www.p-a-t.com

Robotic Muffin Depanning

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INTRODUCTION

Key Takeaways

Increase Quality and Revenue

Baking automation is a cutting edge way to increase product quality while increasing revenue.

Benefits of Robotic Automation

The integration of robotic automation is specifically usefully for muffin depanning. Each baked muffin can be depanned (picked) and placed simultaneously onto adjacent packaging conveyors.

Custom End of Arm Tooling (EOAT)

Specialized end of arm tooling (EOAT) attached to the robot's arm can also rearrange the position of the depanned muffins into the specific count and position needed for the packaging containers. EOAT can be custom made to fit exact project requirement.

High Depanning Rate

Precision Automated Technology has developed robotic muffin depanning systems that depan muffins at rate of 1,200 muffins per minute.

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FEATURES OF A ROBOTIC MUFFIN DEPANNING SYSTEM

While each robotic muffin depanning system that Precision Automated Technology builds is customized to fit exact project requirements, each system also shares many similar features which are outlined below.

Robotic Integration:
Integrating a robot(s) into an automated muffin depanning system is the first step towards increased product quality and revenue. The robot stand as a foundation from which each additional feature is built upon.

Here is a list of some of the robots that Precision Automated Technology uses while designing and producing automated muffin depanning systems.

Fanuc M-710iC
- Payload: 70 kg
- Axes: 6
- Reach: 1900 mm

Fanuc R-2000iC/210F
- Payload: 210 kg
- Axes: 6
- Reach: 2655 mm

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End of Arm Tooling: (EOAT)
While the robot can be thought of the powerhouse that does all the heavy lifting, the EOAT, can be thought of the fingers attached to an arm. The EOAT is what physically interacts with the muffins.

It's the EOAT that manipulates the muffins once they are depanned. Muffins can be rearranged and sorted into the proper packaging order due to the the tooling's ability to move and slide.

EOAT for muffin depanning typically comes in one of two varieties:
1: Pin depanner tooling
2: Vacuum depanner tooling

EOAT: pin depanner

Pins
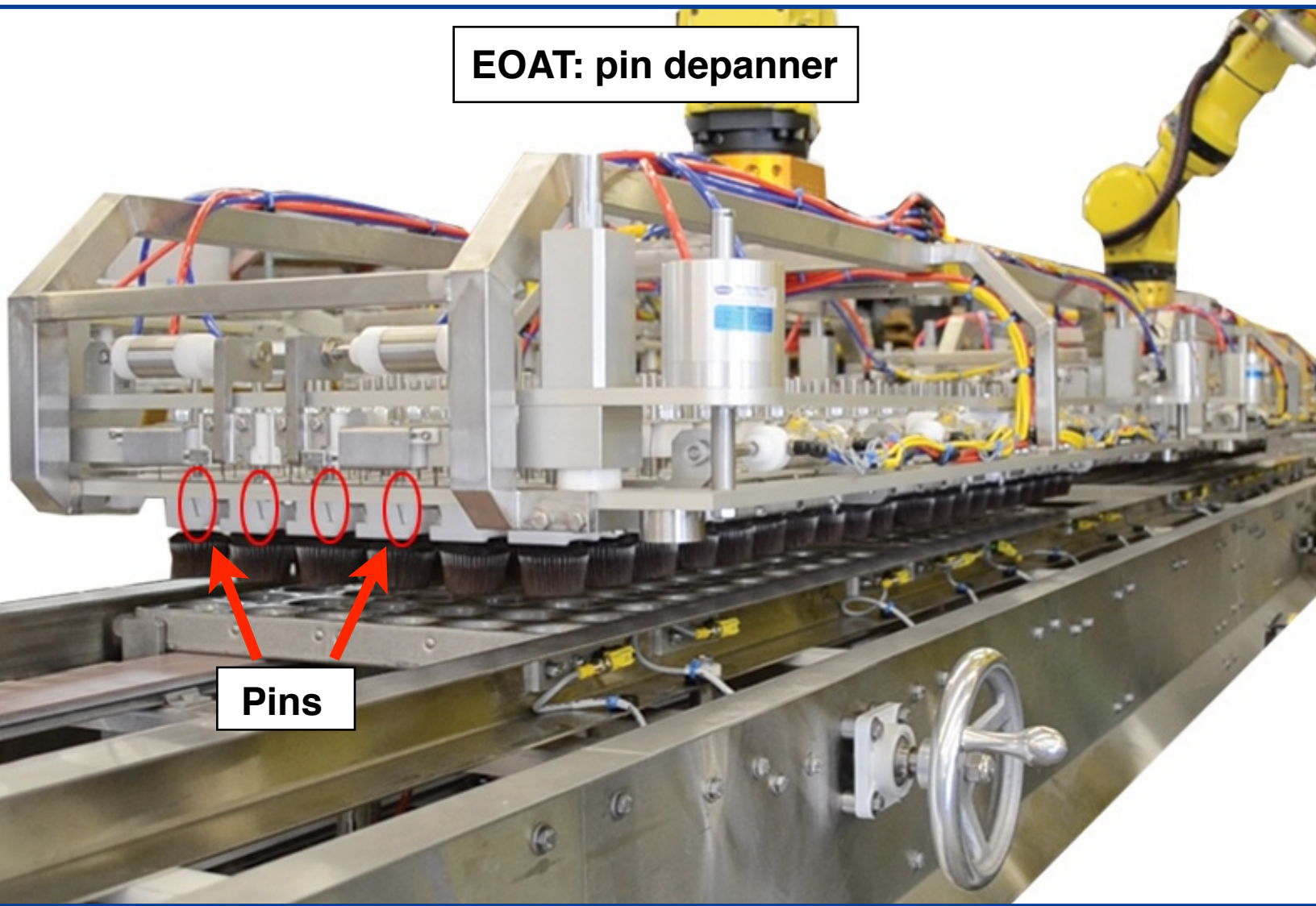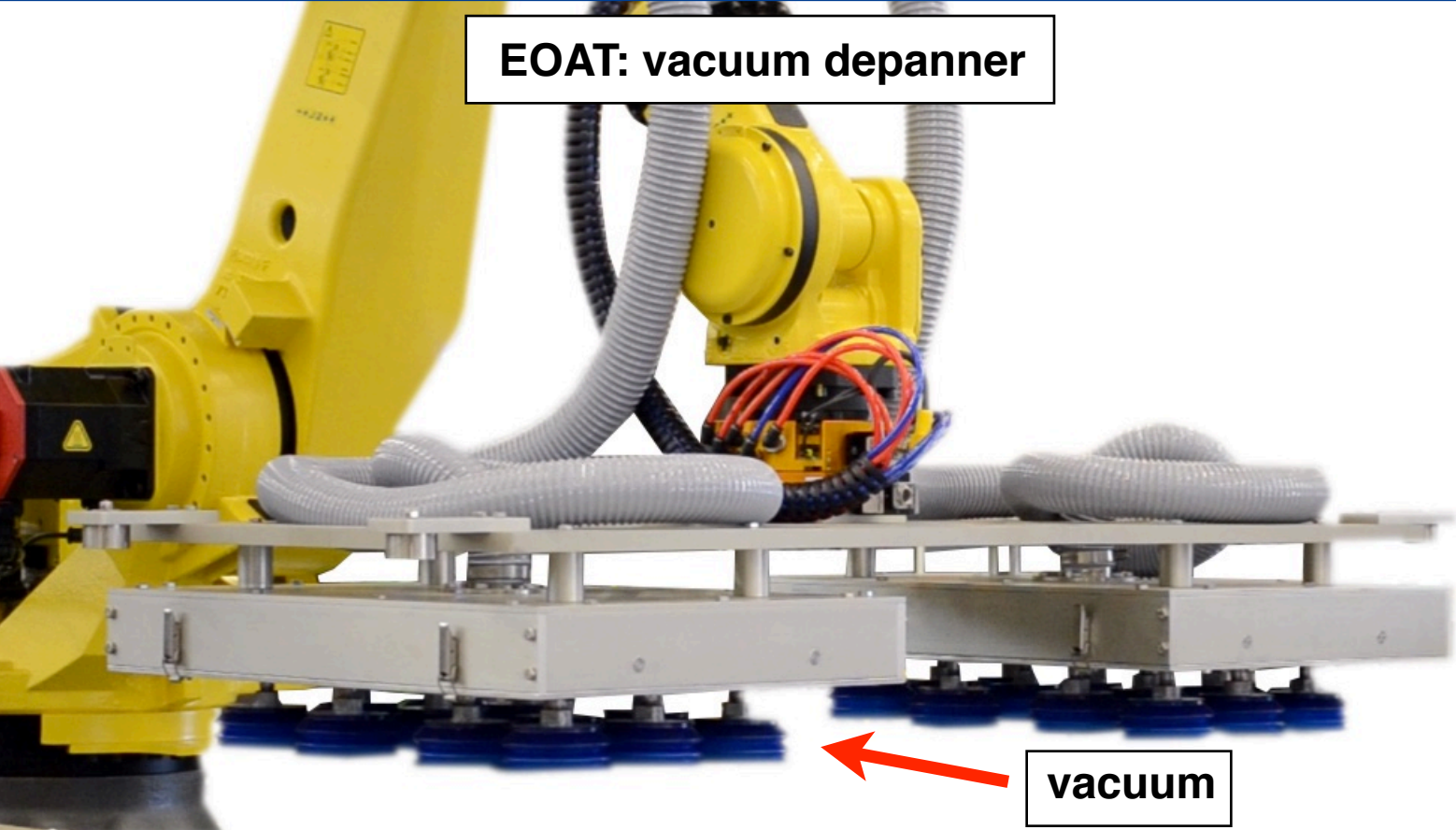
EOAT: vacuum depanner

vacuum

Quick Change Tooling:
An important feature of robotic muffin depanning systems is the ability to quickly change the EOAT to accommodate for different shaped and sized muffins.

The same conveyor line is often used for multiple baked muffins as a way to save factory floor space. The robotic muffin depanning systems produced by Precision Automated Technology come equipped with Quick Change Tooling. The entire EOAT on the robot can be changed quickly without the use of any tools or the need of a human technician to physically handle the tooling head.

A pneumatic connection ring acts as a quick release and attachment point. EOAT changes can take place in a matter of seconds, not minutes. This Quick Change Tooling feature results in less downtime which equals increased efficiency and revenue.

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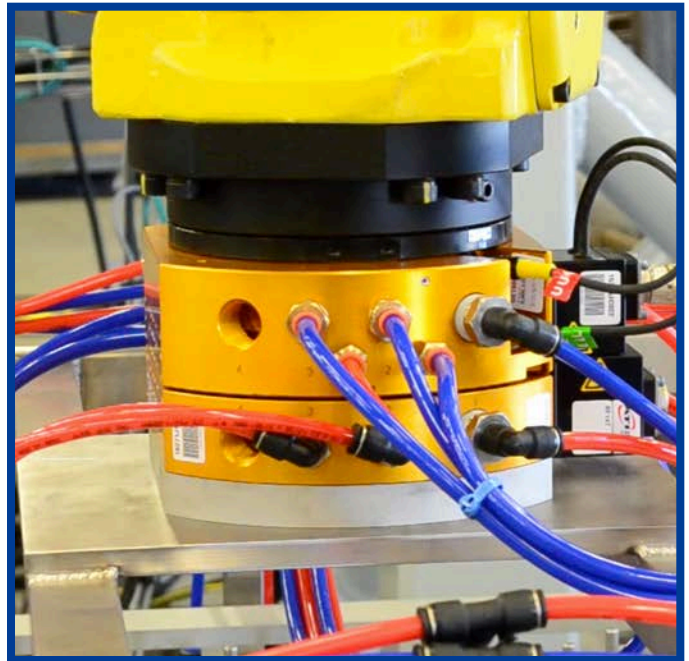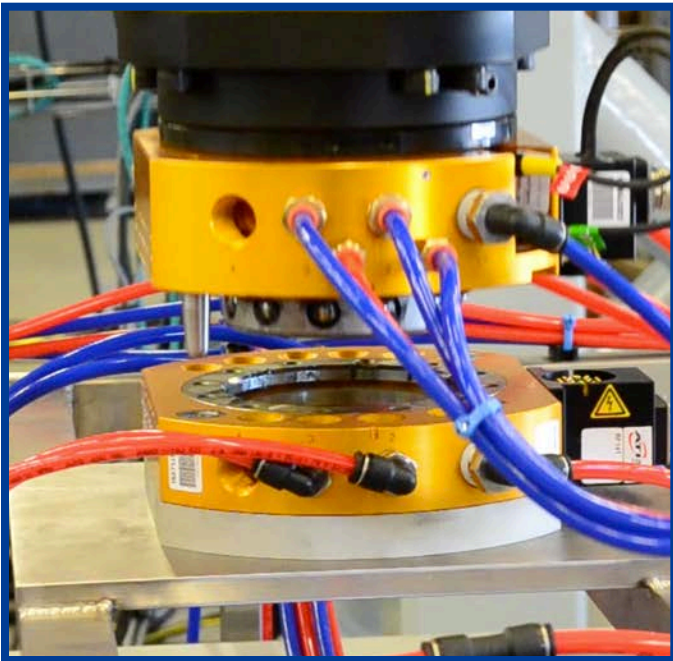
BENEFITS

The benefits of integrating a robotic muffin depanning system into your bakery are many. However the key benefits to focus on when considering a robotic muffin depanning system are as follows:
1. Increased quality and revenue
2. Custom end of arm tooling (EOAT)
3. Depanning cycle rate

Whether you're just beginning your journey into robotic muffin depanning systems, or ready to partner with a robotic integrator, Precision Automated Technology is your solution provider. We have over 20 years experience in bakery automation. Our robotic muffin depanning systems have been installed worldwide.

Contact Precision Automated Technology today for more information.

ABOUT PRECISION AUTOMATED TECHNOLOGY
Established in 1994

Precision Automated Technology, Inc., has been transforming complex and labor-intensive production tasks and processes into smoothly operating automated systems. We excel at providing robotic solutions to fill the gap where off the shelf or stock solutions do not exist.

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