	Rotating Axis	Servo Motor & Reduction Gear		
	Lifting Axis	Hydraulic Cylinder		
	Forking Axis	Hydraulic Cylinder & Rack/Pinion		
Dimension	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)

* {} : Option

ROUND PALLET SYSTEM

Round Pallet System 5500 / 6300 / 8000

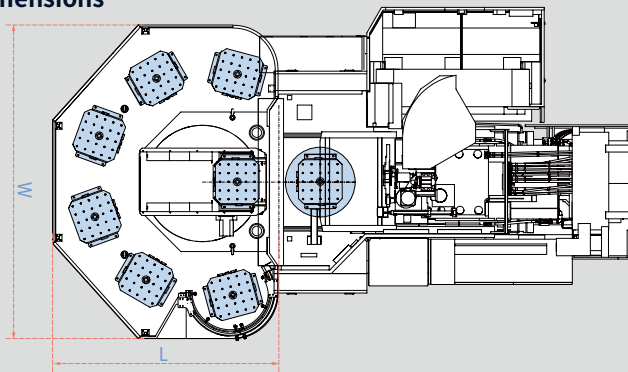
Compared to a standard twin pallet machine, the Round Pallet System offers a long period of unmanned operation and the flexibility to produce many different workpieces using the work scheduling function. This system can be easily retrofitted to existing machines in the field.

Features

- Long time unmanned operation
- High reliability by servo driven carrier type
- Simple installation and easy maintenance
Field retrofit available
- The priority order for pallet and schedule operation



External Dimensions



Machine		7 Pallet		9 Pallet	
		Width	Length	Width	Length
NHM 5000	mm (inch)	3848 (151.5)	2674 (105.3)	4222 (166.2)	3520 (138.6)
NHP 5500					
NHM 6300		4706 (185.3)	3276 (129.0)	5513 (217.0)	4200 (165.4)
NHP 6300					
NHM 8000		6462 (254.4)	4400 (173.2)	6706 (264.0)	5400 (212.6)
NHP 8000					

Machine Specifications

Available Model		NHM 5000 / NHP 5500	NHM 6300 / NHP 6300	NHM 8000 / NHP 8000	DHF8000
Pallet Dimension	mm (inch)	500 x 500 (19.7 x 19.7)	630 x 630 (24.8 x 24.8)	800 x 800 (31.5 x 31.5)	800 x 800 (31.5 x 31.5)
Workpiece Diameter	mm (inch)	850 (33.5)	1050 (41.3)	1450 (57.1)	1400(55.1)
Workpiece Height	mm (inch)	1100 (43.3)	1350 (53.1)	1550 (61.0)	1400(55.1)
Workpiece Weight	kg (lb)	800 (1763.7)	1200 (2645.5)	1600 (3527.3)	1700 (3747.8)
Number of pallets	ea	7 & 9			
Magazine type		Buffer Station type with Carrier			
Operation		Easy scheduling operation (2-Path control)			
Pallet Drive Device		Servo Motor & Reduction Gear			
Hydraulic Power Unit	kW (Hp)	2.2 (3.0)			

Note) Please contact DN Solutions sales representative for further information

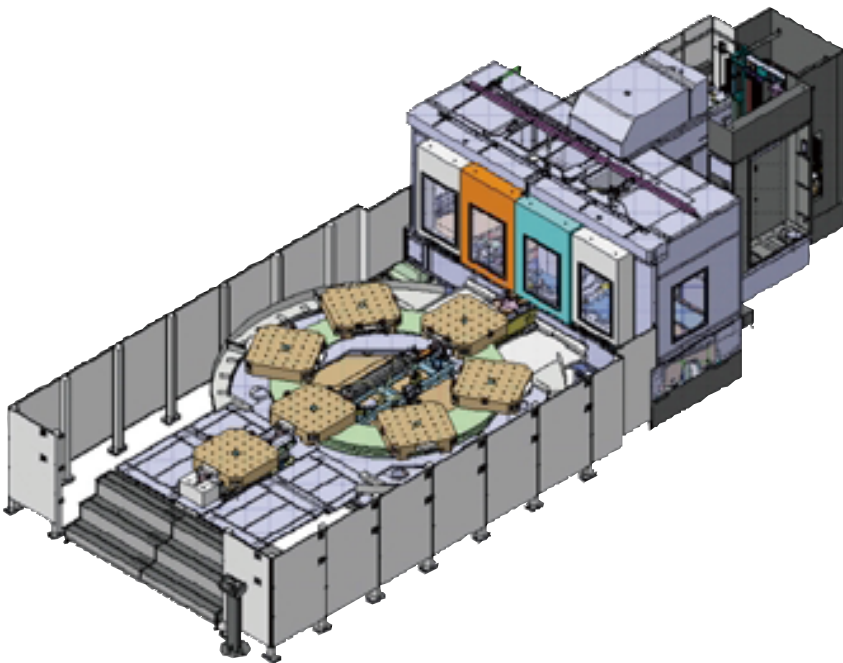
ROUND PALLET SYSTEM

Round Pallet System 1000 / 1250

Round Pallet System 1000 / 1250 is composed of a rotating pallet pool storage unit and a feed mechanism to transfer the pallet to and from the machine working area. In addition, a pallet can be transferred to a separate setup station where the operator has all-round access for loading the workpiece.

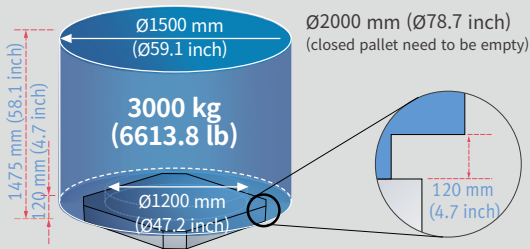
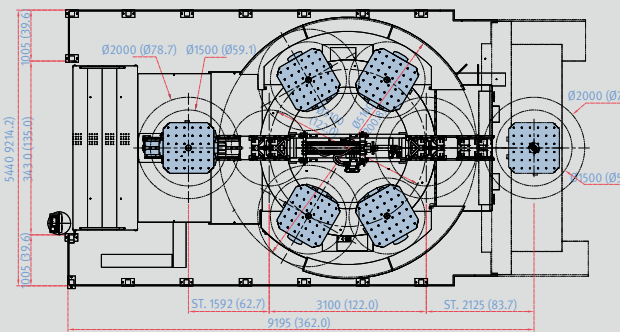
Features

- Conventional multi pallet changer (Loop type)
- Available large volume workpiece
- Driven by hydraulic unit
- Stable pallet changing unit
- Pallet scheduling operation (1-Path, PMC control)



External Dimensions

Unit : mm (inch)



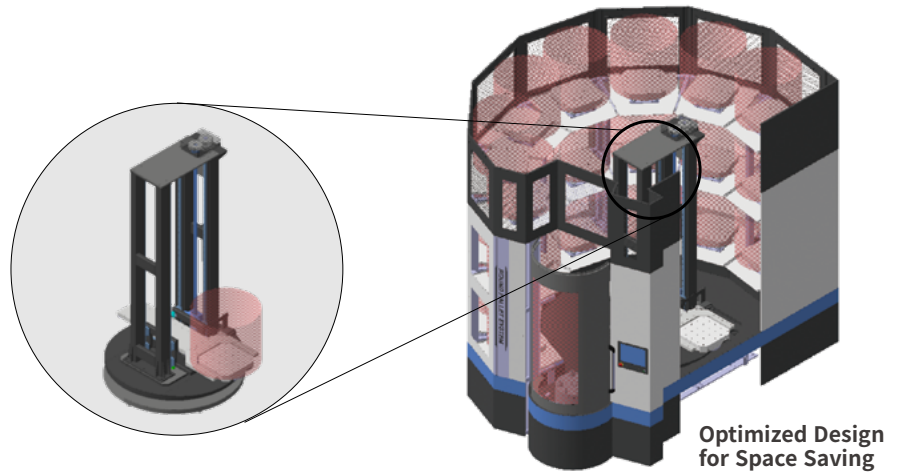
Machine Specifications

Available Model		HM 1000	HM 1250	HM 1250W
Pallet Dimension	mm (inch)	1000 x 1000 (39.4 x 39.4), 1250 x 1000 (49.2 x 39.4)		
Workpiece Diameter	mm (inch)	Cont. : 1500 (59.1) Adjacent Pallets Empty : 2000 (78.7)		
Workpiece Height	mm (inch)	1475 (58.1)	1725 (67.9)	
Workpiece Weight	kg (lb)	3000 (6613.8)		
Magazine type		Round type		
Operation		Pallet scheduling operation (1-Path, PMC control)		
Pallet Drive Device		HYDRAULIC MOTOR & CHAIN		
Hydraulic Power Unit	kW (Hp)	7.5 (10.1)		

MULTI LEVEL ROUND PALLET SYSTEM

Round Pallet System 4000 / 5000 / 5500

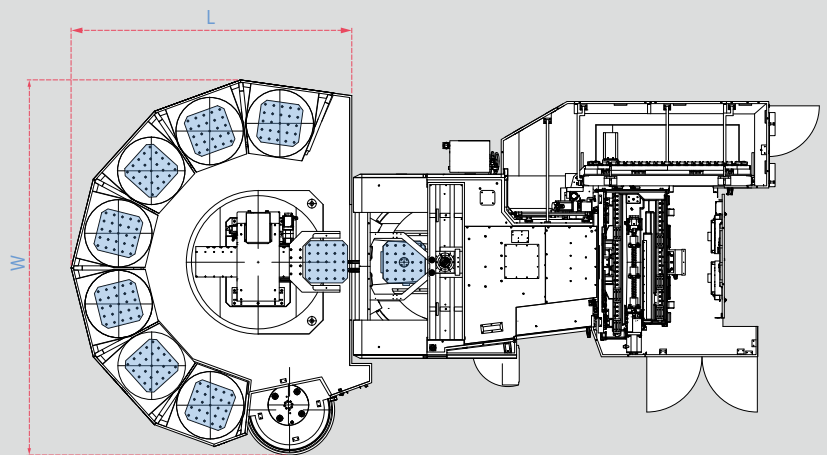
Slim Multi Level Pallet System for
HMC Taper #40 Series



Features

- Optimized Slim System with outstanding space saving
- Minimal invest cost automation solution
- Enhanced unmanned time, compared to six pallet system
- Simple installation and easy maintenance
- Field retrofit available

External Dimensions



Machine Specifications

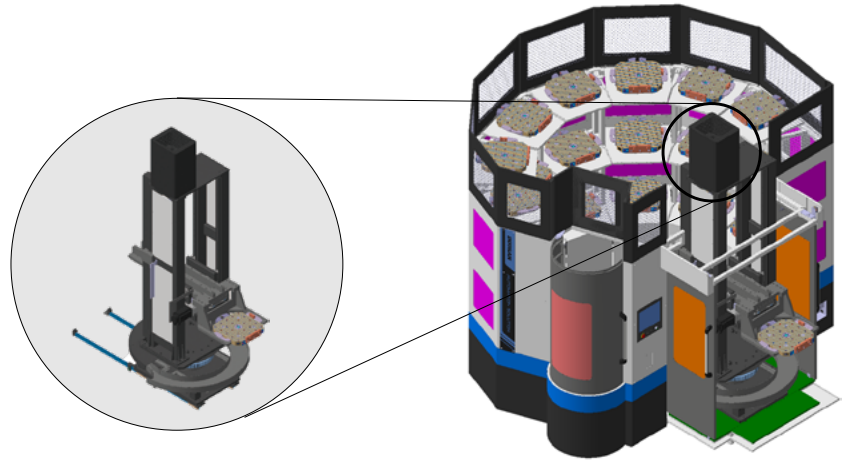
Model		Round Pallet System 4000	Round Pallet System 5000	Round Pallet System 5500
		NHP 4000 / NHC 4000	NHP 5000 / NHC 5000	NHP 5500 ^{2nd} / NHM 5000 / DHF 5500
Pallet Dimension	mm (inch)	400 x 400 (15.7 x 15.7)	500 x 500 (19.7 x 19.7)	
Workpiece Diameter	mm (inch)	630 / 600 (24.8 / 23.6)	800 (31.5)	850 (33.5)
Workpiece Height	mm (inch)	14P : 900 / 800 (35.4 / 31.5), 21P : 700 (27.6)	14P : 1000 / 900 (39.4 / 35.4), 21P : 700 (27.6)	12P : 1100 (43.3) , 18P : 750 (29.5), 24P : 350 (13.8)
Workpiece Weight	kg (lb)	400 (881.8)	500 (1102.3 (700 (1543.2)option for NHP 5000)	800 (1763.7) (1000 (2204.6) option for NHP 5500 ^{2nd})
Number of Pallets	ea	14 / 21		12 / 18 / 24
Magazine Type		Buffer Station type with Carrier		
Operation		PLC operation (Built-in Control)		
Driving Mechanism	Rotating Axis	Servo Motor & Reduction Gear		
	Lifting Axis	Servo Motor & Ball Screw w/ LMG		
	Forking Axis	Servo Motor & Rack / Pinion		
Dimension	mm (inch)	3740 x 2790 (147.2 x 109.8)	4515 x 3360 (177.8 x 132.3)	4610 x 3360 (181.5 x 132.3)

* {} : Option

MULTI LEVEL ROUND PALLET SYSTEM

Round Pallet System 6500

Multi-level pallet system with optimal machine tool accessibility.



Features

- Optimized Slim System with outstanding space saving
- Large maintenance space for optimal machine tool accessibility.
- Independent control system for 4axis
- Easy to install and maintenance



Machine Specifications

Model		Round Pallet System 6500	Round Pallet System 8000	
		DVF6500 / 6500T	DVF8000 (/50)	DVF8000T (/50)
Pallet Dimension	mm (inch)	500 x 500 (19.7 x 19.7)	630 x 630 (24.8 x 24.8)	
Workpiece Diameter	mm (inch)	630 (23.6)	800 (31.5)	
Workpiece Height	mm (inch)	430 (16.9)	490 (19.3)	
Workpiece Weight	kg (lb)	600/500 (1322.8/1102.3)	850 (1873.9)	700 (1543.2)
Number of Pallets	ea	7/14/21	6/12/18	
Magazine Type			Buffer Station type with Carrier	
Operation			PLC operation (Built-in Control)	
Driving Mechanism	Rotating Axis		Servo Motor & Reduction Gear	
	Transfer Axis		Servo Motor & Rack / Pinion	
	Lifting Axis		Servo Motor & Ball Screw w/ LMG	
	Forking Axis		Servo Motor & Rack / Pinion	
Dimension	mm (inch)	3886 x 3974 (153.0 x 156.5)	4758 x 4575 (187.3 x 180.1)	

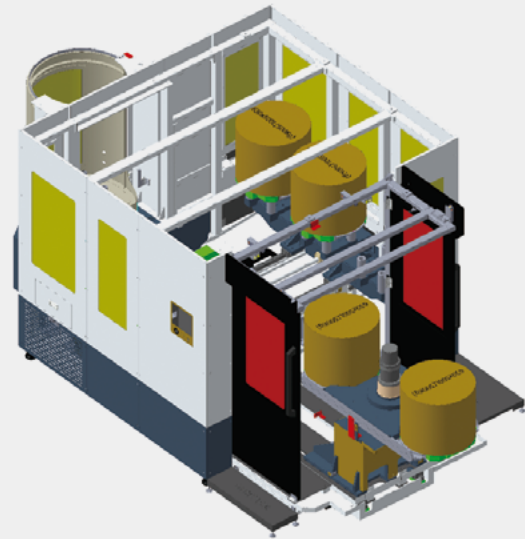
APC (AUTO PALLET CHANGER)

APC 6500 / 8000

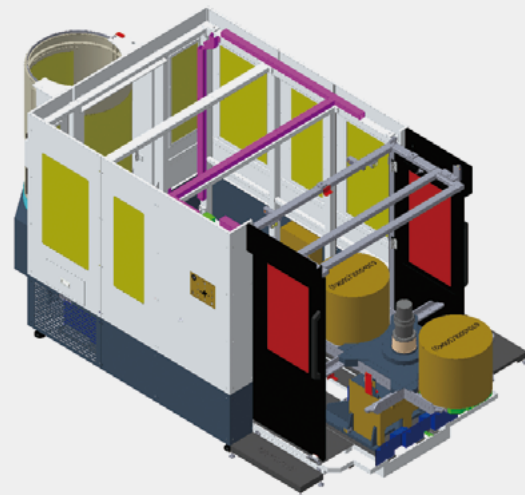
Automatic pallet changer optimized for 5-axis machine tools.

Features

- Max. 4 pallets
- Servo-control
- Large maintenance space easily accessible to the operator.
- Easy to install and management



4-APC



2-APC

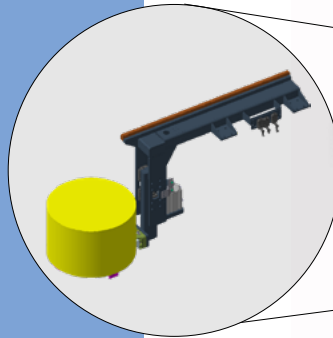
Machine Specifications

Available Model			APC 6500	APC 8000	
			DVF 6500 (T)	DVF 8000 (/50)	DVF 8000T (/50)
Pallet Dimension	mm (inch)		500 x 500 (19.7 x 19.7)	630 x 630 (24.8 x 24.8)	630 x 630 (24.8 x 24.8)
Workpiece Diameter	mm (inch)		630 (24.8)	850 (33.5)	850 (33.5)
Workpiece Height	mm (inch)		430 (16.9)	490 (19.3)	490 (19.3)
Workpiece Weight (included pallet)	kg (lb)		500 (1102.3)	850 (1873.9)	700 (1543.2)
Number of Pallets			2P / 4P		
Magazine Type	2APC	-	APC type without Buffer Station		
	4APC	-	APC type with 3-Buffer Station		
Operation	2APC	-	PLC operation (Built-in control)		
	4APC	-	PLC operation (Built-in control)		
Driving Mechanism	R Axis		Servo Motor & Reduction Gear		
	X Axis	-	Servo Motor & Rack / Pinion		
	Y Axis	-	Servo Motor & Ball Screw w/ LMG (4APC Only)		
	UP/DOWN	-	Hydraulic Cylinder & LMG		
DIMENSION	2-APC	mm (inch)	4210[L] x 2154[W] (165.7 x 84.8)	4740[L] x 2874[W]] (106.3 x 113.1)	
	4-APC	mm (inch)	4210[L] x 2900[W]] (165.7 x 114.2)	4740[L] x 3800[W]] (106.3 x 149.6)	

AWC (AUTO WORK-PIECE CHANGER)

Single Level AWC

Slim design pallet system optimized for small work pieces



Features

- Side loading/unloading for optimal access to the front.
- Minimal cost and space needed
- System with slim zero point clamp module
- Easy to install and management



Machine Specifications

Available Model			DVF5000 / DNM4500 / 5700 / 6700 / MYNX6500 / BVM5700			
Pallet Dimension		mm (inch)	250 x 250 (9.8 x 9.8)	350 x 350 (13.8 x 13.8)	400 x 400 (15.7 x 15.7)	500 x 500 (19.7 x 19.7)
Workpiece Diameter		mm (inch)	300 (11.8)	400 (15.7)	450 (17.7)	550 (21.7)
Workpiece Height		mm (inch)	350 (13.8)			
Workpiece Weight (included pallet)		kg (lb)	130 (286.6)	300 (661.4)		
Number of Pallets		ea	12	8	6	4
Magazine type		-	Rotatry Buffer Station type with Carrier			
Operation		-	PLC operation (Built-in control)			
Driving Mechanism	Rotating Axis(R)	-	Servo Motor & Reduction Gear			
	Transfer Axis(X)	-	Servo Motor & Rack / Pinion			
	UP/DOWN	-	Air Cylinder & LMG			
DIMENSION		mm (inch)	2100 X 1700 (82.7 X 66.9)			

Note) Please contact DN Solutions sales representative for further information

MULTI LEVEL AWC (AUTO WORK-PIECE CHANGER)

Multi Level AWC

An unmanned machining system that offers improved spatial utilization compared to the single-level AWC and is optimized for small-medium quantity batch production.

Features

- Increased unmanned operation hours compared to the single-level AWC.
- Optimal multi-layer loading system that saves space: up to 40 pallets.
- Easy to install and maintain in the field.
- Easy to grasp the current status of the system at glance.



Machine Specifications

Available Model		DVF 5000 / DNM 4500 / 5700 / 6700 / Mynx 6500 / BVM 5700				
Pallet Dimension	mm (inch)	Ø160 (Ø6.3) (HSK A100 Tool Type)	250 x 250 (9.8 x 9.8)	350 x 350 (13.8 x 13.8)	400 x 400 (15.7 x 15.7)	500 x 500 (19.7 x 19.7)
Max. Workpiece Diameter	mm (inch)	350 (13.8)	300 (11.8)	400 (15.7)	450 (17.7)	550 (21.7)
Max. Workpiece Height	mm (inch)	315 (12.4)	350 (13.8)			
Max. Workpiece Weight (Pallet Included)	kg (lb)	80 (176.4)	130 (286.6)	300 (661.4)		
Number of Pallets		40(4x10=40)		32(4x8=32)	28(4x7=28)	24(4x6=24)
Magazine Type	-	Buffer Station type with Carrier				
Operation		PLC Operation, Built-in control				
Driving Mechanism	Rotating Axis	-	Servo Motor & Reduction Gear			
	Lifting Axis	-	Servo Motor & Ball Screw w/LMG			
	Forking Axis	-	Servo Motor & Ball Screw w/LMG			
DIMENSION	mm (inch)	3300 x 2225 (129.9 x 87.6)				3600 x 2533 (141.70 x 99.7)



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