

Festo Palletizing Kit Cuts Engineering Costs, Speeds Time to Market

All-in-one palletizing kit combines pre-assembled mechanics, controls, and software.

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The two standard and one custom FPaKits are pre-designed and pre-configured for loads of up to 110 lb (50 kg) and speeds from 4 to 10 boxes per minute. The kits include both hardware and software from the Festo product catalog. Compared to starting from scratch, every FPaKit reduces engineering expenses and commissioning hassles for the machine builder, while shortening time to market and offering a fast return on investment (ROI) for customers. FPaKits lower risk as the catalog-based components are available, interoperable, and globally supported by Festo.

According to a 2025 report from [Data Intelo](#), the global gantry palletizing market is growing at a compound annual rate of 9.4%, reaching \$2.7 billion USD by 2032. Data Intelo reports, “The adoption of Cartesian (gantry) palletizing robots is rising because of their capability to handle repetitive tasks with high precision and speed, which minimizes human error and lowers operational costs.”

While attention today seems focused on the low cost of acquisition for cobot palletizing solutions, gantry palletizers deliver a host of advantages over cobots and light payload industrial robots, including:

- Higher payloads and 100% workspace coverage
- Higher speed and cycle rates
- Minimized space requirements
- Axes and tooling tailored to the customer’s range of packaging, pallet pattern, and future needs
- Worker-safe, high-speed operation
- Simple linear mechanics for less wear and high reliability
- Long service life with fewer maintenance issues

Machine builders select an FPaKit by load capacity: 44 lb (20 kg) for the LW2x kit, 66 lb (30 kg) for the LW3x kit, and up to 110 lb (50 kg) for the MW4x customized kit. Builders receive pre-set, sized, and assembled axes and motors (Z-axis motor, including a brake), multiprotocol servo drives, hybrid controller with pre-installed palletizing software, cables, software license, and user interface.

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The hybrid edge controller features discrete and motion control with connectivity to the new generation Festo CPX-AP-A integrated valve terminals and AP-I remote I/O systems. The kits can include an electric or pneumatic 90° rotary unit for the end-of-arm tool. Machine builders will find Festo engineering tools beneficial for quickly and accurately specifying optional pneumatic and electric grippers or vacuum components, including vacuum generators and suction cups.

Once the machine builder assembles the unit to the frame and performs the electrical installation, software setup is fast. The user interface guides the builder through a step-by-step commissioning process and provides prioritized information and prompts for necessary actions.

The new Festo palletizing software features choice of an intuitive, easy-to-use web browser interface (Chrome, Edge, or Firefox) that doesn't require programming knowledge. There is a one-click auto-generate function to calculate optimal pack patterns. Automatic plausibility and limit-value checks are built in to ensure the pack pattern is functional. Users gain a 3D view of the pallet that can be rotated and zoomed for visual checks. Users can reposition packaged goods using a mouse. This system ensures operators are aware of the necessary interventions. The software enables convenient and easy changes to process details and monitors and records the status of the palletizing process.

Festo offers the AX Motion Insights Electric and Pneumatic subscription-based predictive analytics packages to increase uptime. Motion Insights Electric and Pneumatic lower inventory requirements because replacement parts can be ordered before on-machine component failure. Customers can also include Festo AX Data software, which enables the IT department to access data from operational technology.

[CODI Manufacturing](#), Littleton, Colorado, is a machine builder in North America that recently applied the FPaKit. “We estimate the FPaKit saved 20 to 30 hours of engineering work and another 10 to 15 hours of assembly on our first machine,” said Matt Wetterlin, Controls Engineer, CODI. “The kit ensured all components, including drive, motors, and axes, were correctly sized and interoperate, something that is difficult to replicate manually by picking parts from a catalog. The software includes predictive analytics, which is a major market differentiator.”

CODI offers the FPaKit-based Flex Stack Pro twin-pallet palletizer for high-throughput operations – when one pallet is being loaded, the other discharges – and the Flex Stack line of single pallet palletizers. The Flex Stack is also ideal for de-palletizing and for palletizing mixed product pallets. CODI plans to include tier-sheets with glue options in the future.

Jared Jones, COO, CODI, says that ROI in one year is doable for operations switching from labor intensive palletizing to an automated Flex Stack option. Flex Stack solutions are ideal for third-party logistics (3PL), food, beverage, and consumer goods companies.

For additional information on the FPaKit, contact Festo sales representatives and distribution partners. For more information on the advantages of working within the Festo ecosystem to leverage less engineering overhead, faster time to market, seamless connectivity, and high-quality components, visit www.festo.com.

Press Images



FPaKit Gantry Palletizing Kits

FPaKit gantry palletizing kits include pre-set, sized and assembled axes and motors, multiprotocol servo drives, hybrid controller with pre-installed palletizing software, cables, software license, and user interface.

About Festo US

Festo is a leading manufacturer of pneumatic and electromechanical systems, components, and controls for process and industrial automation. For 100 years with more than 50 in the U.S., Festo Corporation has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Through advanced technical and industrial education, Festo Didactic Learning Systems and its partners prepare workers for current and future manufacturing technologies.