



CASE STUDY  
**BALPACK INC.**

## Intelligent Automation Means Productivity and Precision

In every industry, time is money. And in packaging, consistency is king. That's why the packaging world has been moving away from pneumatics and hydraulics to all-digital, electric automation. That's where Balpack comes in.

The professionals at Balpack are known as the Packaging Machinery Specialists. They provide their customers with both standard and custom machinery for packaging everything from food to cosmetics, to nutraceuticals and more.

### Give Customers What They Want

A customer came forward asking Balpack for an application that would cap small bottles. They wanted something that could deliver the pre-programmed precision that would easily handle the capping of delicate containers filled with pills, liquids, or powders.

None of Balpack's existing equipment could meet this need, so they decided to build a new machine. To get started, they spoke with their current vendor, who had supply chain issues, was unresponsive, and offered expertise that was less than ideal.

Roman Balcar, Balpack Executive Vice President, said, "If you're not getting value out of a vendor, look for a different one."

So they did. After interviewing several new vendors, they chose HPE Automation, a Mitsubishi Electric Automation Diamond Partner Distributor Elite.



Mitsubishi Electric Servo amplifier & motors  
and VFDs provide precision controls  
necessary for precise applications





*"I have to say that Joe Small at HPE was quite proud of his programs. When we finished the first Star Wheel Capper, we ran it, and I looked at Joe and I said, 'You know what? I think this is the best machine we ever built. Thank you!'"*

**– Roman Balcar, Executive Vice President  
Balpack Inc.**

## The Right Team Gets It Done

Teams from Balpack and HPE worked hand-in-hand to develop a machine based on a star wheel design, the Star Wheel Capper.

As Joe Small, HPE's Electrical Controls Engineer said, "We recommended going with Mitsubishi Electric Automation through and through. Sometimes, if you have components from several different companies, you get into a quagmire of frustration. Getting it to work together is a pain. But with Mitsubishi Electric, the compatibility is built right in."

With a complete Mitsubishi Electric solution, the development time was shorter. And with HPE, Balpack had a single point of contact to answer every question. Not only was HPE only a phone call away; one of their Subject Matter Experts temporarily rented an apartment down the street from the Balpack facility.

## Imagine the Challenge

Picture a powerful machine driven by a world-class VFD and servo. Now picture that machine placing a delicate plastic cap on a small plastic bottle, at a rate of 100 caps per minute. The slightest error in torque or positioning could destroy multiple caps and bottles, or cause the product to leak.

What prevents this? The programming expertise of HPE, and the precision controls from Mitsubishi Electric.

## Easy Configuration

"We ran all Ethernet-based controls for our VFDs," said Brian Hord, HPE President and Co-Owner. "That gave us easy configuration and adjustability. We also ran the SMC valves via Ethernet for ease of setup. In the past, the wiring time was considerable. Now they just plug in RJ45 cables."

And according to HPE's Automation Sales and Technical Products Manager, Jason Schmidt, "In older machines with analog controls, you could get only 16 speeds for torque. Now, the number of speeds is unlimited. And torque control is adjustable to one tenth of one percent."

## Settings and Changeovers: Quick and Simple

To make new settings easy, HPE worked with Balpack's control engineer to make programming uncomplicated.

To create a new setting, the operator simply positions everything as needed, then presses the button marked SET.

"It's a very operator-friendly machine," said Roman Balcar. "And HPE provided the training, which enabled our Balpack operators to do the programming."

## A Friendly Interface

All settings can easily be controlled through a user-friendly HMI from Mitsubishi Electric. And recalling those recipe-driven settings for changeovers is even easier. In the

---

The Star Wheel Capper is the result of a great collaboration between teams from Balpack Inc. and HPE Automation, a Mitsubishi Electric Automation Diamond Partner Distributor Elite





*“The most important thing to me is the relationship with HPE. I worked very closely with their team on everything...just having that relationship and a vendor I can lean into is amazing.”*

– **Caroline Shipp, General Manager**  
*Balpack Inc.*

past, changeovers were often done manually with an Allen wrench. The process could lead to significant downtime. But with the system’s digital controls and Ethernet connections, changeovers can be done in minutes.

By consulting with HPE and Mitsubishi Electric, Balpack has been able to build a capping machine that not only delivers as promised, but can be assembled and running – not in two weeks, but in two *days*.

Caroline Shipp, Balpack General Manager, valued the partnership that was created. “The most important thing to me is the relationship with HPE. I worked very closely with their team on everything: timelines, availability of products, programming, and how we can stock for the future. Just having that relationship and a vendor I can lean into is amazing.”

Roman stated, “And the value that Mitsubishi Electric brought to Balpack allowed us to give our customers a lot of bang for the buck.”

### Coming Soon

Caroline added, “Mitsubishi Electric was literally the savior of this project. They got us what we needed, when we needed it. Plus, they were open about pricing. That’s important for a company of our size.”

Balpack customers have been asking for a dual function machine that can not only cap but fill. And when it comes to the development of Balpack’s new Monoblock system, HPE and Mitsubishi Electric will be ready to assist.

### AUTOMATION SOLUTION INGREDIENTS

- **FX5 PLCs**
- **MR-J4 Series Servo Motor and Amplifier**
- **MR-JE Servo Amplifier**
- **FR-E800 Series VFD**
- **FR-D700 Inverter**
- **GS2107 HMI**

### NEXT STEPS

For more information or a free consultation with an automation engineer, please

[> Connect with us](#)



Learn more about  
Balpack Inc.  
[www.balpackinc.com](http://www.balpackinc.com)



Learn more about HPE Automation  
[www.hpeco.com](http://www.hpeco.com)

### MITSUBISHI ELECTRIC AUTOMATION, INC.

500 Corporate Woods Parkway, Vernon Hills, IL 60061  
Ph 847.478.2100 • Fx 847.478.2253

[us.MitsubishiElectric.com/fa/en](http://us.MitsubishiElectric.com/fa/en)

September 2023 • ©2023, Mitsubishi Electric Automation, Inc.  
Specifications subject to change without notice. • All rights reserved

CS-VH-00170

**Automating  
the World**