A flexible palletizing system increases throughput and reduces costs. Motion Controls Robotics develops robotic palletizing systems that are highly reliable, flexible enough to handle various configurations, and allow for process adjustments on-the-fly.

Each palletizing application is custom designed to take into account the customer’s process - considering options such as pallet size, tier sheets, inserts, top frames, and product order. Many of MCRI’s palletizing systems are conveniently combined with pick and place applications to automate an entire end of line process.

“The almost infinite flexibility we have on this robot cell comes with minimal additional maintenance costs and enables us to react quickly to case size requests without the worry of increased labor. Perfect for anyone with a wide-variety portfolio.”

~Manufacturing Engineer
Palletizing Customer

Applications

Case Palletizing/Depalletizing – single or mixed case palletizing systems that are easy-to-use and decrease costs with reductions in labor, ergonomic injuries and floor space.

Bag Palletizing/Depalletizing – Bags can be very heavy and awkward. Many companies have found automating bag palletizing is the best choice for employee safety.

Unitizing – Application perfect for distribution and warehousing where products need to be individually picked and palletized.

Freezer Palletizing/Depalletizing – Ceiling or floor mounted robot on a rail for flexibility in removing or adding items to a freezer area.

Roll Palletizing – Automation improves quality control of rolled product versus manual palletizing or hard automation.

Heavy/Bulky Material Palletizing/Depalletizing – This applies to items such as bricks, cement blocks, and panel stacking of boards, insulation, or cement.

Palletizing Robots

FANUC America offers a variety of robots for palletizing applications. Palletizing robots generally are 4 or 5 axis with a variety of reach and payload options for the specific job.

<table>
<thead>
<tr>
<th>FANUC Robots</th>
<th>payload</th>
<th>reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>M410 series</td>
<td>up to 700 KG</td>
<td>up to 3143 mm</td>
</tr>
<tr>
<td>R2000 series</td>
<td>up to 250 KG</td>
<td>up to 3500 mm</td>
</tr>
<tr>
<td>R1000 series</td>
<td>up to 100 KG</td>
<td>2230 mm</td>
</tr>
<tr>
<td>M710 series</td>
<td>up to 70 KG</td>
<td>up to 3123 mm</td>
</tr>
</tbody>
</table>

* Chart includes commonly used robots. Contact MCRI for the full range of hundreds of FANUC robots available for all your palletizing needs.
Watch Videos

End of arm tooling is an essential, custom designed solution of any robot system. Many times the final gripper design includes more than one type of gripper to meet all the needs of the application.

Gripper Types:
- Vacuum
- Mechanical
- Magnetic
- Servo
- Air flow

Benefits of Robotic Palletizing

Easy to use
- Intuitive operation with pattern teaching
- Operator pendant for recipe adjustments and error reporting
- Fixed and flexible end of arm tools with proven designs
- On-the-fly process adjustments
- Recipe keeps part data such as product size, packing pattern, place locations, and vacuum pattern

Increased throughput
- High reliability and uptime 80,000 hours mean time between failures
- High cycle rates up to 28 strokes per minute

Reduced costs
- Robotic palletizing reduces worker compensation costs
- Reduced floor space requirements

Flexible and precise
- Handles various stack patterns
- PalletPRO™ software allows easy creation of new patterns as well as modifications to existing patterns
- Quick changeover using adjustable tooling and stored recipe

Keeping Manufacturers Competitive with Quality Robotic Solutions

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