AUTOMATED STORAGE AND RETRIEVAL SYSTEMS



Honeywell
Intelligrated®

HONEYWELL INTELLIGRATED AS/RS SOLUTIONS

Honeywell Intelligrated provides automated storage and retrieval system (AS/RS) solutions to increase operational throughput and efficiency while reducing labor requirements and storage footprints. Designed to meet increased e-commerce fulfillment and storage demands, our solution offers a wide range of load handlers and storage configurations while providing seamless integration with goods-to-person (GTP) and inventory decant stations. Powered by our innovative Momentum warehouse execution system (WES) with Decision Intelligence and MC4 machine control platform, our scalable AS/RS shuttle quickly adapts to a variety of operational requirements to maximize the utilization of new and existing facilities. Our single-source integrated systems reduce overall project risk and are backed with robust 24X7 after-sales service and support to ensure maximum uptime, durability and return on investment (ROI).

BUILD UP, NOT OUT

Growing inventories, lack of available real estate, the cost of facility expansion and labor pressures are all pushing operations to make the most efficient use of their existing workspaces. This means utilizing a facility's total cubic volume — horizontally and vertically — to increase storage density.

Scalable, high-speed AS/RS shuttle solutions from Honeywell Intelligrated feature end- and intra-aisle vertical lift locations to maximize warehouse floor space and efficiently manage a wide array of stock keeping units (SKUs). We offer a comprehensive range of technologies to accommodate even the most demanding distribution center (DC) environments and space constraints.

SINGLE-SOURCE ACCOUNTABILITY AND RELIABILITY, DECADES OF INTEGRATION EXPERTISE

Honeywell Intelligrated leverages deep experience designing and implementing holistic automation systems that seamlessly integrate AS/RS shuttles into comprehensive distribution, fulfillment and manufacturing solutions. With automation technologies built upon the Momentum software suite — including picking, conveyor, sortation, palletizing and depalletizing, and robotic solutions — Honeywell Intelligrated can solve the toughest fulfillment challenges, make the most of existing brownfield systems, or optimize greenfield projects.

SCALABLE AS/RS SHUTTLE SOLUTION

The Honeywell Intelligrated AS/RS shuttle solution is designed to help DC operators quickly move higher volumes of product and make the best possible use of their available workspaces. Scalable to nearly any footprint, our AS/RS shuttle features fully integrated GTP fulfillment and inventory decant stations to optimize the flow of materials in and out of a storage system. This integrated AS/RS solution leverages our next-generation Momentum WES with Decision Intelligence to optimize inventory allocation, maximize storage and resource utilization, and prioritize order fulfillment.

- At-a-glance visibility into DC operations
- Enhanced user interface (UI) for status updates
- Alert notifications of faults and areas that need to be corrected
- Advanced artificial intelligence (AI) and machine-learning (ML) algorithms for dynamic, proactive decision-making and optimal system automation

ORDER PICKING

High-volume, e-commerce fulfillment operations can leverage our AS/RS shuttle and GTP station configuration to automate traditionally labor-intensive order picking tasks. In this highly efficient workflow, shuttles pull totes from inventory racks, route them via vertical lifts to conveyors, and deliver them to a GTP station operator.

Our ergonomic GTP station is designed to support high-speed and scalable order fulfillment pack-out and induction, including a guided user interface (UI) and emulation and/or simulation capabilities. The GTP solution is equipped with standard machine control interfaces and is powered by Momentum WES.

CASE BUFFERING

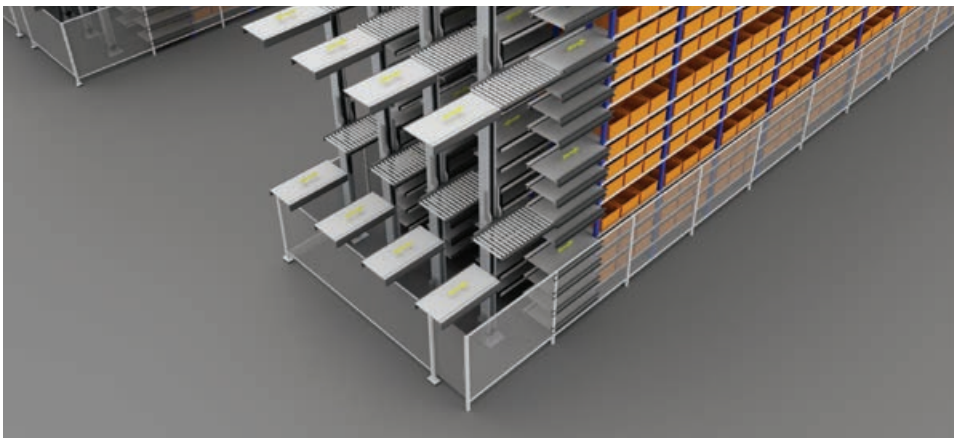
The Honeywell Intelligrated shuttle solution can be used for a comprehensive, highly efficient case buffering system designed to keep shipping, receiving and other downstream processes running smoothly. The system uses multiple aisles in close proximity to provide high storage density and serve quick-turn inventory storage and high-throughput operations.

Full cartons are inducted into the system where they are then conveyed to lifts, which carry them to the correct rack level. Shuttles carry cartons into the rack and place them into the correct storage location. Shuttles retrieve cases from the rack and convey them to lifts as needed. Lifts carry the cases back down to the outbound conveyor, where they go for further processing or directly to a shipping location.



AS/RS SHUTTLE — CAPABILITIES AND BENEFITS:

- Stores 20,000+ SKUs
- Delivers a 30 to 40% increase in throughput over traditional picking methods
- Meets 24- to 48-hour service level agreements (SLAs)
- Achieves up to 99.9% order accuracy
- Consumes up to 40% less space
- Reduces labor costs and inefficiencies of traditional picking processes
- Avoids capital expenditures (CAPEX) for building expansion or new construction



SOLUTIONS OVERVIEW

Intelligent automated material handling solutions from Honeywell Intelligrated optimize processes, increase efficiency, and give businesses a competitive edge. Honeywell Intelligrated designs, manufactures, integrates and installs complete warehouse automation and software solutions, including:

- AS/RS
- Conveyor and pallet conveyor systems
- Fulfillment technologies
- Honeywell Robotics
- Labor management software (LMS)
- Lifecycle Support Services (LSS)
- Machine control
- Palletizing and depalletizing
- Sortation systems
- Voice solutions
- WES

LIFECYCLE SUPPORT SERVICES

Lifecycle Support Services employs a consultative, data-driven approach to achieve your critical business outcomes. By delivering proactive, value-added services (VAS) and solutions, we can help you to reduce the risk of downtime and increase system availability, longevity and dependability. Drawing from a full spectrum of strategic services, we offer multiple engagement models, tailored to your business, culture and strategy.

Our comprehensive portfolio constitutes the key building blocks of a successful lifecycle asset management plan. By conducting assessments of both your equipment condition and operational efficiency, we can determine how to optimize your operations with:

- Engineered solutions
- Technical services
- Contract services
- Training
- Honeywell Intelligrated spare parts

THE CONNECTED DISTRIBUTION CENTER

The pace of change in modern commerce is putting tremendous pressure on fulfillment operations. To stay competitive and protect profits, companies need solutions that help them achieve maximum throughput, day-to-day flexibility, future-proof scalability and intelligence to make informed decisions.

The Connected Distribution Center helps companies make the digital transformation necessary to increase reliability, improve utilization and maximize productivity through:

- Intelligent, data-driven, high-speed execution
- Automated, adaptable processes for machines and workers
- Optimized utilization with the ability to seamlessly adapt and expand
- Insights and predictive analytics, from sensors to the cloud

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