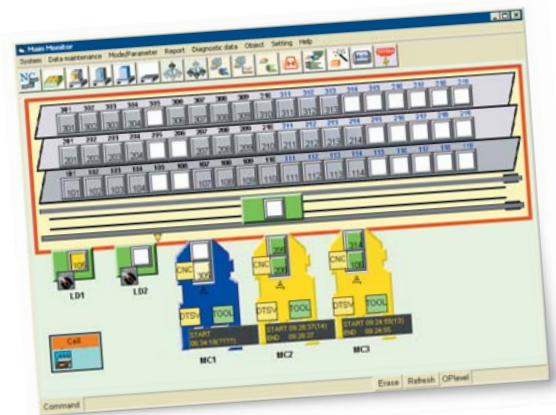




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**TOYODA**

MACHINERY USA



**Achieve highest spindle utilization with Flexible Pallet Automation**

Toyoda's FPA systems dramatically enhance the production capabilities of horizontal machining centers. By automating redundant tasks like machine loading and unloading, the system maximizes spindle utilization and minimizes operator intervention.

When dependable machine tool hardware is paired with the latest in high-speed automation and Toyoda's Mach-III Cell Controller software, it becomes a fully proficient and profitable metalcutting system.

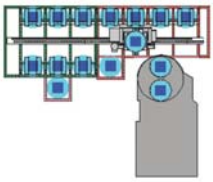
**New High Speed FPA**



The modular design of the new Flexible Pallet Automation is practical, yet also easy to customize. Depending on the production

environment, endless combinations of loading stations, machining centers and pallet storage are possible.

In-line pallet buffer racks can be one, two or three levels high, expand to the left or right, and have pallets on one or both sides of the rail. Different pallet sizes are even allowed within one system so that various



machining centers can be linked in a single multi-purpose cell. The result is a high-quality system with a low cost and short delivery times.

Modular, expandable, upgradeable... Toyoda flexible manufacturing systems expand as your business grows

**Reliable Toyoda HMCs**

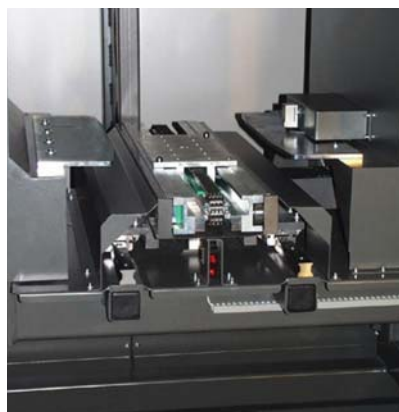
Toyoda machines can run under incredible loads 24 hours a day, year-in and year-out, and hold the same exacting precision for far longer than other machines. Such dependable performance makes them an ideal choice for unmanned production environments.

**Specifications**

**Flexible Pallet Automation**

Machines	Max 20
Misc Equipment	Max 3
Loading Stations	Max 10
Buffer Stands	12 - 120
Pallets	Max 300
Tools	40 - 800
Part Programs	Unlimited
Pallet Transfer Device	Rail-Guided Vehicle
CNC Unit	Fanuc 16i or New Fanuc 30i
Software	Windows 2000
DNC Connection	Ethernet, RS422

<b>FPA450</b>	<b>(mm)</b>	<b>(in)</b>
Pallet	450 mm	17.7 in
Swing	Ø630 x 750 mm	Ø24.8 x 29.5 in
Max weight	650 kg	1,433 lbs
X rapid traverse	3 m/s	7,087 ipm
Y rapid traverse	1 m/s	2,362 ipm
Z rapid traverse	1 m/s	2,362 ipm
Capacity as shown	3 levels, 12 pallets	3 levels, 12 pallets
Max pallets	120	120
Pallet delivery & return	35 sec (mean time)	35 sec (mean time)



The detection system on the RGV secures the correct pallet every time. An identification system double-checks the pallet as it loads.

The welded construction, linear guideways and high-speed RGV support high rates of acceleration.



**Powerful & Productive Software**



Toyoda's Mach-III Cell Controller software makes an integrated metalcutting system both easy to use and highly productive. The controller is PC-based, with the familiar Windows operating system.

From a single shop floor PC, one operator automates scheduling, workflow and CNC program selection for every machine in the cell. Detailed



production reports, tool management data, and operator logs are generated automatically, providing information critical to managing your business.

**Monitoring functions:**

- Real time monitoring of machine and rail-guided vehicle
- Display of work in queue, flagged pallets, completed pallets and empty pallets
- Display of machine status (cycle, alarm, waiting, etc.)

**Data logging functions**

- Number of pieces produced
- Alarm history
- Process history
- Communications history



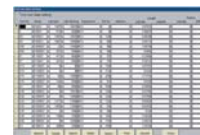
Machining Report



Operation Report



Production Report



Tool Data Maintenance



Alarm Report



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