Large capacity, high efficiency automated system for high-mix, low-volume production

Integration of flexible manufacturing system and AS/RS technologies

- Maximum 16 machines, 8 setup stations, 240 pallets
- Flexible system length and height layout
- Maximum 6 types of stocker sizes available to meet your production requirements
- Stocker crane for high speed loading / unloading
- Loading station allows access from two directions and area sensor for safety
- Smooth PMC controller for convenient machining management
- System integration with ERP available

Smart factory solutions

MAZATEC SMS

Integration with production management system available

- Synchronization of machining systems and automatic storage & retrieval system
- Machining and loading / unloading performed according to production control system
Features

Large capacity
Automated storage system (length and height) can be designed according to your factory space requirement. Stocker maximum height is 12 m (39.4 ft.).

High space efficiency
Maximum 6 types of stocker sizes, with different heights and widths are available to meet your production requirements.

Ease of operation
Pallet can be accessed from 2 directions during setup. The area sensor detects intrusion within the yellow lines shown below to ensure the same safety level as a door on the loading station.

High speed loading / unloading
The high-speed positioning of the stocker crane ensures minimum pallet loading / unloading cycle times.

Available synchronized setup station
The skid with the required material is brought to the loading station area the same time as the machine pallet is brought to the loading station for high efficiency.

Available synchronized setup station with robot
Robot loads material and unloads finished parts for automated operation.

Max. workpiece diameter: 900 mm (35.4")
Max. workpiece height: 1250 mm (49.2")
Stocker width: 1250 mm (49.2")
Stocker height: 2400 mm (94.5")
Max. pallet stockers: 240 pallets at a time
Max. workpiece diameter: 900 mm (35.4")
Max. workpiece height: 1250 mm (49.2")
Stocker width: 1250 mm (49.2")
Stocker height: 2400 mm (94.5")
Max. pallet stockers: 240 pallets at a time

Fork speed:
- 25 m/min (1240 IPM)

Vertical axis:
- 31.5 m/min (1244 IPM)

 Traverse axis:
- 125 m/min (4921 IPM)

*Pallet size 400 mm x 400 mm (15.75” x 15.75”) and 500 mm x 500 mm (19.69” x 19.69”): 100 m/min (3937 IPM)
### System layout

#### Flexible level layout

<table>
<thead>
<tr>
<th>Stocker maximum height is 12 m (39.4 ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ 400 (15.75&quot;)</td>
</tr>
<tr>
<td>□ 500 (19.69&quot;)</td>
</tr>
<tr>
<td>□ 630 (24.8&quot;)</td>
</tr>
<tr>
<td>□ 800 (31.5&quot;)</td>
</tr>
<tr>
<td>□ 1000 (39.37&quot;)</td>
</tr>
</tbody>
</table>

Stock and loading station can be located on both sides of stacker crane.

#### Management system

#### SMOOTH PMC controller machining management system

- Production data and status can be monitored using the SMOOTH PMC controller machining management system. The system uses a 23" touch panel for ease of operation.

#### System monitor display

- Current system status (machines and pallet position) is displayed.

#### Simulation display

- **Load display**
  - Upcoming load on machines and loading station(s) are displayed.

- **Missing tool list display**
  - A list is prepared showing the tools that are required for upcoming production that are not yet in the machine magazines.
  - List of tools that are not required

- **Simulation**
  - Parts name and number of parts that are forecasted to be finished in the upcoming operation are displayed. Accurate completion time can be known even in a tight schedule.

#### Data display

- A wide range of data results are shown by using a variety of graphic displays. These displays make it convenient for system administrators to analyze operations.

#### Network connection

- Operation status monitoring available for an office PC or tablet connected to a network.

### System length can be expanded after initial installation in response to increased production requirements
## MAZATEC SMS Specifications

<table>
<thead>
<tr>
<th>Pallet size [mm (inch)]</th>
<th>400 × 400 (15.75&quot; × 15.75&quot;)</th>
<th>500 × 500 (19.69&quot; × 19.69&quot;)</th>
<th>630 × 630 (24.8&quot; × 24.8&quot;)</th>
<th>800 × 800 (31.5&quot; × 31.5&quot;)</th>
<th>1000 × 1000 (39.37&quot; × 39.37&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of machines</td>
<td>16</td>
<td></td>
<td></td>
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<tr>
<td>Machines</td>
<td>Horizontal machining centers</td>
<td>HCN-4000</td>
<td>HCN-5000</td>
<td>HCN-6800</td>
<td>HCN-8800 μ-8800</td>
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<tr>
<td></td>
<td>5-axis machining centers</td>
<td>—</td>
<td>—</td>
<td>VORTEX i-630V/6</td>
<td>VORTEX e-1250V/8</td>
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<tr>
<td></td>
<td>Multi-tasking machines</td>
<td>—</td>
<td>INTEGREX i-500V/5</td>
<td>INTEGREX i-630V/6</td>
<td>INTEGREX e-1250V/8</td>
</tr>
<tr>
<td>Pallet stocker</td>
<td>Max. number of pallets</td>
<td>240</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Levels</td>
<td>3 ~ 6</td>
<td>3 ~ 5</td>
<td>3</td>
<td></td>
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<tr>
<td>Loading station</td>
<td>Max. number</td>
<td>8</td>
<td></td>
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<tr>
<td>Stocker crane</td>
<td>Number</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>Traverse axis [m/min (IPM)]</td>
<td>100 / 80 (3937 / 3150)</td>
<td>125 / 100 (4921 / 3937)</td>
<td>To be advised</td>
<td>To be advised</td>
</tr>
<tr>
<td></td>
<td>Fork speed [m/min (IPM)]</td>
<td>25 / 20 (984 / 787)</td>
<td></td>
<td>To be advised</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical axis [m/min (IPM)]</td>
<td>31.5 / 20 (1240 / 787)</td>
<td></td>
<td>To be advised</td>
<td></td>
</tr>
</tbody>
</table>

Note: Above data only applicable for MAZATROL SmoothX / SmoothG CNC

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