Low Cost Robotic Palletizer

The Low Cost Robotic Palletizer is a straightforward, budget-friendly palletizing option. In this system, an empty pallet sits on the floor. The robot picks up product from the infeed conveyor and stacks the product on the pallet. When the pallet is full, the robot waits for a lift-truck operator to exchange the full pallet with an empty pallet; then the robot continues the palletizing process.

Use this system to palletize an array of packages including corrugated cases and trays, shrink-wrapped bundles, poly and kraft bags, and pails. Choose a single or dual pallet station and add enhanced functionality with a slip sheet station, pallet height sensors, and a low temperature variant for coolers and freezers.

Modular Robotic Palletizer

The Modular Robotic Palletizer is an expandable machine that easily adapts to your changing needs. Start with the base unit which includes a robust industrial grade articulating robot, your choice of end of arm tooling, and a single infeed conveyor. Upgrade the base unit with additional components during the initial purchase or add enhancements later. Options include a pallet dispenser, slip sheet station, shrink wrapper, automatic change-over, and another set of infeed and pallet conveyors.

This system can perform 15-25 picks per minute and is customizable to your packaging needs. It efficiently palletizes corrugated cases and trays, poly and kraft bags, shrink-wrapped bundles, and pails.

Typhoon Robotic Case Palletizer

The Typhoon full-layer palletizing system skillfully blends an intelligent robotic palletizer with flexible non-robotic layer-forming technology. The machine performs multiple tasks simultaneously: the palletizer creates rows and layers, while the robot’s roller curtain end of arm tool (EOAT) transfers and stacks the formed layers on a pallet. This hybrid system achieves very high production rates in a small footprint.

The Typhoon can produce pallets with single or multiple SKUs. Pair it with a MultiPal Rotary or Shuttle Car System to load products on two to six pallets at a time. The system can also insert tier and slip sheets and pick up cartons and crates.

Gantry Palletizing System

The Gantry Palletizing System stands up to the most demanding material handling needs. The system skillfully stacks one or two products at a time and is ideal for facilities with very little floor space. The gantry is configured specifically for your facility’s footprint. Design an extremely small solution or a very large system. The structure can be equipped with multiple pick heads to enable increased throughput capacity within the smallest possible footprint.

Customize the standard system by adding a slip sheet station, pallet height sensors, and a low temperature variant for coolers and freezers.
Robotic Bulk Palletizer/Depalletizer

Our Robotic Bulk Palletizer/Depalletizer solutions can completely automate your bulk container loading and unloading process. The systems combine Trillium’s mastery of robotic automation with Arrowhead System’s legacy in material handling to create durable, easy-to-operate machines that efficiently handle metal, glass, plastic, or composite containers.

The systems deliver reliable results using a high-speed, heavy-duty articulating robotic arm combined with a vacuum, magnetic, or mechanical end of arm tool. We work with you to create an equipment solution for your container type and speed requirements.

Robotic Automatic Debander

The Robotic Automatic Debander increases efficiency and safety while decreasing labor costs. The robot and end of arm tool work together to proficiently cut and remove each plastic band from the pallet load and feed the band into a chopper system. This low-maintenance system is especially useful in high-speed packaging lines and distribution centers.

The Debander handles a wide range of pallet loads. It automatically seeks and engages each band, allowing maximum tolerance in band location while eliminating the potential for container damage. Load heights can range from partial to full loads.

Robotic Machine Tending

The Robotic Machine Tender enables safe and accurate interactions with virtually any machine tool. The system removes a part from the supply, transports it, orients it, interacts with the machine, and then removes the finished part. By incorporating the Robotic Machine Tender in your facility, you will achieve repeatable accuracy, improved quality, and faster cycle speeds.

The robot is fitted with end of arm tools that are custom-fit to your needs. The system is capable of handling very small as well as very large objects. Optional accessories include vision inspection, barcode verification, and product labeling.

Robotic Trim Cell

The Robotic Trim Cell ensures that you deliver precision-cut parts every time. The system consists of an industrial-grade articulating robot and a rotating wall. The operator attaches an untrimmed part to the wall fixture, and then the wall rotates to present the part to the robot. When the robot finishes trimming, the wall rotates back to the operator. The operator removes the finished part and the excess material. To enable the processing of two products concurrently, add a second rotating wall.

The system accommodates a wide variety of product sizes and styles because each product fits in its own custom-designed fixture. Simply change the fixture to trim a different product.
End of arm tooling that gets the job done

Trillium Automation’s standardized palletizing systems are based on an industrial articulating robot. Customize our base system by adding the robotic end of arm tool best suited to your packaging type, weight, and dimensions. Consult a sales representative to choose the optimal solution for your application.

Bag Gripper
+ Stack up to 25 bags per minute.
+ Enable pick up and insertion of slip sheets by adding optional vacuum grippers.

Clamp Gripper
+ Pick open top cases (HSC), trays, or shrink wrapped bundles.
+ Incorporate optional servo power for high throughput and extreme flexibility.

Row Gripper
+ Pick full rows of product. The foam vacuum pad facilitates high throughput and extreme flexibility.
+ Save energy by adding an optional blower to generate suction.
+ Add optional pallet grippers to enable the robot to pick and place an empty pallet.

Case Gripper
+ Stack 25 cases per minute or more, depending on machine configuration.
+ Run different size products by repositioning the cups on the gripper’s peg board design.

Pail Gripper
+ Stack up to 15 pails per minute, depending on machine configuration.
+ Change product sizes by changing out the gripper fingers.

Tray Gripper
+ Stack up to 10 trays per minute, depending on machine configuration.
+ Eliminate mechanical changeovers. Our proprietary technology easily accommodates different tray sizes
+ Add grippers to enable the palletizer to pick up and insert slip sheets.

Custom EOAT
Whether you’re picking a standard container or an exotically-shaped part, we can create customized end of arm tooling for your application. Options include servo-powered tooling that coordinates with the motion of the robot, custom vacuum pads of any size, and pallet picking capabilities. You can also pick a multiple number of containers or parts and place them one at a time.

Increase your productivity with Trillium Automation’s robotic and automation solutions. Our experienced team is dedicated to providing you with the highest quality equipment and the most innovative features. Trillium is an official system partner with KUKA and are experts with Fanuc, Yaskawa Motoman, and ABB robotics.

Arrowhead Automation, LLC d.b.a. Trillium Automation is part of the Arrowhead Systems family of companies.