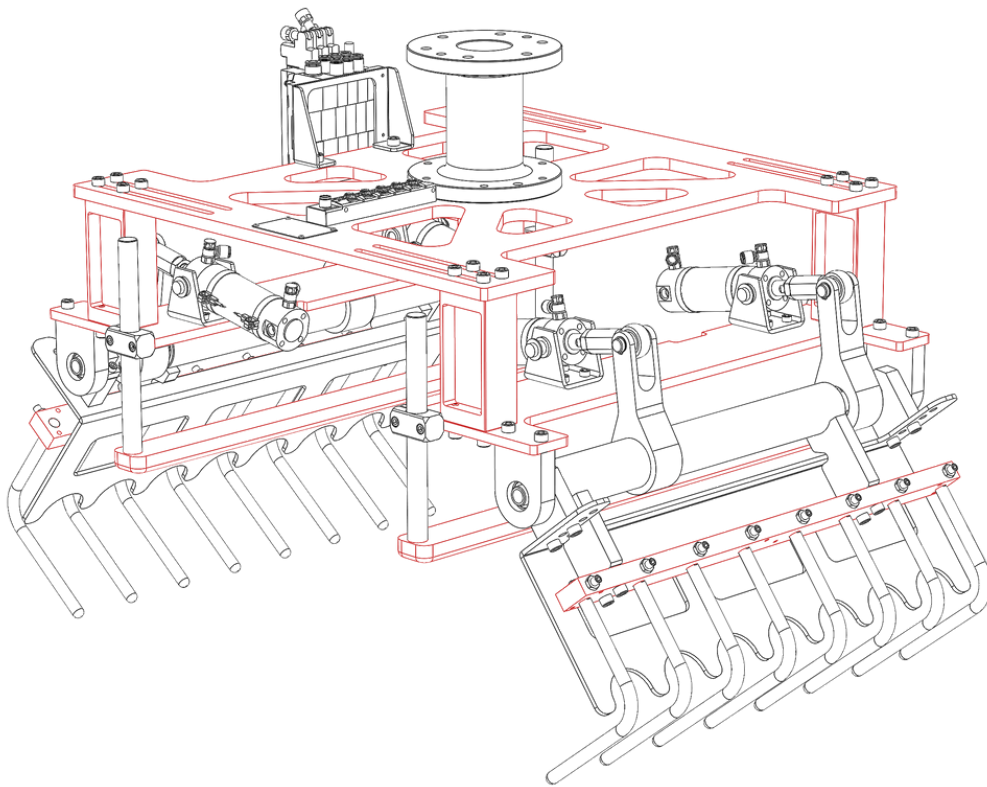




ICG

International Components Group Inc.



Guide to selecting a palletizing tool

factors to consider

Selecting the correct robot tool for palletizing is a crucial step to ensure efficient and accurate handling of products on pallets. Palletizing involves arranging and stacking items on pallets, which requires a tool that can securely grip, lift, and place objects while minimizing the risk of damage. Here's a concise guide on how to choose the right robot tool for palletizing:

1. Understand the Payload and Size Requirements:

Determine the weight and dimensions of the products you'll be palletizing. This information is essential in selecting a tool that can handle the payload without compromising safety or performance.

2. Consider Gripping Mechanism:

Choose a gripping mechanism that suits your products. Common options include mechanical grippers, vacuum grippers and specialized tooling such as clamps or forks. The choice depends on the shape, weight, and fragility of the items being palletized.

3. Material and Surface Considerations:

Consider the material and surface of the products. Some items may require soft grippers or padding to prevent damage. Delicate or irregularly shaped items might necessitate custom end-of-arm tooling (EOAT) to ensure a secure grip.

4. Throughput and Speed Requirements:

Assess the required palletizing speed and overall throughput. High-speed applications may require a tool with quick opening and closing times, as well as precise positioning capabilities to optimize efficiency.

5. Safety and Precision:

Prioritize tools that offer precise positioning control to ensure accurate placement of items on the pallet. Safety features like force feedback or collision detection are important for preventing accidents in collaborative robot setups.

6. End-of-Arm Tool Customization:

Depending on the diversity of products you'll be palletizing, consider tools that allow for easy customization or quick changeovers. Modular EOAT systems can streamline the process of adapting to different product types.

7. Compatibility with Robot Arm:

Ensure that the selected tool is compatible with the robot arm you're using. This involves checking mounting options, interface connections, and load capacities.

8. Maintenance and Reliability:

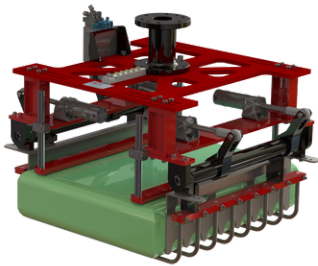
Choose a tool with a reputation for reliability and minimal maintenance requirements. Downtime due to tool malfunctions can significantly impact production efficiency.

9. Cost Consideration:

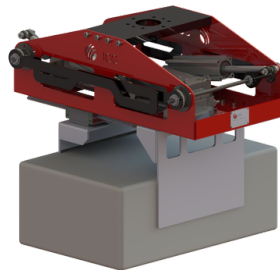
Balance the capabilities of the tool with your budget constraints. While high-end tools might offer advanced features, it's important to evaluate whether those features are necessary for your specific application.

In summary, selecting the correct robot tool for palletizing involves a thoughtful evaluation of payload, size, gripping mechanism, material, speed requirements, safety features, customization options, compatibility, reliability, and cost. Careful consideration of these factors will help you choose a tool that optimizes palletizing efficiency and ensures the protection of your products.

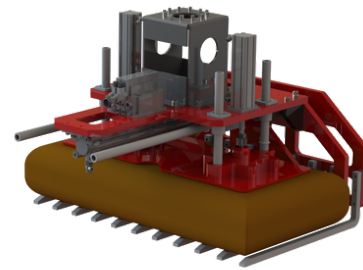
End-Effector Designs: Grippers, Clamps, Forks and More



A bag gripper is a mechanical tool mounted on the arm of a robot designed to grasp and handle bags or pouches in the process of palletizing.



A carton clamp, also known as a carton gripper or box clamp, is a specialized end-effector or tool designed to be attached to an industrial robot's arm for the purpose of palletizing.



A fork-style gripper used on an industrial robots for palletizing is a specialized tool designed to replicate the function of traditional forklift forks. This tool is employed for lifting, moving, and arranging items like boxes, cartons, or bags in industrial environments.



A custom-designed gripper used on an industrial robot for palletizing is a specialized tool created to meet the precise requirements of a particular palletizing application. This gripper is tailored to handle specific items, such as tires, barrels or any product not suited to a standard tool.

Design Options

1. Pallet hooks:

Pallet hooks are a type of tool or attachment used in palletizing systems, which are designed to automate the process of moving an empty pallet from one position to another.

2. Slip sheet:

A vacuum slip sheet attachment is a specialized tool used in palletizing systems to automate the placement of slip sheets onto a pallet. This attachment employs vacuum technology to create a secure grip on slip sheets, which are thin pallet-sized sheets typically made of paper, plastic, or corrugated material.

3. Pneumatic clamps:

A pneumatic clamp attachment is a specialized tool used in palletizing systems to securely grip items, particularly boxes, bags, or other objects, during the palletizing process. This attachment employs pneumatic (air-powered) technology to create a firm clamping action that holds the items in place for lifting and placement onto pallets.

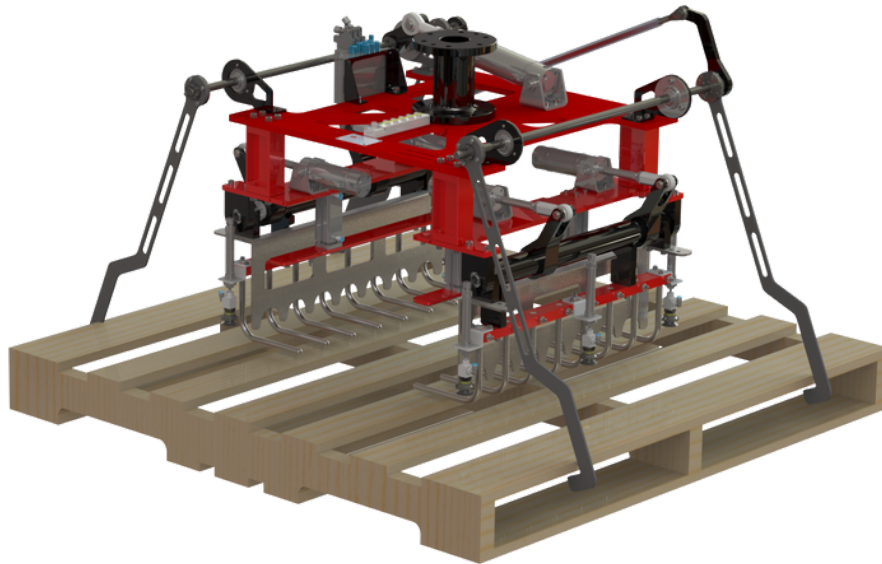


Illustration showing pallets hooks, slip sheet vacuum cups and pneumatic clamps

At International Components Group Inc., ICG, we're here to make choosing the right robot palletizing tool easy for you. We'll guide you through our range of advanced solutions, considering factors like payload size, speed, and gripper options. Our goal is to help you improve efficiency and streamline your palletizing process. Count on us to support your success by making the best tool choice simple.