In high volume assembly lines requiring continuous material flow with flexibility, pallet based systems offer the optimum solution. A high degree of utilization combined with short cycle times are the base for any efficient production system. IPTE’s pallet based systems offer a variety of solutions for a wide range of applications where fast re-configurable modularity is important. The pallet routing, speed and direction is fully user programmable enabling fewer pallets to be in the system at any time. Manual and automated stations can be easily mixed together. Processes such as welding, screw-driving, pressing, dispensing, marking, testing, packing etc… can be done automated in the system.

Ergonomic manual modules

- In-line manual module
  - Intended to insert sequential manual operations
  - Compact layout design
  - Pallet stop included with read/write head
  - Turbo controller may be mounted on the crossbar

- Off-line manual module
  - Independent work-loop
  - Buffer in front of the operator
  - Permits parallel assembly
  - Accessory shelves and turbo controller may be mounted on the crossbar
**Automatic modules**

**In-line automatic module**
- Hosts sequential compact automatic operations
- Equipped with 1 or 2 pallets indexing stations
- RF read/write heads
- Optional control housing with safety guards

**Off-line automatic module 1-work-loop**
- One off-line or in-line configuration
- Up to 4 automatic stations
- Provides a large central table for equipment integration
- RF read/write heads
- Optional control housing with safety guards

**Module options**
- Ergonomic options
- Communication options
- Mechanical options
- Auxiliary platforms

**Off-line automatic module 2-work-loop**
- For proper operation, numerical indexing systems require additional free space of a pallet length on both sides of the station
Conveying modules

Transfer module
- Transports pallets to assembly workstations
- 1,8 m Pitch
- Useful for logistical organization
- Manages the flow of pallets

Return module
- Closed-loop path
- Optimizes flexibility without concern for pallets’ orientation

Bypass module
- Provides a short circuit for pallets on large systems
- Controls pallets flow
- Indexing stations can be added (on the single loop version)

T-Intersection
- Provides a short circuit for pallets on large systems
- Controls pallets flow
- Creates logically separated islands perpendicular to the main line
Pallet

Intelligent pallet

- Available in three sizes
- Equipped with 4 kB RF onboard memory
- Up to 50 kg payload

Stand-alone

MonoCell

- Stand-alone assembly & test cell
- Expandable to meet increased capacity requirements
- Flexible configuration and quick change-over to a new application
- Traceability & supervisory system included

Software

TurboScope

- Real time monitoring and recording production software
- Supervision monitoring
- Off-line modification of programs
- Use of multiple configurations
- Daily storage and traceability

TurboKit

- Real time monitoring and managing production software
- Adaptable to process or product evolutions
- Manages multiple production orders
- Reports for each product
- Graphical output
# A3D Specification

<table>
<thead>
<tr>
<th></th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pallet size:</td>
<td>13 x 21 cm</td>
<td>29 x 35 cm</td>
<td>54 x 54 cm</td>
</tr>
<tr>
<td></td>
<td>21 x 21 cm</td>
<td>31 x 41 cm</td>
<td>29 x 65 cm</td>
</tr>
<tr>
<td>Pallet payload:</td>
<td>5 kg</td>
<td>20 kg</td>
<td>40 kg</td>
</tr>
<tr>
<td>Exchange time:</td>
<td>0.7 sec</td>
<td>1.2 sec</td>
<td>3 sec</td>
</tr>
<tr>
<td>Number of automatic stations:</td>
<td>up to 5</td>
<td>up to 6</td>
<td>up to 2</td>
</tr>
<tr>
<td>Transport speed:</td>
<td>30 m/min</td>
<td>24 m/min</td>
<td>10 m/min</td>
</tr>
<tr>
<td>Digital indexing:</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Line configuration:</td>
<td>In-Line/Off-Line</td>
<td>In-Line/Off-Line</td>
<td>In-Line</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>Line pitch 180 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indexing accuracy:</td>
<td>±0.05 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport height:</td>
<td>900 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport direction:</td>
<td>Counterclockwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESD Compliant:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oily environment:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressed air:</td>
<td>6 bar - 20%, according to DIN ISO 8573 3.4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise level:</td>
<td>&lt; 75 dBA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Software and Control Systems

- Operating system: TURBO
- Monitoring system: TurboScope
- Production software: TurboKit

## Options

- Ergonomic features for manual station
- Safety enclosure
- Front extension for safety enclosure
- Dolly

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**IPTE SALES**
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