Packing & Palletizing

Product packed & palletized consistently increasing quality & throughput

Packing and Palletizing Solutions

MOTION CONTROLS ROBOTICS

Keeping Manufacturers Competitive with Quality Robotic Solutions

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Note from Motion Controls Robotics

Many manufacturing companies are looking to improve their manufacturing processes, but they are finding the upfront cost of adding robotics to be prohibitive. This is the main reason Motion Controls Robotics focuses so much effort on trying to find innovative ways to solve robotic packing and palletizing issues cost effectively.

As robotic solutions are becoming more affordable, even small companies are starting to see that integrating these flexible robotic solutions into their process allows them to be even more competitive while *staying financially strong.*

MCRI has developed standard, yet flexible solutions for case packing and palletizing a variety of products. This E-book will review the best options for implementing a case pack and palletizing system.

Motion Controls Robotics focuses on robotic material handling applications such as picking, packing, and palletizing for a variety of industries. When we started the company in 1995, our goal was to find ways to keep American manufacturers competitive through integrating robotic solutions that maximize process efficiency. Today, this mission is still extremely important because keeping manufacturing facilities from moving overseas only improves the overall economy.

Packing & Palletizing

Packing and palletizing product is our specialty.
Even if you have multiple sizes of product or cases, we are able to pack these products and send them to a palletizer.

We are also able to palletize a variety of products without case packing. This allows us to solve any end-of-line requirements your company may have.

The same robot palletizing both cases and rolls as they come in from different infeed conveyors.

From case palletizing to bags, rolls, slit rolls on end, mixed caseload palletizing as well as other challenging palletizing requirements, Motion Controls Robotics has successfully handled it. Motion Controls Robotics develops robotic palletizing systems that are highly reliable and flexible enough to handle various configurations all while allowing process adjustments on the fly.

As far as integration goes, Motion Controls Robotics does a fantastic job. They were on target every time and never leave you hanging. The projects are on schedule, on budget and the engineering works right the first time.
~ Flexcon Industries

Picking & Packing Robots

Interactive E-book – click on the robot above to learn more about each robot's capabilities

FANUC America offers a variety of robots for picking and packing applications. Picking and packing robots have a variety of reach and payload options to accommodate each process.

FANUC robots offer useful software technologies for specializing and perfecting the robotic pick and pack application. Advances in vision sensor technology and integration allow FANUC's iR Vision option for less expense with 100% quality testing, higher picking rates, picking from a moving conveyor belt, identification of part orientation, and many other beneficial functions.

Interactive E-book – click on the robot above to learn more about each robot's capabilities

FANUC America offers a variety of robots for palletizing applications.

These robots all have software and vision options available to increase the flexibility and fine tune the process. Designing the cell by looking at future needs helps to make your robots reusable and re-deployable if there are product changes.

Palletizing robots generally offer a 4 – 6 axis design.

A flexible palletizing system can increase your throughput and reduce your costs. Each 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.

Packing and Palletizing -1 robot

Packing and Palletizing offers both robotic case packing and palletizing with a single FANUC robot. Downsize your case packing and palletizing areas with this small footprint, highly flexible system that is perfect for low to medium throughput. This complete robotic system is flexible enough to work with a variety of product types, weights, and sizes.

Setup of the system takes place at MCRI with a runoff for approval and then brought to final customer site for testing and startup.

Using this robotic packing and palletizing system improves:

- **Efficiency** – performs tasks that are difficult for people
- **Safety** – completes tasks that are unsafe for people
- **Compliance** - with emerging product tracking and serialization regulations
- **Flexibility** – meets retail packaging variations including variable pack counts, variety packs, retail ready packages
- **Cost savings** – replaces high wage labor

The system includes complete:

- Design/detail
- Fabrication
- Assembly
- Robot
- Software
- Electrical work

YouTube Playlist

Put our experience to work for you to increase your throughput and reduce your costs.

Packing and Palletizing -2 robots

Robotic case packing and palletizing systems can be fully automated by adding case erecting and case tapers to the beginning and end of the packing line.

YouTube Playlist

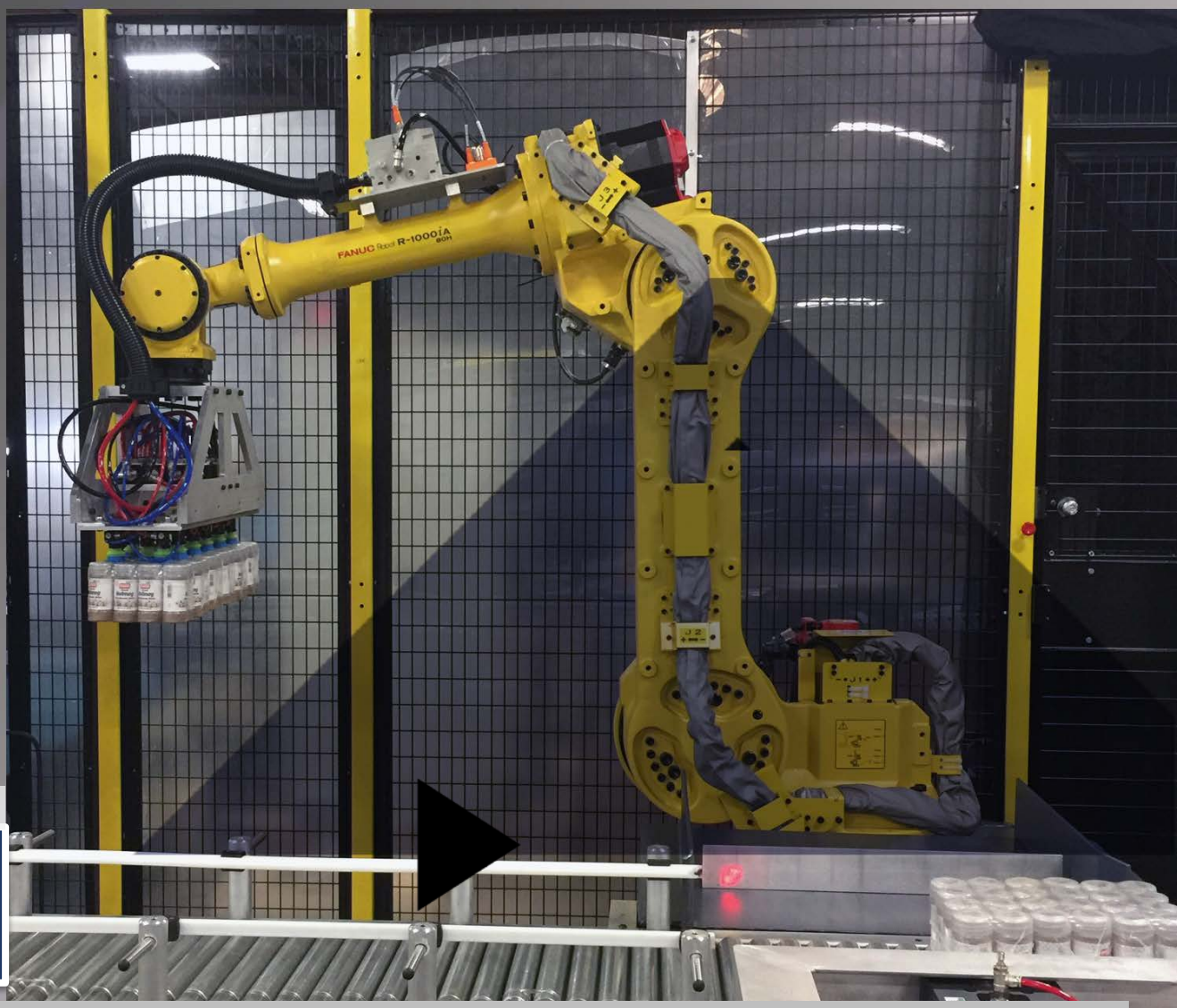
Erected cases are placed on the case infeed conveyor and are automatically registered for packing. If necessary, case flaps can be spread open to improve clearance into the case. Packed cases exit the system and move downstream for robotic case palletizing.

Robotic packing and palletizing systems reduce dunnage and packaging requirements. Manufacturers throughout North America are reducing their carbon footprint, improving their "green" status and reducing cost with these type of robotic systems.

flexibility & reliability

improved efficiency

small footprint



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Single Line Robotic Palletizer – M-CASE2CUBE

The M-Case2Cube System is designed around a best in class, high-speed Fanuc M410iB/140H robot. When equipped with the standard end of arm tool, it can handle cases in excess of 35 lbs. at rates up to 32 cases per minute. The M-Case2Cube is pre-engineered to keep cost and lead times down. Additionally, its compact size takes up the same or less space than a traditional palletizer.

Palletizing – Base System Includes:

- Fanuc M410iB/140H
- Vacuum zone EOAT for picking up cases
- 10" HMI w/ color touchscreen
- Pallet picking jaws
- Pallet build station
- Exit conveyor
- Infeed conveyor
- Pallet rack
- Safety enclosure

Multi-Line Robotic Palletizer

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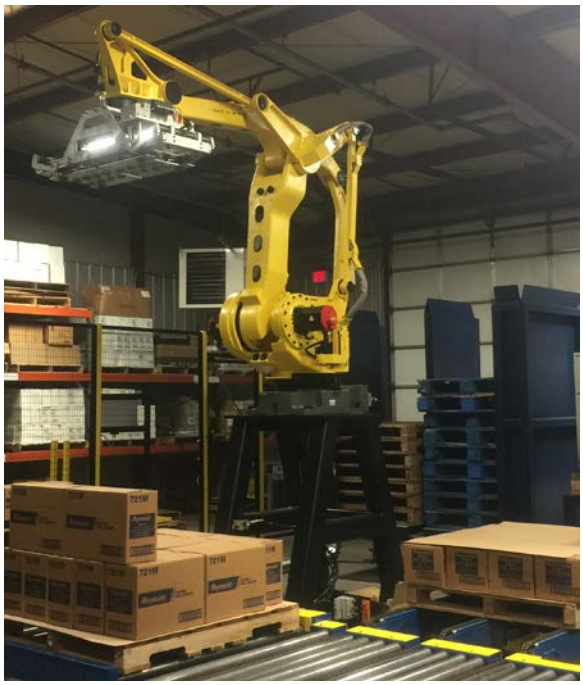
Motion Controls Robotics designed a multi-product, multi-line palletizer with the flexibility to palletize different product from one or more infeed conveyors using the same end of arm tooling. The custom designed end of arm tool can pick and palletize product, cases, pallets, and add tier sheets & caps. The system includes racks for tier sheets, caps, and pallets all inside a perimeter safety fence with safety curtains on the openings and safety stops on doors. The type of product being palletized can be quickly selected on the system's HMI terminal.

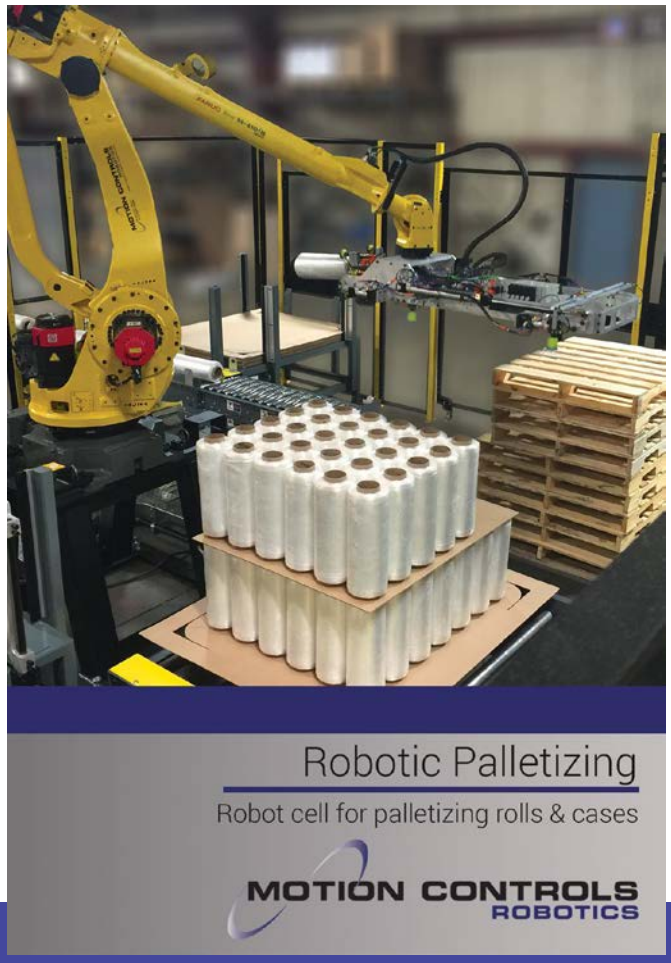


Palletizing System Cost

To get you started on the path to adding a packing and palletizing system use the form on the next page to help you estimate the cost of your robotic palletizing system.

Our goal at MCRI is keeping manufacturers competitive in the tough US market. We want to make it easy for companies to come to us with questions regarding transforming their manufacturing processes with robotics. To help eliminate confusion, we have developed this E-book comparing options for packing and palletizing systems.

Palletizing systems come in a variety of shapes and sizes. Palletizing can be used for cases, bags, containers, rolls, slit rolls on end, mixed loads, and other challenging product types. Motion Controls Robotics develops robotic palletizing systems that are highly reliable and flexible enough to handle various configurations.



Each FANUC robot has a base price but this price can vary. Some examples are:

1. Robot cost varies with the size of the robot and its attendant servo motors and controllers.
2. Collaborative robots have many added features that make this a more expensive option
3. Food grade robots and special environment robots have higher Ingress Protection (IP) ratings to protect them from environmental elements

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Level 4 Certified Servicing FANUC Integrator

We provide innovative robotic solutions from concept to installation and 24/7 service and support for complete customer confidence.

Calculator for estimating the cost of your robotic palletizing system

Determine which robot you will need based on reach and capacity - robot reach and payload is available by searching through our NEW FANUC ROBOTS product pages. (Costs below are averages for the size and series options and not exact pricing)

Small (Small Delta robot, and LR Mate Series robots)
$25,000 to 35,000 for payloads up to 7kg and reach up to .9 meters

Medium (Medium and large Delta robots, M10 and M20 Series robots)
$40,00 to $50,000 for payloads from 7+kg to 20kg and robot reach up to 1.8 meters

Large (M710, R1000, and M410 Series Robots)
- $74,000 to $85,000 for most palletizing operations with capacity from 140kg to 315kg (M410 Series Robots, 4 and 5 axis, up to 3.14 meter reach)
- $70,000 to $85,000 for most general applications with capacity from 50kg to 100kg (M710 and R1000 Series robots, 6 axis, 2.05 to 2.23 meter reach)

Other Large (R2000, and M900 Series robots)
$70,000 to $100,000 for large 6 axis robot projects with up to 360 kg payload and/or reach up to 2.65 meters

Heavy Duty (Includes the M2000 series)
For payload capacity and reaches beyond 360kg and 2.65 meters, prices change quickly ranging from $150,000 to $400,000

Number of robots needed for the robot cell	0
Averaged cost of robot needed based on payload and reach - select FANUC robot	$ 0.00

Roughly how much you can expect your robot cell to cost $ 0.00 -- $ 0.00

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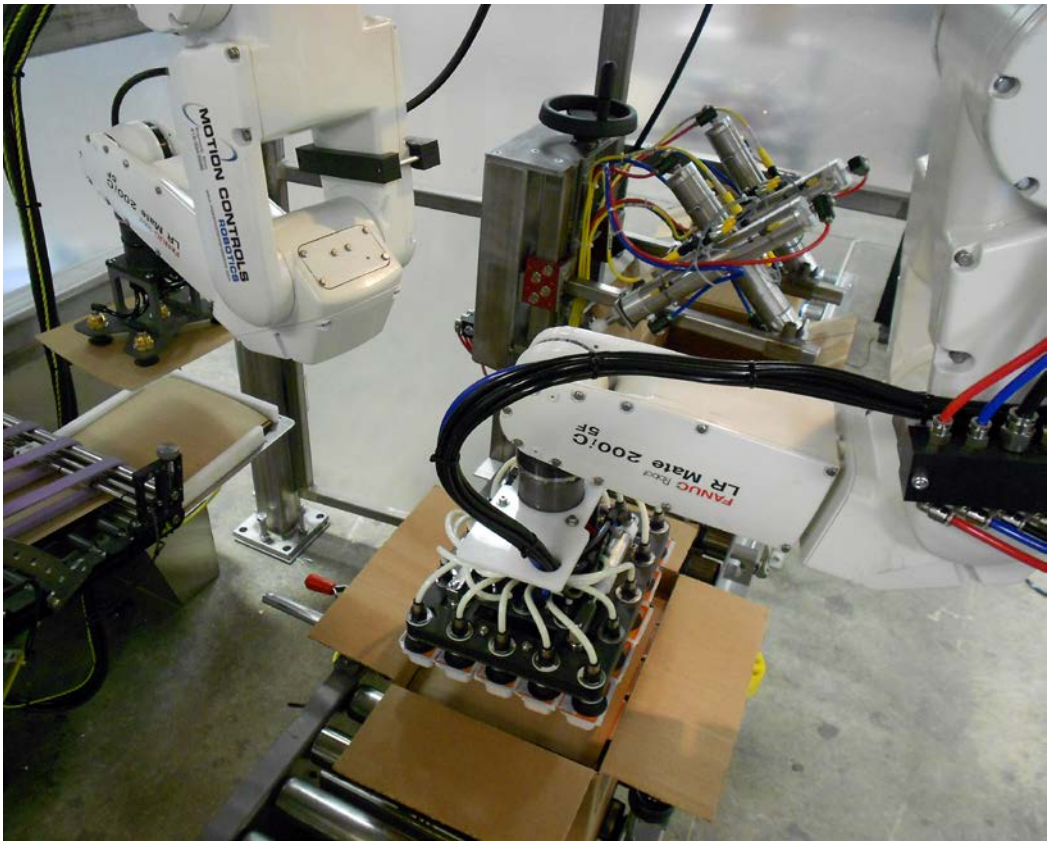

YouTube Playlist

Motion Controls Robotics specializes in robotic case packing offering custom technologies to eliminate errors and improve process efficiency and quality.

Case Packing Robot Cells

Motion Controls Robotics develops robotic case packing systems that allow product to be automatically packed into pre-erected, lined or unlined corrugated cases. Products are fed into the system via flat top conveyor. Erected cases are placed on the case conveyor and are automatically registered for packing.

Portable

- Cells are equipped with fork pockets or casters for easy relocation to any packaging line
- Automatic tool changeover

Upgradeable

- infeed conveyor can attach to automated case erector
- Completed cases can be conveyed to automated case sealers for taping

Reduce costs

- Labor savings and a reduction in worker compensation costs
- Reduce floor space requirements

Flexible and precise

- Handle multiple product sizes
- Standard corrugated and plastic/film lined cases
- Precise, 6-axis servo-controlled system
- Adjust pick and place positions on-the-fly
- 200+ stored part recipes of part description, pick/place locations, and stack patterns

Customer Service

Emergency Phone Support - Call 24 hours a day, 7 days a week – 877-ROBOTS2 (877-762-6872)

Once the system is installed, we have a 24/7 customer service line for troubleshooting issues and scheduling maintenance. With a 24hr service line, you can rest assured MCRI will be there to provide service and support your system now and in the future. Motion Controls Robotics is here for you to make sure you are comfortable operating the robotic system.

We also offer:

- In-depth & FANUC Authorized training
- System warranty
- Preventative maintenance packages
- Discounts on spare parts

> *Motion Controls Robotics services the robot with a yearly preventative maintenance and we haven't had a robot failure that caused us downtime.*
> **~ Manufacturing Engineer**

ria CERTIFIED Robot Integrator

Motion Controls Robotics has been a member of the RIA since the beginning in 2005. We joined RIA to demonstrate to ourselves and companies looking to integrate robotics that we are a robot integrator that strives for and is committed to constant innovation and highly values robotic safety issues.

"At times it can be difficult to convey to a new customer the depth of experience and qualifications of our organization. Achieving the Robotics Industries Association certification demonstrates our expertise and allows our customers to make a more informed supplier selection decision based on the findings of an independent third party."

Scott Lang, President, Motion Controls Robotics, Inc.
(First ever to achieve RIA certification.)

Motion Controls Robotics is a leading provider of automation solutions to manufacturing industries since 1995. The company provides full service robotic solutions from concept to installation and service/support that keep manufacturers competitive. Motion Controls Robotics creates solutions for Fortune 500 and small to medium-sized manufacturers in general industries, plastics, food, building materials and tier one and two automotive suppliers. They also automate small production shops and machine job shops. Motion Controls Robotics provides automation solutions to manufacturers for a variety of applications including material handling (case packing, palletizing and machine tending), material removal, sanding, deflashing, arc welding and vision-guided systems.

Motion Controls Robotics' northwest Ohio headquarters is located at 1500 Walter Avenue, Fremont, Ohio. For more information, visit www.motioncontrolsrobotics.com.

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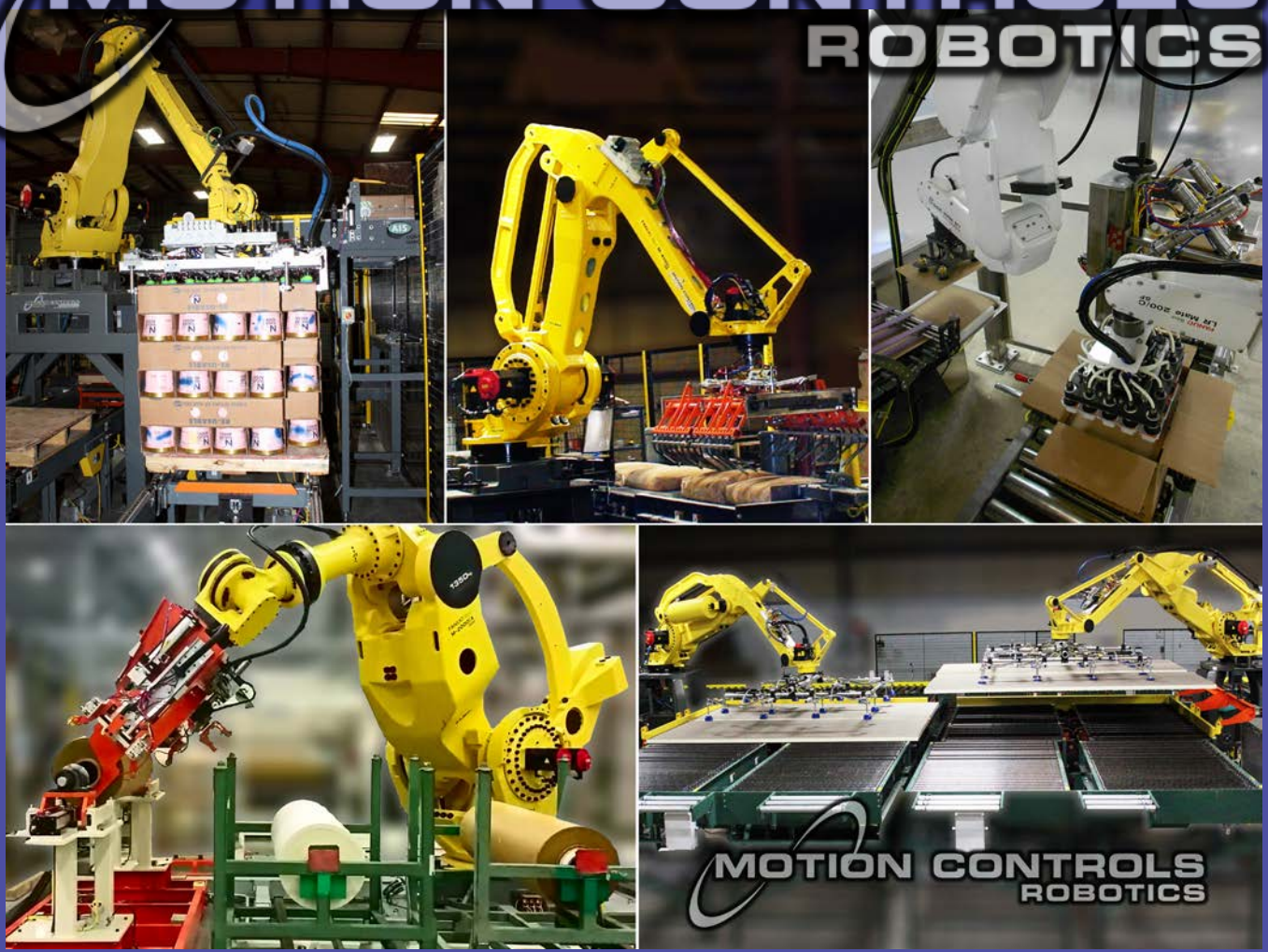

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