

SSI SCHAEFER Introduces Flat Pack Picking, an Efficient Picking Solution for Heavy, Bulk Packaged Goods

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/EINPresswire.com/ -- SSI SCHAEFER brings a much-needed [automated picking](#) solution to the furniture industry. Given that the pandemic also brought a surge of online furniture sales, suppliers have been faced with how to handle a growing demand of order fulfillment. Aligning a fulfillment approach with the new reality of how people shop hasn't been easy for the furniture industry. Flat Pack Picking offers a truly unique and automated turnkey system solution from one of the world's leading material handling

suppliers. SSI Schaefer supports solutions that provide efficient palletizing for furniture retail replenishment and e-commerce direct-to-consumer orders. The picking module consists of gantry robots and provides an efficient handling of items found typically for furniture e-



Automated picking solution for large, heavy, bulk packaged goods.

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*Tim Langenbach, Director of
Business Development*

commerce, which is especially diverse. It also frees employees from having to perform tasks with poor ergonomics and ensures a constant flow of goods. And given the high cost of real estate today, the space savings for this solution is welcomed given that it requires up to 50% less space when compared to convention tunnel picking.

Changes within the Furniture Industry Spurred the Development for a New Fulfillment Approach

The pandemic changed everything, including furniture e-commerce. Customers have realized that even large pieces of furniture can be ordered

conveniently online. A survey by Technavio Research forecasts worldwide growth of \$84.26 billion in furniture e-commerce between 2020 and 2024. Traditional suppliers must respond and implement suitable multi-channel picking strategies that meet



SSI SCHAEFER Logo

the demand for on-time delivery associated with e-commerce business for same- or next-day delivery. At the same time, the furniture industry is facing extremely fierce price competition and suppliers are looking for solutions to permanently reduce order processing costs. Another challenge is the range of products. Stocking a diverse group of products involves heavy, bulky goods that need to have dense storage solutions and are usually difficult to handle manually. It's manual handling that increased the demand for an ergonomic solution to prevent musculoskeletal disorders of warehouse professionals and to make work inside the warehouse more attractive for potential employees.

Flat Pack Picking – Picking Heavy and Bulky Items Efficiently and Automatically

To help the furniture industry meet these challenges, SSI Schaefer developed the Flat Pack Picking solution – a turnkey system for safe, fully automated handling of a wide range of SKUs within the furniture industry. The solution is the result of an initiative of SSI Schaefer engineers that specialize in retail fulfillment, which was brought to market in cooperation with a multinational furniture corporation.

Gantry robots take over the picking of heavy and bulky items, allowing employees to focus on handling lighter and smaller items. SSI Schaefer supplies the Flat Pack Picking module, including both the hardware and software, from a single source. It is designed for high performance, can scale when needed, and allows compact installation in both new and existing warehouses with limited floor space. Another characteristic feature is efficient palletizing. By using intelligent algorithms, the system automatically generates packing patterns based on the various SKU specifics to optimize the stability of the load for order pallets and it reduces the volume.

Flexible and Efficient Handling for a Diverse Product Spectrum

The solution combines a high-bay warehouse, which serves as an automatic pallet buffer for picking, with gantry robots to create an efficient overall solution. After they pass through a contour/weight check, the conveying system moves pallets to the feed-in process of the high-bay warehouse. There, energy-efficient SSI Exyz storage-retrieval machines (SRM) store them temporarily. Pallets are retrieved for picking on an as-needed basis. For pallets with fast movers, the storage-retrieval machine transfers them to a shuttle car, which then places them on static picking stations. Slow movers, by contrast, are transported directly from the storage-retrieval machine to connecting conveyors, which make them available for picking. When no longer required, opened source pallets of slow movers are returned to storage in the same fashion.

Along the buffer aisle, four RO-BER FP150 series gantry robots pick orders, accessing both static A-items and dynamically provided B- and C-items within the picking area. The gantry robots are equipped with multifunctional grippers that automatically adapt to the dimensions of the items and the type of packaging by means of a servo motor with adjustable suction cups. RO-BER Industrieroboter GmbH, a subsidiary of SSI Schaefer, developed the gantry robots and grippers. Vision technology, in combination with WAMAS® logistics software, supports this process, allowing each picking robot to quickly identify the proper position of the requested item. Goods up to 8 feet in length and weighing more than 132 pounds are safely picked up from the source pallet and transferred to the ready-to-use order pallet. The removal of intermediate layers is also fully automated. The stored packing pattern generator, the SSI Pack Pattern Generator, ensures a safe, optimized arrangement of all items on the order pallet, which is prepared for further processing via a buffer as part of the outbound process.

Consistent Performance and Attractive Working Conditions

“With Flat Pack Picking, we now offer the first integrated solution to handle specific requirements within the furniture business with one system,” says Tim Langenbach, Director of Business Development – Retail & Wholesale and Food Retail at SSI Schaefer. “We were able to use a simulation to demonstrate that, with four gantry robots, it is possible to achieve up to 290 picks per hour given an appropriate order structure.” Since replenishment and picking are fully automated, this method achieves a consistent high level of performance. Flat Pack Picking frees staff from monotonous work and reduces the chance of workplace injuries.

Cost Optimization and a Quick Return on Investment (ROI)

The highly innovative Flat Pack Picking solution makes it possible to handle both orders for delivery to brick-and-mortar furniture retailers and online orders placed by the end customer in parallel – quickly, reliably, and efficiently. Compared to tunnel picking, which requires walkways and separate replenishment areas, the automated solution requires approximately 50% less space. “Operators benefit from reduced logistics costs per order and also save on fixed costs, so the investment pays for itself quickly,” says Tim Langenbach in summary. SSI Schaefer supplies the complete system solution, which is specific to each application for both retail and manufacturing clients. Being a single-source provider ensures the highest level of quality, sustainability, and investment security. The Flat Pack Picking solution has a modular design, is flexible, and can scale at any time for greater business volume as expected within e-commerce furniture forecast. In addition, the design can work within other industries that deal with large-volume and bulky goods, such as radiators, windows, wood or plywood sheathing, sheet metal, or fence elements.

About Schaefer Systems International, Inc.:

Schaefer Systems International, Inc. provides storage, materials handling, robotic, warehouse

management software, and autonomous driverless solutions to businesses throughout North America. Schaefer Systems International, Inc. consults, designs, and manufactures innovative intralogistics storage and picking solutions for all types of industries. Schaefer Systems International, Inc. is part of the SSI SCHAEFER Group, a global leader in logistics and materials handling, which was founded in 1937 with offices in over 70 countries, seven manufacturing facilities, and employees over 9,000. For more information, visit www.ssi-schaefer.com.

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