



**ROBROY
STAINLESS**
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A Robroy Stainless Case Study

Midwest Machine Raises the Bar for Hygienic OEM Design with Robroy Stainless

Midwest Machine is an OEM designer, manufacturer, and installer of advanced automated equipment for the food and beverage industry, primarily in pork and beef processing facilities. Their machines are built to increase safety, improve yield, and remove operators from hazardous cutting operations through machine vision, robotics, and precision automation.

But the environments these machines operate in are among the harshest in manufacturing.

"Almost all of our products live in a hostile environment," said Roy Beckett, Automation Shop Supervisor at Midwest Machine. "Extreme high temperatures, extreme low temperatures, sanitized with highly corrosive chemicals, and rinsed down with high-pressure, high-temperature water."

For Midwest Machine, durability alone isn't enough. In food-processing environments, hygiene and uptime are just as critical as mechanical performance, and electrical infrastructure is often where those risks intersect.

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The Real Risk: Water and Bacteria

Nearly every Midwest Machine system contains advanced automation components (such as cameras, sensors, or controls) that cannot tolerate water intrusion. At the same time, food and beverage facilities demand strict hygiene standards that leave no room for bacterial harborage.

"If you have inferior conduit components that let water in, not only does water get in, bacteria gets in," Beckett explained. "That's a double-edged sword. You're putting advanced electronics in danger, and you're giving bacteria a place to live and reproduce."

Traditional conduit systems often rely on threaded connections and conventional gasket designs that can fail under repeated washdown. Over-torqued fasteners, pinched gaskets, and porous cast surfaces create vulnerabilities, especially when high-pressure washdowns force water, chemicals, and even animal byproducts into places they don't belong.

"We've seen enclosures full of water," Beckett said. "We've seen conduit packed full of animal fat due to high-pressure washdown. Once contaminants get in, everything downstream is at risk." For an OEM, those failures don't just damage components; they threaten customer trust and long-term system reliability.



An Industry Shift Towards Stainless Steel

Historically, conduit material was often an afterthought in food equipment design. That's no longer the case.

"It used to be the standard that nobody really cared what the conduit was made out of," said Kristi Russell, Executive Assistant at Midwest Machine. "We've seen that change across the industry. Everybody is trying to put as much stainless onto their machines as possible—even the small things they weren't worried about before."

Midwest Machine designs and programs its own equipment in-house, including all wiring and conduit runs. As customer expectations increased, the company made a deliberate decision to elevate hygiene standards across every component.

"Having stainless conduit to go with the rest of our stainless machine increases the cleanliness and hygiene standard even further," Russell said. "That's what our customers are expecting now."





Discovering Robroy Stainless

Beckett was already familiar with Robroy through previous experience using Plasti-Bond PVC-coated conduit in other industries. While attending the IPPE tradeshow, he discovered Robroy's hygienic stainless steel conduit system during a visit to the Robroy booth.

"What really caught my attention was that Robroy was producing a hygienic stainless steel line," Beckett said. "We were already looking for a new stainless supplier, and the hygienic design stood out immediately."

For Midwest Machine, the key differentiator was Robroy Stainless' ability to create a fully sealed conduit system made of components that are purpose-built to work together, rather than depending on threads and installer technique to keep water out.

"With conventional conduit designs, you're relying on threads to provide a watertight seal," Beckett explained. "It's easy to over-torque fasteners or pinch gaskets, and once that happens, water and bacteria can get in."

Robroy Stainless' conduit body lids, however, come with FDA-approved blue (non-food color) silicone gaskets with mechanical stops to guarantee optimized compression for environmental ratings without risk of overtightening. Additionally, conduit bodies feature longer female threads and conduit entry gaskets, eliminating many typical failure points that result from thread exposure after installation. Surface finish and geometry also play a critical role in hygiene.

"Most conduit suppliers leave their products as cast," Beckett noted. "That creates tiny places for bacteria to live and grow. Robroy comes out of the box with a near-polished finish and a sloped, hygienic geometric design, which gives water and bacteria one less place to latch onto."

Protecting Customer Investment

The practical impact of a sealed, hygienic conduit system extends well beyond compliance. In food processing, downtime is costly, though it is often avoidable.

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"The biggest benefit we've seen is that we can produce a totally sealed conduit system," Beckett said. "All of our machines have advanced automation components and onboard cameras that just can't get wet. If you get water into that conduit and flood a cabinet, now you're out a lot of really high-dollar components. Every minute of downtime in the food and beverage industry really adds up."

From an OEM perspective, Robroy Stainless helps Midwest Machine reduce risk for both themselves and their customers—protecting sensitive electronics while supporting long-term machine longevity.

Fit and Finish: A Cut Above

Beyond performance, appearance and finish matter, especially in facilities where cleanliness is visible and inspected.

"The fit and finish on Robroy products is second to none," said Matthew Martinez, Director of Engineering at Midwest Machine. "We tried aluminum and other stainless conduits, but it's not a comparison when you look at Robroy."

Martinez pointed to the polished finish and blue watertight gasket design as both functional and aesthetic advantages.

"Our equipment goes into heavy washdown areas," he said. "That smooth finish helps with corrosion resistance, water intrusion, and it just makes the machines look better. When you walk a machine into a facility, it's shiny, it's bright, and it looks like another step up."

"The fit and finish on Robroy products is second to none."

A Relationship Built on Responsiveness and Trust

For Midwest Machine, switching suppliers was about consistency and support as much as it was about product.

"With our old supplier, it was hard to get answers, and pricing was always all over the place," Beckett said. "A lot of their products came from overseas, and it was always a headache."

Robroy's approach was noticeably different.

"When we first showed interest, Robroy had a representative here within a week," Beckett said. "They brought samples, answered questions, and addressed concerns. It felt like they weren't here to make a sale; they were here to make sure we were using the best products for our machines."

That support extended into distribution and availability.

"They helped us find a local distributor that both Robroy and Midwest Machine trusted," Beckett said. "They made sure inventory was available, so when we needed something, it was a phone call away."

Conclusion

Robroy Stainless has become a key part of Midwest Machine's mission to deliver safer, cleaner, more reliable automation systems to food and beverage customers.

"If someone's considering Robroy Stainless, especially in a hygienic, washdown, food-safe environment, I would say the competitors can't compete," Beckett concluded. "Robroy has engineered and designed as watertight of a conduit system as I've ever seen."

By eliminating water and bacteria intrusion at the conduit level, Midwest Machine protects its equipment, its customers, and its reputation—one sealed system at a time.

