



HAIROBOTICS

Future-Ready Flexibility



HaiPick Climb

Simplified Efficiency

How Does HaiPick Climb Work?

The HaiPick Climb system, powered by the HaiClimber robot, revolutionizes goods-to-person warehouse automation with advanced technology in a compact, efficient design.

The HaiClimber uses two climbing arms to connect to a guide rail on one side of the rack, halving connection points compared to traditional climbing systems. This reduces maintenance, ensures greater reliability, and simplifies installation by lowering precision requirements for racks and floors. As a result, HaiPick Climb is ideal for retrofitting existing warehouses or enhancing newly built facilities.

Designed for flexibility and speed, the HaiClimber navigates low-precision environments at up to 4 meters per second (13+ feet per second), moving freely up, down, and beneath racks to effortlessly access any tote in the warehouse. With order delivery to picking stations within 2 minutes—34% faster than typical ASRS—it achieves up to 4,000 tote deliveries per hour from just 1,000 m² (10,763+ square feet) of storage, maximizing throughput and storage density.

HaiPick Climb is a simplified, high-performance evolution of traditional ASRS, eliminating costly complexity while delivering superior efficiency and scalability.



What Makes It Unique?

Simplicity

HaiPick Climb offers a straightforward approach to warehouse automation—simple to implement, operate, and scale.

Easy to Implement

This system simplifies implementation with its single-sided guide rail, which demands low precision for rack installation and minimal floor preparation. By utilizing plug-and-play robots, we eliminate sophisticated customizations for different storage heights and complex configurations, saving you both time and costs. This streamlined implementation allows for a rapid go-live, accelerating your return on investment.

Easy to Operate

The compact workstations feature an intuitive interface that provides clear instructions for operators to use with ease, enabling faster training and consistent performance, leading to higher picking accuracy and customer satisfaction.

Easy to Scale

Simple implementation makes scaling a breeze. Just plug in more robots to increase throughput, add racks for extra storage, or expand capacity with more system components. Start small with low upfront costs and scale up as your business grows without any disruption.

Efficiency

HaiPick Climb delivers unmatched performance density in a compact footprint, offering superior throughput and rapid response to meet customer needs.

Extreme Throughput Efficiency

HaiClimbers are flexible to move up, down, and beneath racks throughout the warehouse to access any location, while rapid movement ensures swift picking and putaway, achieving extreme throughput performance with 4,000 totes handled per hour within 1,000 square meters (10,763+ square feet). HaiPick Climb allows businesses to process more orders in a shorter time, increasing overall productivity to meet fast delivery demand.

Optimized Storage Density

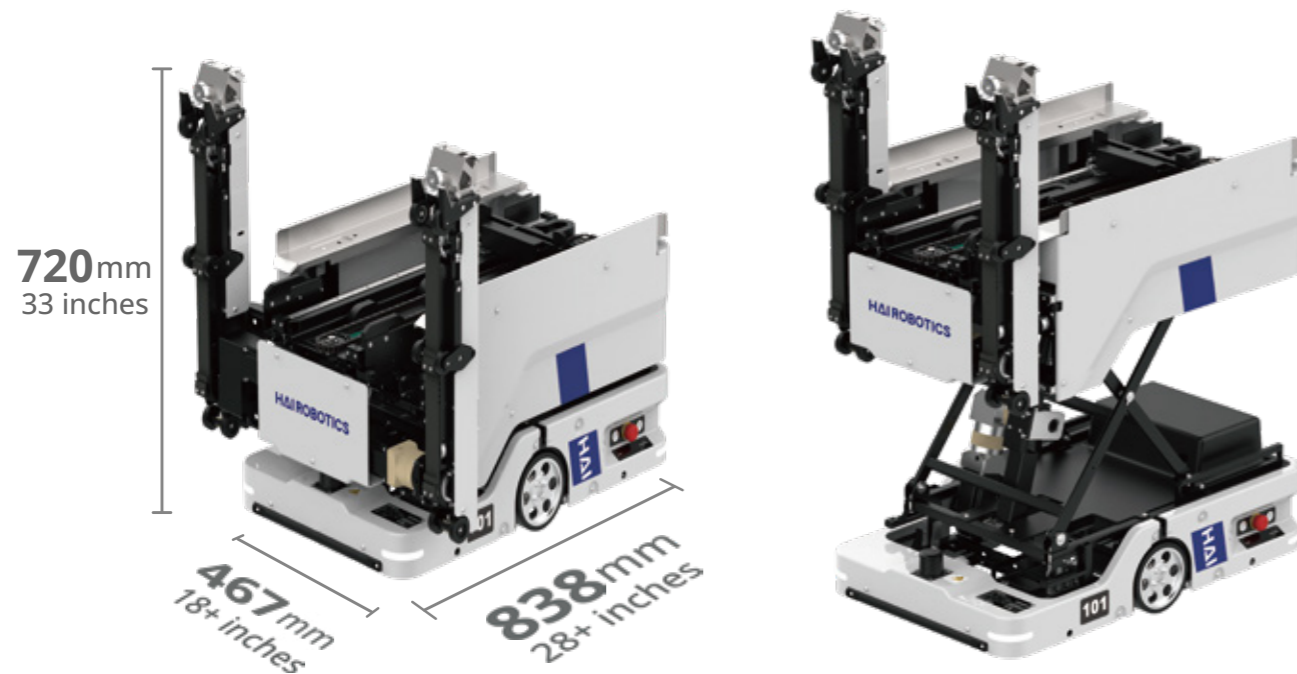
The compact robots allow for narrow aisles, and their agility eliminates the need for cross-aisles, leading to a space-efficient racking design that makes the most of available space. HaiPick Climb's efficient use of both horizontal and vertical space, reaching up to 12 meters (39+ feet) in height, allows for an impressive 30,000* storage locations within 1,000 square meters (10,763+ square feet), significantly enhancing space utilization and reducing footprint.

*Double-deep storage available from Q3 2025

System Components

■ HaiClimber

Embodying a design philosophy that values both simplicity and efficiency, HaiClimbers were skillfully engineered to simplify inventory automation, eliminate the limitations of older technologies and provide extreme throughput density.



Features

- Robots climb a single side of a rack using only 2 touchpoints, ensuring high robotic uptime and reducing both rack and floor tolerance requirements.
- Free movement up, down, and beneath racks enables optimized path planning and fast delivery.
- Compact design allows for narrow aisles to maximize storage density.
- Bi-directional picking allows for picking from both racks in an aisle.
- HaiClimbers arrive ready to begin working for a fast, easy go-live and easy system scaling.

Facts & Figures

- Ground speed up to 4 m/s (13+ feet/second), climbing speed up to 1 m/s (3+ feet/second).
- Fulfills orders in under 2 minutes.
- A fleet of up to 3,000 robots for one system.
- Automated charging enables 24/7 operations.

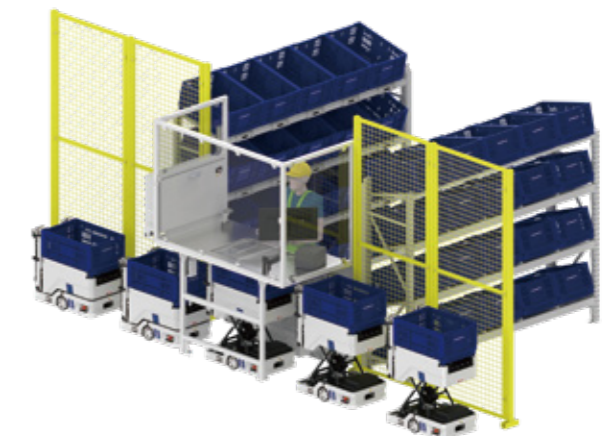
■ Workstations

The HaiPick Climb workstations are compact, allowing for more storage and space utilization in your warehouse. Their ergonomic design and intuitive interface ensure fast and accurate picking with 99%+ pick accuracy and no human travel to fulfill each order. These workstations allow for 4x operational efficiency and 3x more daily throughput compared to manually dependent operations, helping to overcome challenges caused by a labor shortage and reduce strenuous work while increasing worker productivity.

Double-layer Conveyor Workstation



Desktop Workstation

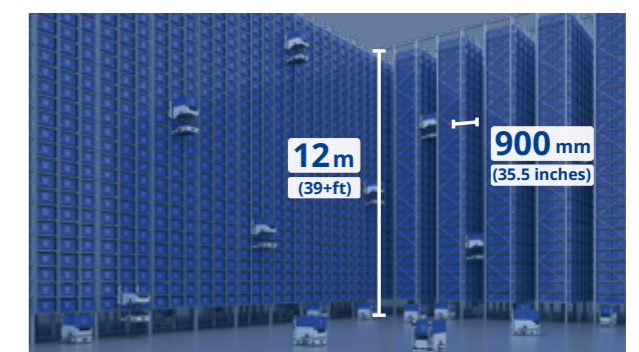


Streamlining inbound operations, HaiClimber robots deliver empty totes to this workstation where they are refilled with inventory at a rate of 150 totes per hour per workstation.

Typically used for order picking, these workstations can double as inbound workstations when appropriate. The HaiClimbers drive under the desk and present the tote for picking. 350 totes per hour are presented for outbound order picking.

■ Racking

HaiPick Climb can be implemented using most standard cross-bar racking up to 12 meters (39+ feet) high, with guide rails attached to one side of the racking to assist the robots in their climb. Racks can be installed with aisles as narrow as 900mm (35.5 inches) wide for maximum storage density.



HaiQ

The brains behind the system

HaiQ, an intuitive and user-friendly warehouse management platform, enhances throughput and operational efficiency by intelligently managing order execution and robot dispatch, ensuring faster order fulfillment. Additionally, HaiQ provides real-time insights into warehouse and automation operations, supporting data-driven decision-making.

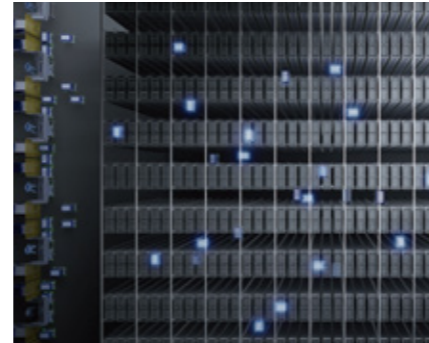
Strategic Order Management

The Warehouse Execution System (WES) integrates seamlessly with upstream systems such as ERP and WMS, offering efficient strategies for processing inbound and outbound orders. The WES employs tactics to maximize throughput efficiency, including heat-map zoning for optimized storage allocation, smart order batching for streamlined travel, and dynamic priority adjustment for expediting urgent delivery.



Efficient Robot Management

The Equipment Scheduling System (ESS) efficiently manages robots through task allocation, scheduling, and path planning, ensuring a smooth and efficient workflow that enhances efficiency during picking and putaway operations.



Valuable Operation Insight

The Data Platform (DP) seamlessly integrates, analyzes, and visualizes data from various systems, including WES and ESS, to deliver critical operational metrics on inbound and outbound efficiency, and accurate inventory for easy stock-keeping, enabling data-driven decision-making.

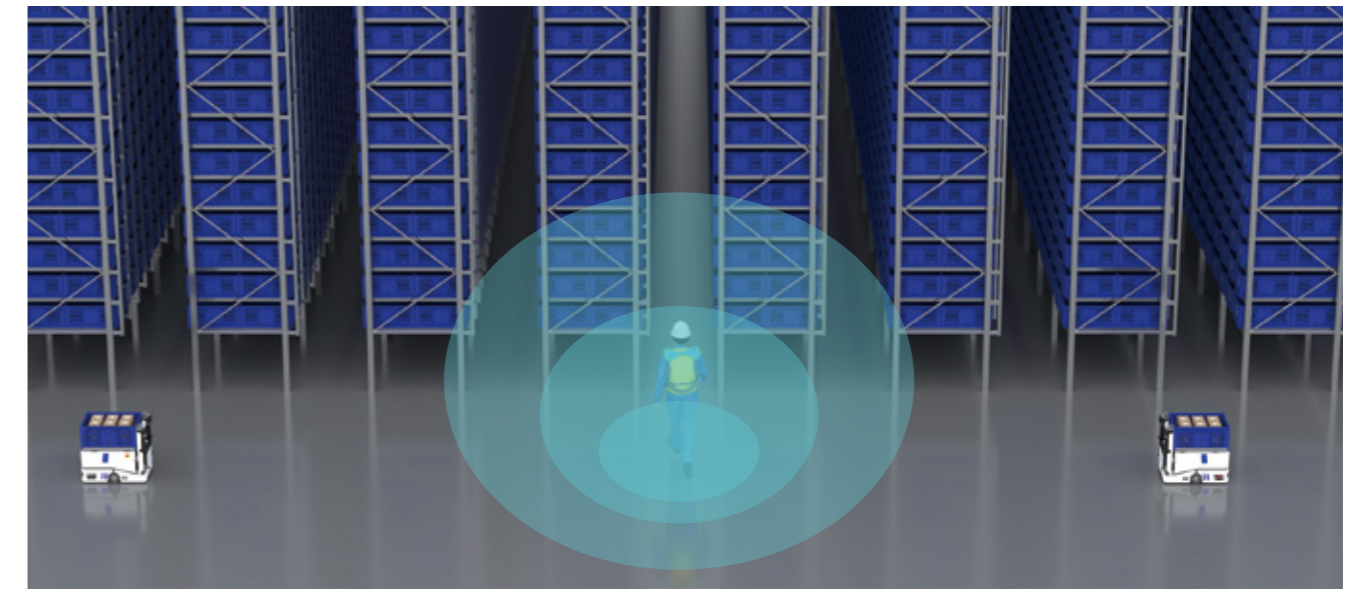
Built on the DP, the 3D Supervisory Control And Data Acquisition (3D SCADA) offers real-time insights through the visualization of automation operations. It displays the status of robots, workstations, and inventory, enabling optimized scheduling and remote inspections for efficient and precise warehouse management.



Safety

Every HaiPick System is enclosed with a fence to ensure the security of inventory and prevent accidental entry into the robotic working space. This ensures human interaction is through ergonomic, safe workstations designed for human movement, and if a person were to enter the system without authorization, collision prevention detectors will stop a robot if they were to encounter each other.

Operators wearing a HaiSafety Vest can safely move alongside operating HaiPick robots. This lightweight, electronic vest indicates the wearer's position, prompting the robots to adjust their routes and slow down when near, or even come to a halt if necessary. This ensures minimal interference with ongoing operations during tasks like maintenance or cleaning.



About Us

Hai Robotics is a leading global provider of Automated Storage and Retrieval Systems (ASRS), providing unparalleled system flexibility and maximizing operational efficiency for all facilities.

Hai developed a modular approach to automation called HaiPick Systems. Through a catalogue of advanced robotic equipment and software packages, with the inclusion of almost any industry standard racking and storage materials, Hai Robotics provides tailored automated solutions that are designed for easy modification after implementation.

HaiPick Systems provide up to 75% reduction in warehouse storage footprints with increased storage density and 12 meters (39+ feet) vertical storage, 99%+ order pick accuracy, 4x efficiency enhancement, 3x more daily throughput, and eliminate human travel for order picking.

With 1,500+ projects implemented in 40+ countries, supported by 8 offices worldwide and 60+ global partners, Hai Robotics is a reliable resource for providing local support.

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