



How Johnsonville, LLC Transformed
Maintenance with

ULTRASOUND TECHNOLOGY



Johnsonville, LLC is a major food production company specializing in sausage and a variety of similar meat products. They sell their products nationwide through retail outlets, food processors, institutional customers, and other food services. Johnsonville, LLC bratwurst (brats) are the official brats of the Green Bay Packers, Milwaukee Bucks, and Milwaukee Brewers.

The company has plants in Johnsonville, Sheboygan Falls, Watertown, Wisconsin, and in Holton, Kansas.

FROM COSTLY DOWNTIME TO LASTING RELIABILITY: HOW JOHNSONVILLE, LLC FIXED THREE MAJOR ISSUES WITH THE ULTRAPROBE 15,000

Like many major facilities, Johnsonville, LLC has long dealt with premature failing bearings, motors, and contaminated gearboxes due to outdated and inefficient time-based lubrication practices and installation issues. In addition, failing steam traps have led to significant energy and product losses. While it might seem easy to maintain the status quo with reactive maintenance, the ideal solution is to prevent these issues from occurring in the first place.

This case study highlights three key challenges across Johnsonville, LLC's facilities: failing cutter bearings, oven motors, and steam traps. To address these issues, Johnsonville, LLC used UE System's Ultraprobe 15,000 - an all-in-one instrument that uses ultrasound to analyze everything from bearings and electrical systems to steam traps and leaks. This single hand-held instrument can easily test and report on almost every aspect of a plant's equipment, making it the perfect all-around tool for facility maintenance.

"Johnsonville, LLC is dedicated to becoming the best company in the world that makes sausage, and that requires a world-class maintenance team. Implementing a predictive maintenance strategy with UE Systems is a critical part of that solution. It helps us prevent failures and allows us to fully develop our members' talents, which is core to the Johnsonville, LLC Way."

- CARLOS GUZMAN, JOHNSONVILLE, LLC

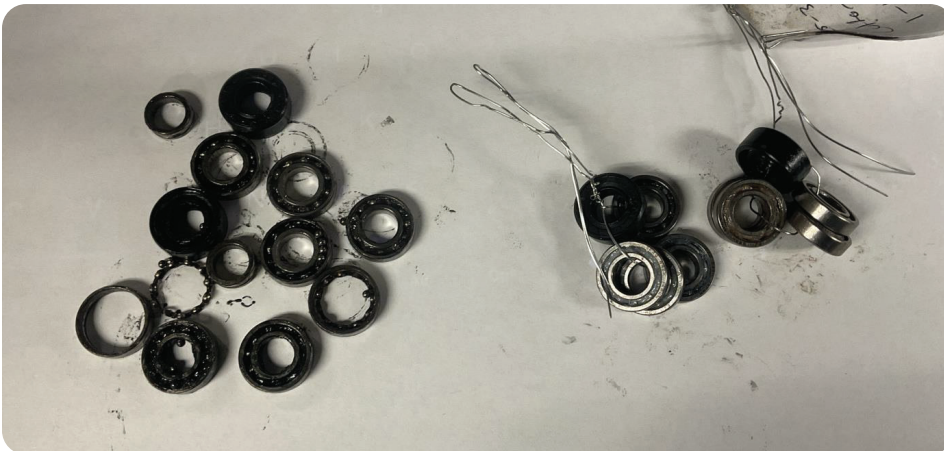
1. CUTTER BEARINGS:

Johnsonville, LLC uses cutters to separate sausage links – each containing 160 bearings (4 bearings per roller, 2 rollers per triangle, 4 triangles per cutter, 5 cutters total). These machines operate in a harsh washdown environment, putting constant stress on the bearings and making it difficult to prepare for and anticipate failures without risking unexpected shutdowns.

To minimize risks, the team initially took a defensive approach by replacing all 160 bearings every three months as part of their predictive maintenance schedule. This was a costly and time-consuming process that proved to be ineffective – they continued to experience unexpected failures leading to emergency downtime and repairs. Despite spending a lot of money on new bearings and labor, the results still weren't reliable, and they needed to find a better strategy.

SOLUTION

They decided it was time to take back control and shift to a proactive and preventive approach. Previously, bearings were only greased during assembly, with no route in place to regularly monitor their condition. Using the Ultraprobe 15,000, an all-in-one, handheld monitoring system, they stopped guessing and started listening. After experimenting with various greasing techniques, they found that using the Ultraprobe 15,000 to verify correct lubrication practices in real-time worked best. As a result, the Ultraprobe 15,000 quickly became their primary tool, helping to ensure each bearing was properly installed and set up for success in their harsh operating environment.



The bearings on the left show their condition when they were replaced every three months – before using ultrasound for predictive maintenance. The bearings on the right show their current condition – they are not falling apart anymore.

RESULTS

The outcome exceeded their expectations. The same bearings that once failed in under three months were now lasting over a year – more than 4 times increase in lifespan. The constant bearing replacement cycle was eliminated, resulting in significant savings on parts and labor. More importantly, the biggest achievement was the dramatically reduced amount of unplanned downtime. Instead of being a thorn in the side that required constant time, money, and attention, the cutter bearings have suddenly become a model of reliability.

2. OVEN MOTORS:

One of Johnsonville, LLC's oven motors, a critical piece of production equipment, was on its last legs and showing signs of failure. It was running poorly, and they assumed it was headed for a costly replacement. Without using the power of ultrasound, this would have been a classic case of a failing motor being run until failure and swapped out at a heavy expense. Not only would this put product quality at risk, but without a clear way to monitor its current condition, the timing of the failure would have been impossible to predict, leading to unexpected downtime and costly repair. They knew it was time to properly investigate what was causing this motor to fail.

SOLUTION

Before completely writing the oven motor off, they decided to investigate using ultrasound. By listening to it with the Ultraprobe 15,000, they were able to diagnose the issues as non-fatal – likely caused by improper lubrication and installation stress. Essentially, the oven motor was starved of lubrication. Using real-time feedback from the Ultraprobe 15,000, they performed condition-based lubrication and applied the right amount of grease until the sound quality smoothed out. Next, they addressed the installation factors such as soft foot, alignment, and correct key length to relieve any lingering stress.



This is Johnsonville, LLC's current oven motor – now properly maintained and ready to run for years to come. Before implementing an ultrasound PdM program, the motor was in poor condition. Not only were the bearings starved, but the key was the wrong size, there was soft foot, and the motor was misaligned. A dirty fan and fan cover were also restricting air flow.

RESULTS

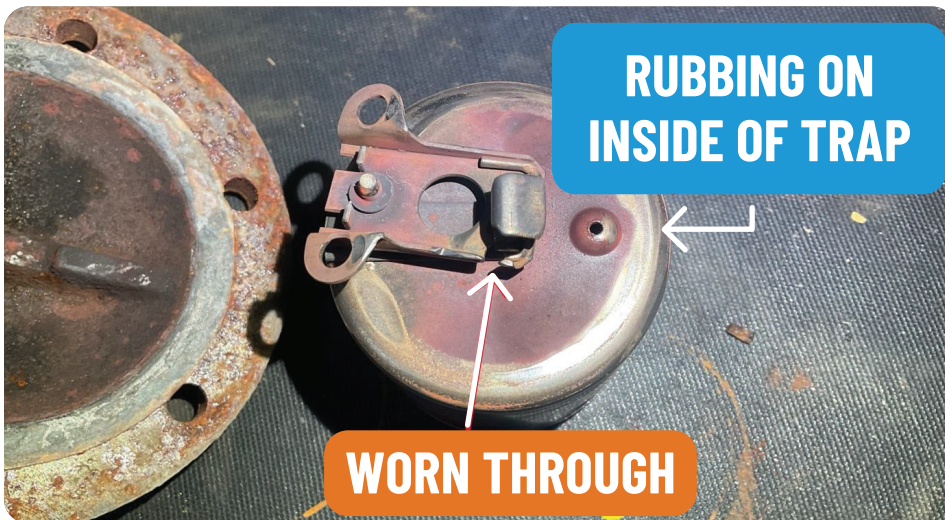
The oven motor essentially came back from the dead. A motor that was once thought to be headed for failure was now running smooth and reliably. They were able to avoid the high cost of replacing it with a new motor and the downtime that would have come with it. This single save became a powerful success story within their facility, proving that a predictive approach could yield immediate and substantial returns.

3. STEAM TRAPS:

Johnsonville, LLC relies heavily on steam for their production process. While failed steam traps don't trigger alarms or cause immediate shutdowns, they leak steam which wastes huge amounts of energy and money while they run nonstop. In a noisy environment, steam leaks are not something that can be easily seen or heard, making it unrealistic for team members to notice them without proper equipment. To stop leaks from draining productivity and wasting money once and for all, they needed to invest in the right equipment to pinpoint the exact location and severity of the leaks.

SOLUTION

With the Ultraprobe 15,000, they established ultrasound routes for inspecting steam traps. Ultrasound inspections listen to the internal components of steam traps, which are inaudible to human ears. In short time, they were able to pinpoint a failed inverted bucket steam trap that was wasting significant energy and money. Without ultrasound, this would have continued to go unnoticed.



As shown in the photo, the steam trap's bucket linkage had worn through. Ultrasound helped detect the issue, and they scheduled a replacement. After further inspection, it was clear that it was severely damaged and had likely been leaking for more than a year. Moving forward, the team is confident in using ultrasound to reliably identify failed traps a lot sooner.

RESULTS

They replaced the failed trap, effectively fixing the "leak" in their energy budget. Thanks to the success of finding and correcting this steam trap, they created a list of other suspected steam traps for further inspection and possibly replacement during the next shutdown. This single, definitive discovery clearly demonstrated the ROI of ultrasound technology and provided the justification and momentum to expand their predictive maintenance program.

DRIVING PREDICTIVE MAINTENANCE EXPANSION AT JOHNSONVILLE, LLC

After these recent successes with the Ultraprobe 15,000, Johnsonville, LLC has created dedicated predictive maintenance technician roles to continue creating and implementing its predictive maintenance strategy across all sites.

Are you interested in bringing
ultrasound into your facility?

CONTACT US TODAY!



CONTACT US



X (TWITTER)



FACEBOOK



YOUTUBE



INSTAGRAM



SPOTIFY



LINKEDIN



TIKTOK