Manisa City

Fully Automated Public Parking System

**CAPACITY**
- Building footprint area: only A = 930 m²
- Building elevation: H = 1750 m
- Number of parking floors: 7 above ground, 4 underground
  - Entry-Exit & Lobby: Ground floor
- Total parking capacity: 560
- Construction volume per parking space: 44 m³

**OPERATION**
- Minimum personnel requirements
- Ventilation and lighting savings
  - No exhaust gas formation, no people inside the parking lot
- High insurance availability thanks to high safety level
- Energy cost of only € 4 ( euro cent ) per parking operation
- Ticketing system with license plate recognition
- Security cameras and tele diagnosis over the Internet

**PERFORMANCE**
- 7 simultaneous parking operations, 7 independent systems
- Entry-Exit rooms with turntables, 7 Entry-Exit rooms
- Shortest parking time: 70 sec.
- Longest parking time: 200 sec.
- Average parking time: 105 sec.
- Number of consecutive parking operations in one hour: 182

**COMFORT**
- Ease of finding parking space exactly at the desired location
  - without having to drive in heavy city traffic
- Suitable for the use of disabled people, easy parking at the large entry room.
- Parking without manoeuvring difficulties and without using inconvenient ramps
  and corridors for getting to/exiting from the parking floors and for parking.
- Safe and secure parking away from risks such as theft, accidents, etc.

**STANDARDS**
- EN 14010 - CE Certificate (CE: “European Conformity”)
- 2006/42/EC Machinery Directive

**SAFETY**
- EN 14010 Safety of machinery - Equipment for power driven parking of motor vehicles
  - Safety and EMC requirements for design, manufacturing, erection and commissioning stages
With a capacity of 560 cars, Parkule 144 is the biggest fully automated parking system in Turkey. The system that allows parking for 7 cars at the same time and renders average parking operation time of 105 seconds has TÜV-SÜD approved CE and EN 14010 compliance certificates.

**Manisa, Fully Automated Public Parking System**

Manisa, Turkey

**Technical Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction year</td>
<td>2016</td>
</tr>
<tr>
<td>Number of parking spaces</td>
<td>560</td>
</tr>
<tr>
<td>Number of parking floors</td>
<td>11</td>
</tr>
<tr>
<td>Parking floor area</td>
<td>930 m²</td>
</tr>
<tr>
<td>Parking area length</td>
<td>44.50 m</td>
</tr>
<tr>
<td>Parking area width</td>
<td>20.90 m</td>
</tr>
<tr>
<td>Parking system height</td>
<td>17.50 m</td>
</tr>
<tr>
<td>Parking system depth</td>
<td>9.00 m</td>
</tr>
<tr>
<td>Parking system structure volume</td>
<td>24,645 m³</td>
</tr>
<tr>
<td>Construction volume per parking space</td>
<td>44 m³</td>
</tr>
</tbody>
</table>

**Access Times (Approx.)**

Times for consecutive parking operations in Automatic Operation mode:
(\text{Time of vehicle delivery by driver is assumed as 45 sec.})

- Shortest parking time: 75 sec.
- Longest parking time: 200 sec.
- Average parking time: 105 sec.
- Number of simultaneous parking operations: 7

**Vehicle dimensions (Maximum)**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>5.25 m</td>
</tr>
<tr>
<td>Width</td>
<td>2.30 m</td>
</tr>
<tr>
<td>Height</td>
<td>1.60 m (364 Parking Spaces)</td>
</tr>
<tr>
<td></td>
<td>2.00 m (196 Parking Spaces)</td>
</tr>
<tr>
<td>Weight</td>
<td>2.5 t</td>
</tr>
</tbody>
</table>

System Type: Fully automated parking system
Model: Parkule 144
Technology: Dynamic position-controlled lift, quick pallet transfer conveyor system
Software: PCS 2.0

Standart: TS EN 14010