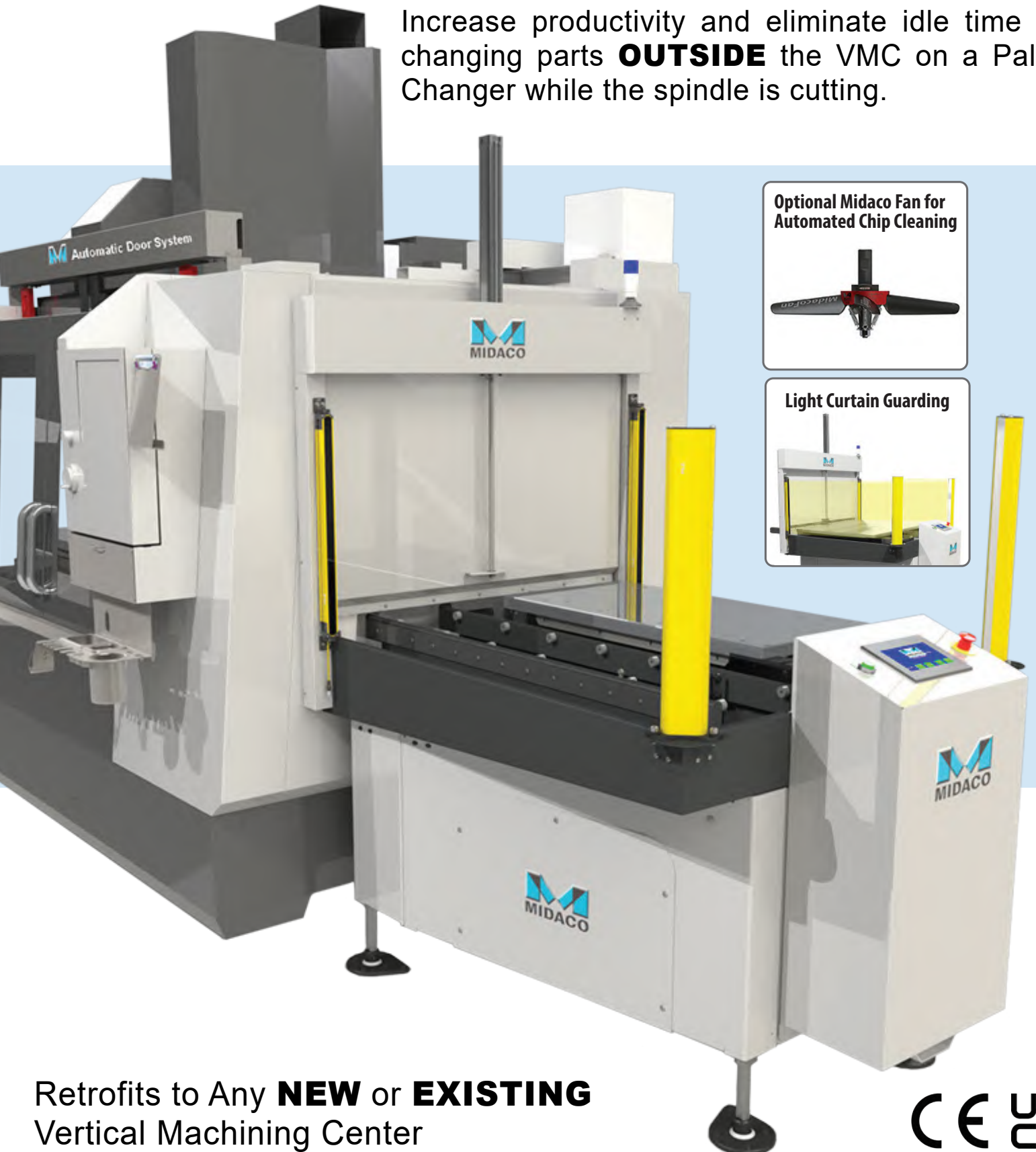




# Automatic Pallet Changer System with Light Curtain Guarding

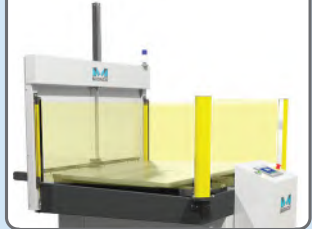
Increase productivity and eliminate idle time by changing parts **OUTSIDE** the VMC on a Pallet Changer while the spindle is cutting.



Optional Midaco Fan for Automated Chip Cleaning



Light Curtain Guarding

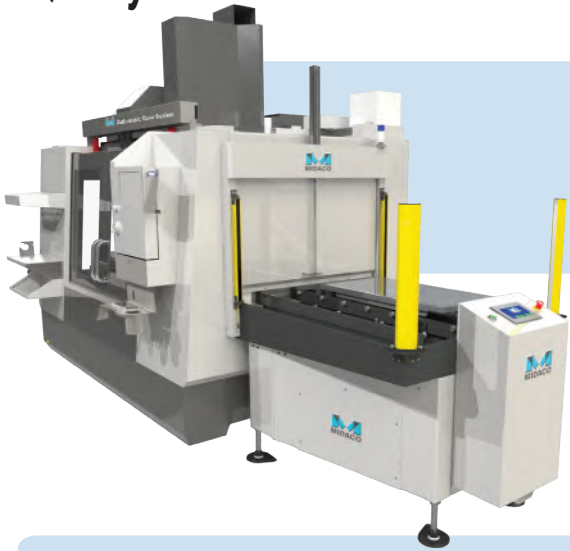


Retrofits to Any **NEW** or **EXISTING**  
Vertical Machining Center



## AUTOMATIC PALLET SYSTEMS

*Quality control tested with over 250,000 pallet changes before bringing product to market.*



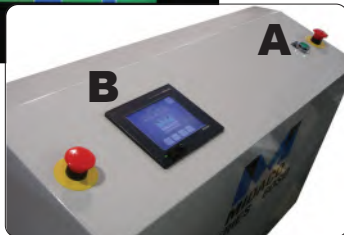
- Load, unload, inspect parts and set up jobs while alternate pallet is in the machine.
- Reduce set up time on repeat jobs by dedicating tooling onto pallets.
- Exchange pallet in seconds with +/- .0001" (.0025 mm) repeatability.
- Pallets easily interchanged between machines or departments.
- Fully integrated with CNC machine by using two M-Functions.



- Heavy/large workpieces easily loaded outside the machine.
- Single shuttle systems up to 8000 lb (3636 kg) capacity\*
- Dual Shuttle systems up to 32,000 lb (14,528 kg) capacity\*
- Jobs can be easily interrupted for emergency.
- Increase machine and operator productivity.
- Equipped with Mitsubishi controls.

\*with part weight evenly distributed

## STATE OF THE ART VERSATILITY



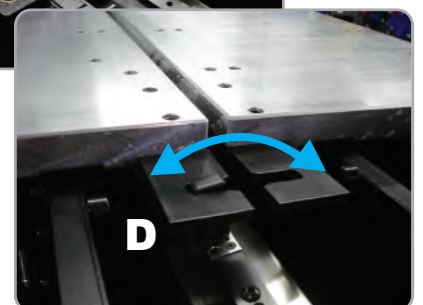
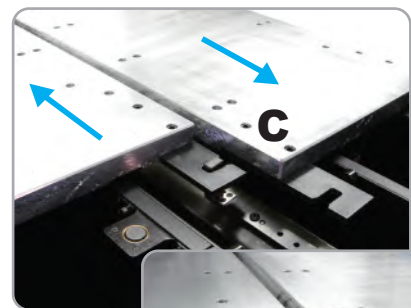
- MIDACO's PLC is fully integrated with the machine.
- While the alternate pallet is on the machine, the operator sets up the next pallet. Once ready, the operator pushes the "Pallet Ready" button (A) and walks away to attend other activities. When the pallet in the machine is complete, the next pallet shuttles in automatically.
- The PLC allows the operator to program pallet acceleration and deceleration according to the weight of the fixture to optimize performance.

### Keypad (B) Provides:

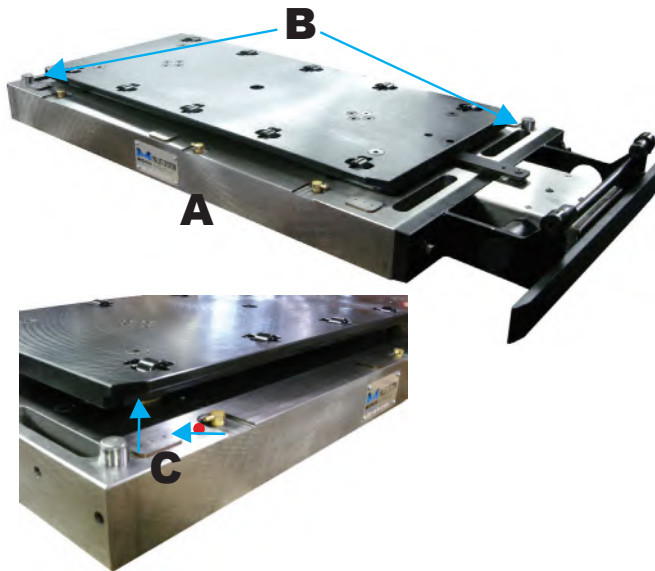
- Password protected access
- Parameters page access
- Manual functions access
- Current I/O status
- Diagnostic pages

### Electric Servo Drive Provides Proven Reliability

MIDACO's precision engineered Servo Drive assembly (C) extends into the machining center, tilts and engages with the pallet coupler (D) to remove the pallet from the machining center. The Servo Drive then delivers the next pallet into the machine in seconds.



## RECEIVER

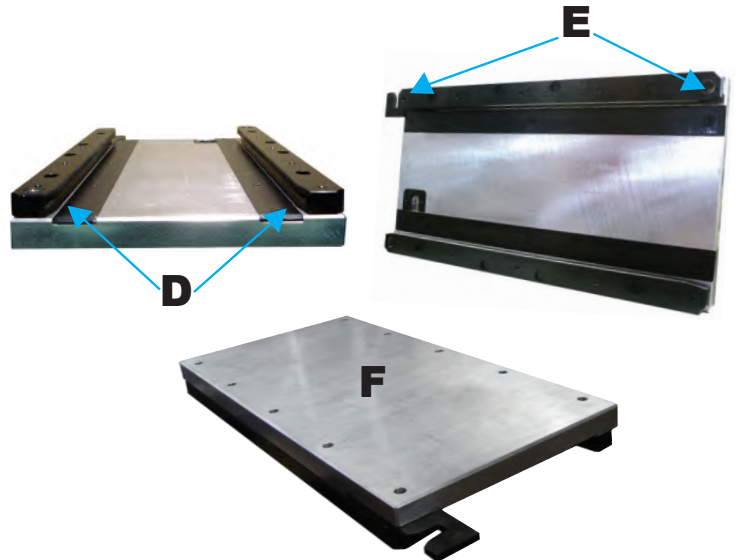


(A) Cast Iron receiver mounts directly to the machine table.

(B) Hardened and ground locating pins assure +/- .0001" (.0025 mm) repeatability.

(C) MIDACO's patented "Dual Air Blast" blows air up through and across the contact pads for chip removal. (see inset)

## PALLET



Precision ground steel rails (D) include hardened and ground bushings (E) to assure accuracy and durability.

Standard plain cast aluminum pallets (F) offer extreme versatility.

Cast Iron and T-Slotted Cast Iron custom pallets are optional.

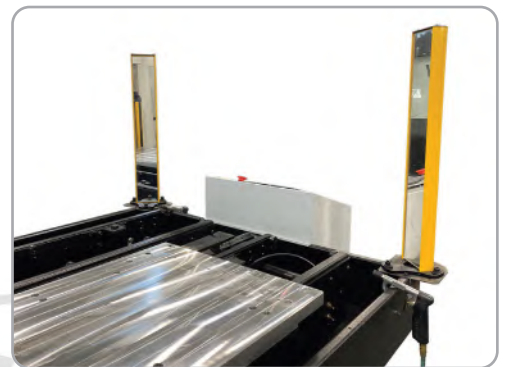
## Light Curtain Guarding

CE UK CA



All models of the Automatic Pallet Changer System are available with **Light Curtain Guarding**.

With 3-sided guarding via a light emitter, mirrors and sensors, a pallet change will not occur if the invisible light beams surrounding the shuttle system are breached.



*Since 1969, MIDACO has been a leader in providing innovative and quality solutions to improve manufacturing efficiency for companies worldwide.*



## CUSTOMER SATISFACTION

"The Pallet Changer allows the machine to run one pallet in the mill while we load, unload, and perform quality checks on identical pallets outside the machine, eliminating all unnecessary spindle downtime."

"Cycle time is just under 45 minutes due to the efficiency of this set up. One job in particular is running in cycle for 9 hours 15 minutes of our 9 1/2 hour shift, which is 98.5% efficient for the available time. Got to admit, we are more than impressed with this setup."

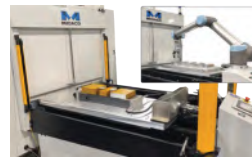
"Productivity has increased over 90% and downtime due to loading and unloading parts was greatly reduced."

"Our 16 year old system is still performing like new. In addition to reliability, MIDACO has always supported us either over the phone or on site with any troubleshooting questions."

"We have achieved a 2 hour savings in production during an 8 hour shift, a 25% increase in productivity."

## MORE SOLUTIONS AVAILABLE

Various pallet sizes, manual and dual systems are available along with other accessories designed to meet your needs.



Hydraulic Docking System and/or Robot-Cobot Mount



Dual Automatic System



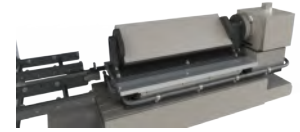
Manual Pallet System



AutoDoor & Robot Access Door Systems



Micro Pallet System - MPS31

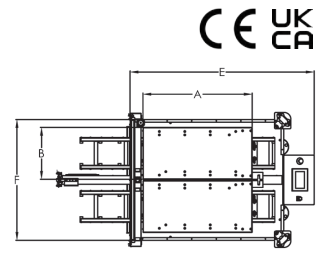
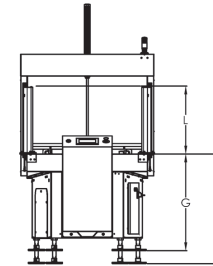
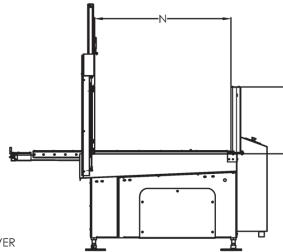
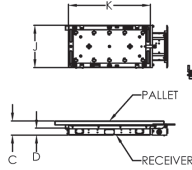


Trunnion System for 4th Axis

## Specifications

■ Optional Midaco Fan for Automated Chip Cleaning

Note: Diagram shown with Light Curtain Guarding



Automatic	A16SD		A30SD		A40SD		AS40SD		AS50SD		A50SD		A60SD		A80SD		A120SD		A150SD	
Specifications	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm	lbs. / in	kg / mm
Clamping Force*	4500	2041.2	5200	2358.7	5200	2358.7	7500	3401.9	7500	3401.9	15400	6985.3	15400	6985.3	20500	9298.6	20500	9298.6	20500	9298.6
Receiver Weight	95-107	43.1-48.5	223	101.2	239	108.4	240	108.9	243	110.2	588	266.7	594	269.4	1298	588.8	1400	635	1400	635
Pallet Thickness	1-1.25	25.4-31.8	1.5	38.1	1.5	38.1	2.0	50.8	2.0	50.8	2.0	50.8	2.0	50.8	2.5	63.5	2.5	63.5	2.5	63.5
Pallet Load Cap**	250-500	113-227	1000 †	454	1000 †	454	2000	907	2000	907	4000	1814	4000	1814	8000	3629	8000	3629	8000	3629
A (Pallet X Dim)	22-28	559-711	30	762	40	1016	45	1143	50	1270	50	1270	60-64	1524-1626	80-84	2032-2134	120	3048	150	3810
B (Pallet Y Dim)	14-15	356-381	15-19	393.7-483	19-24	482.6-609.6	24.0	609.6	19-24	482.6-609.6	24.0	609.6	24-39	610-990.6	29-39	737-990.6	29-39	737-991	31-49	787-1245
C	4.1-4.4	104.9-111.1	5.2	131.3	5.2	131.3	5.7	144	5.7	144	6.9	176	6.9	176	8.1	206.2	8.1	205.7	8.1	205.7
D	2.5	63.5	2.6	65	2.6	65	2.6	65	2.6	65	3.8	97	3.8	96.5	4.2	108	4.3	108	4.3	108
E	47-53	1196-1346	57	1448	68	1727	77	1966	77	1966	76	1941	91	2319	121	3061	161	4089	183	4648
F	35.2	894.1	36-44	919-1123	44-54	1123-1377	54	1377	44-54	1123-1377	57	1448	69-85	1753-2459	73.2-85	1859.3-2159	73-92	1854-2337	73-112	1854-2845
G (Min Height)	34.8	883.9	38	965.2	38	965.2	38	965.2	38	965.2	38	965.2	38	965.2	45	1143	38	965.2	38	965.2
H (Max Height)	44.8	1137.9	49	1244.6	49	1244.6	49	1244.6	49	1244.6	52	1320.8	52	1320.8	57-65	1448-1651	52	1320.8	52	1320.8
J (Receiver)	13	330.2	15.5	393.7	15.5	393.7	15.5	393.7	15.5	393.7	19.5	495.3	19.5	495.3	25.5	647.7	25.5	647.7	25.5	647.7
K (Receiver)	18	457.2	30	762	30	762	30	762	30	762	50	1270	50	1270	75	1905	75	1905	75	1905
L (Door Opening)	16	406.4	20	508	20	508	20	508	20	508	28	711.2	28	711.2	32	812.8	32	812.8	32	812.8
M (LC Height)	24	621	24	621	24	621	24	621	24	621	24	621	24	621	36	914.4	24	621	24	621
N (LC Opening)	30-36	762-914	39.9	1014	49.9	1269	59.9	1521	59.9	1521	58.9	1496	72.8-73.7	1849-1872	97.7-99.2	2484-2520	139.4	3541	169.4	4303

\*At 100PSI (6.9 bar) \*\*At 120PSI (8.2 bar) with weight evenly distributed † Optional 2000 lb (909kg) pallet load capacity with weight evenly distributed Patented. Specifications subject to change without notice.

MIDACO pallet systems are designed for machines with stationary guarding. Some machines require options or customization. Contact your sales representative to confirm model and specifications for all applications.



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