QuantumMover™ AGV

The QuantumMover™ automated guided vehicle (AGV) is a highly-flexible, scalable, and fully-automated replenishment system that accurately and efficiently delivers on-demand goods to pick-face or production and assembly lines. The AGV is suitable for multiple logistics operations, especially in the automotive and manufacturing industries.

FEATURES

- Crabbing functionality (sideways driving) optimizes routing and minimizes required space
- Accommodates a high number of totes and trays for optimized cycle times
- Robust design results in high-reliability, 24/7 availability, and long life span
Combining the QuantumMover™ vehicle with Oceaneering’s unique buffer station system to simultaneously deliver and return product bins offers an innovative approach to rapid, reliable autonomous material handling.

Process Description

First, bins are automatically loaded into the buffer station, which consists of two container towers with storage capacity for up to 20 bins. The QuantumMover™ AGV, which carries two container towers with storage capacity for up to 20 bins, then drives up to the buffer station and aligns with it. The bins from the buffer station are pushed, all at once, into the AGV’s container towers. The AGV then moves throughout a facility to deliver full product containers and retrieve empty containers. The QuantumMover™ vehicle has the ability to simultaneously return up to 20 empty bins to a buffer station.

Our proprietary SuperFROG® supervisory software platform enables users to address the complete operational management of autonomous logistics using a single solution. It supervises and controls varied functions of the vehicles and manages all activities ranging from optimized physical transports and data exchange to system health monitoring, closing the loop with full transparency and control of material handling.

The inherent control features provide the customer with a comprehensive system offering continuous, around-the-clock logistics activity. The vehicle-agnostic supervisory system uniquely enables the QuantumMover™ vehicles to be integrated into a larger network of AGVs – of similar and different types – operating within the same layout.

Benefits

» Free-range navigation technology and smart control algorithms enable full flexibility and redundancy of vehicle routing
» Fast, simultaneous loading and unloading of up to 20 bins
» Individual load transfer at flexible handling heights and on both sides of the AGV
» Opportunity charging maximizes vehicle utilization
» Low maintenance requirements maximize availability and minimize total life cycle cost
» Easily maintained using standard tools and parts across the AGV fleet
» Onboard user interface for ease of use

Vehicle Design

The QuantumMover™ AGV has dual-drive functionality and incorporates two container towers. The towers are positioned between the AGV’s front and rear compartments, each of which includes drive and steer wheel units. The dual-drive configuration enables sideways driving to ensure accurate positioning at load pick-up and drop-off points. QuantumMover™ vehicles can be integrated into a larger system of AGVs operating within the same layout and managed by the SuperFROG® control software.
Technical Data

<table>
<thead>
<tr>
<th>Application</th>
<th>Eurocontainers (23.6 x 15.7 x 12.4 in / 600 x 400 x 315 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive</td>
<td>Omnidirectional</td>
</tr>
<tr>
<td>Drive Speed</td>
<td>5.25 ft/s / 1.6 m/s</td>
</tr>
<tr>
<td>Navigation</td>
<td>Magnet, Laser, infrastructure-free</td>
</tr>
<tr>
<td>Dimensions (L x W x H*)</td>
<td>11.73 x 3.64 x 7.88 ft / 3575 x 1109 x 2402 mm</td>
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<tr>
<td>Handling height</td>
<td>12.6 - 78.5 in / 320 - 1995 mm</td>
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<tr>
<td>Maximum payload</td>
<td>20 containers @ 110.2 lb / 50 kg (evenly distributed loads)</td>
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<tr>
<td>Charging</td>
<td>Automatic floor charging</td>
</tr>
<tr>
<td>Standard power</td>
<td>Lithium chemistry battery</td>
</tr>
</tbody>
</table>

*Height does not include laser mast navigation

Oceaneering AGV Systems for Advanced Logistics Solutions

Oceaneering is a worldwide leader in safe, reliable, and flexible turnkey logistics and production solutions based on AGV technology. Through the innovative application of our field-proven hardware and software, our customers benefit from adopting our AGV systems in operation-critical tasks, providing long-term strategic value.

For more information: oceaneering.com/agv