

Installing Baldor's Dodge® ULTRA KLEEN Ball Bearings



Moves Machine from Least Reliable to Most Reliable at the ConAgra Foods® Lamb Weston Potato Products Plant

ConAgra Foods is dedicated to making the food people love and doing so in an environmentally responsible way. As part of its sustainability strategy, the company has set aggressive goals to reduce greenhouse gas emissions, water usage, waste and packaging. In an effort to help achieve those goals, the company is working with its supply



Bearing failures on this roll sizer machine were causing significant downtime at the Lamb Weston potato products plant. After installing Baldor's Dodge ULTRA KLEEN stainless steel ball bearings, this machine went from being the least reliable to the most reliable.

chain to encourage continuous plant improvements, partnering with suppliers that deliver innovative products that increase plant efficiency.

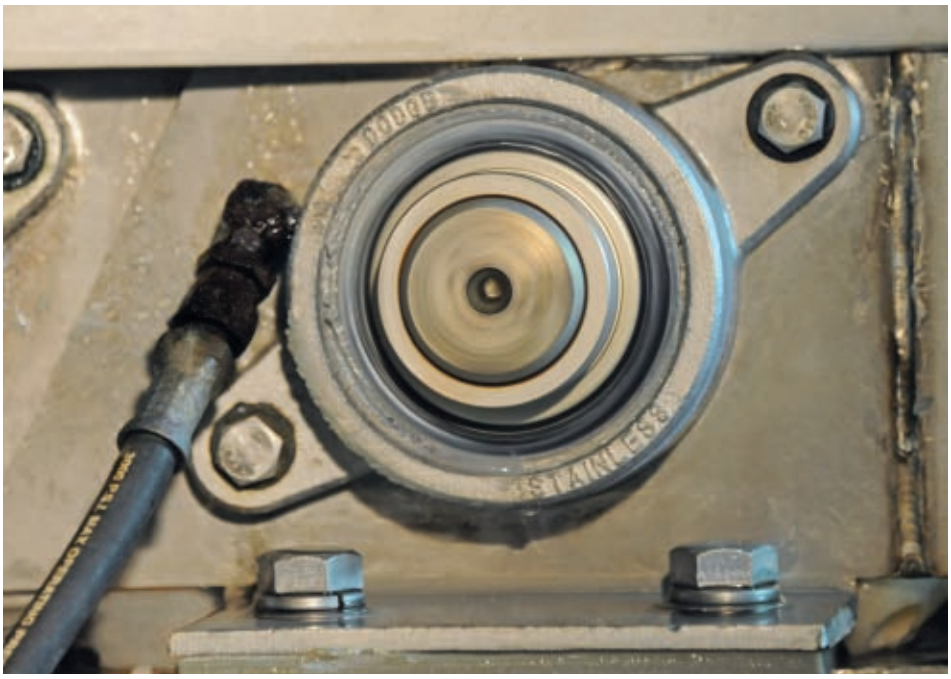
Jake Washburn, procurement manager for ConAgra Foods' Lamb Weston, a leading producer of quality frozen potato, sweet potato and other vegetable products, says it's not about finding the cheapest products, but rather the products that will reduce total cost of ownership. He says the company is looking for partners that will help it with its goal to increase continuous improvement savings.

"It's amazing how this machine has moved from least reliable to most reliable just by changing bearings."

Colin Walters, plant maintenance manager, Lamb Weston potato products plant

"The best suppliers offer solutions versus sales, and we want a partner who will share their industry and product knowledge and bring us up-time opportunities," says Washburn. "We want reliable products that will prevent unplanned downtime and increase our operational equipment effectiveness. At the end of the day, if we keep our plant up and running, it helps drive our efficiencies and helps reduce waste."

In early 2010, increasing plant up-time became a major project at the Lamb Weston potato products plant in Connell, Washington. This plant makes french fries and other potato products primarily for the commercial marketplace. Plant Maintenance Manager Colin Walters worked with a corporate team to identify the top downtime-producing pieces of equipment in the plant. They pored over data that had been collected over a two-year period, identifying equipment failures and whether the downtime was associated with operational issues or if it was a mechanical or electrical failure. Walters says the numbers pointed to a piece of equipment called a roll sizer as one of the least reliable pieces of equipment in the plant.



Baldor•Dodge® ULTRA KLEEN stainless ball bearings feature stainless steel inserts and are 100% filled with H1 food-grade grease. The patented QuadGuard™ sealing system and the exclusive Maxlife™ cage help retain lubrication and prevent washout in wet environments.

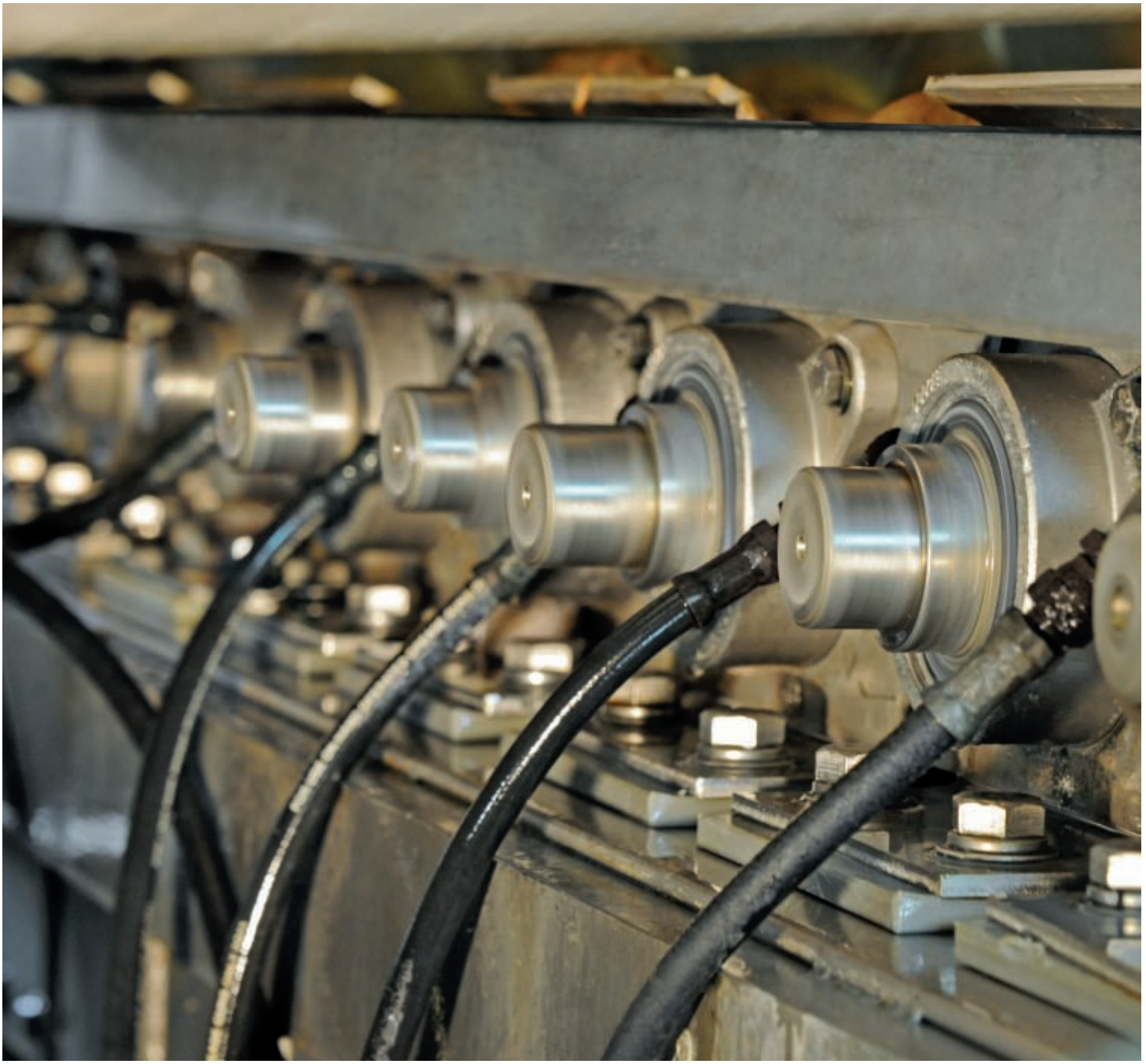
"In fiscal year 2010, the plant ran 48 weeks of production," explains Walters. "During 29 of those 48 weeks, we experienced at least one downtime event on this roll sizer, which added up to 2,700 minutes of capacity loss. We took a closer look and found that the majority of the failures were related to the bearings on the machine."

There are 22 bearings on the roll sizer, one on each end of the 11 tapered rollers that drop cleaned and peeled potatoes by size into the appropriate flume, carrying them to the knives to be cut into fries. Walters says sealing failures led to bearing failures, which sometimes damaged other drive components.

"Because the bearings were always at different states of wear on this machine, they caused uneven wear on sprockets, and failures with drives and chains," says Walters. "We believed that if we installed a better bearing, we could significantly reduce downtime on this machine."

To help find that better bearing, Walters called Jeff Stroben at Applied Industrial Technologies' Pasco Service Center. Stroben, who has called on the Connell plant for the past 21 years, visited, discussed the issues and took a closer look. He says poor sealing was the primary factor in bearing failure. Once he understood the problem, he says, he had a good idea of what would work.

"I recommended the new Baldor•Dodge ULTRA KLEEN stainless steel ball bearing," says Stroben. "This bearing offered a patented triple-lip sealing system plus a new cage design that holds in the grease and prevents it from



Lamb Weston Plant Maintenance Engineer Colin Walters says he is impressed with the quality of the engineering work done on the ULTRA KLEEN bearing, from the way the bearing is sealed to the Maxlife cage design. He calls it a superior bearing that offers superior performance.

being washed out. I believed this bearing had a good chance of succeeding in this application."

At first, Walters considered only changing out half the bearings, but then quickly decided that in order to get an accurate comparison, all of them needed to be changed. It didn't take long for him to realize that he had made the right decision.

"Since installing these Dodge bearings in the first week of August 2010, we have had no downtime event caused by bearings on this machine," says Walters. "Again, the numbers tell the story about this success, because we have run the plant 56 consecutive weeks without experiencing any bearing or drive type failures. It's amazing how this machine has moved from least reliable to most reliable just by changing bearings."

As a mechanical engineer, Walters is impressed with the quality of the engineering work done on the ULTRA KLEEN bearing, from the way the bearing is sealed to the Maxlife™ cage design. He calls it a superior bearing that offers superior performance.

"This is a very tough application due to the natural vibration of the machine," explains Walters." It's also a very wet

environment, but these bearings hold up to all of it."

Walters is proud that the solution found for this machine is helping the plant move closer to achieving the company's sustainability goals, a success that has been shared with continuous improvement teams throughout the company. He is also happy to report that the roll sizer has been removed from the tracking list, allowing the maintenance team to focus on other projects.

"In the past, keeping this roll sizer up and running was a real challenge," says Walters. "Unplanned downtime is costly in so many ways, and it's also very disruptive to the planned preventive maintenance work that we do in the plant. With this problem solved, we can move to other improvement projects. Solving the problem has been a big win for us."



Eleven tapered rollers on this roll sizer machine drop clean potatoes by size into the appropriate flume, carrying them to the next step in the process. Before making the conversion to the Baldor•Dodge® ULTRA KLEEN product, bearings on both ends of the rollers were failing due to sealing issues.

ConAgra Foods® Standardizes on Baldor's Dodge Mounted Bearings

The success achieved at a ConAgra Foods Lamb Weston potato products plant is a success that ConAgra Foods wants repeated in all of its facilities throughout North America. That's why ConAgra Foods, with help from its distributor partner Applied Industrial Technologies, has standardized on Baldor's Dodge mounted ball bearings as part of its newly launched MRO strategy.

Mathew Boots, ConAgra Foods' procurement manager, says the initiative is focused on total cost of ownership, choosing products that offer solutions instead of just focusing on price. During the selection process, Boots says, other bearing manufacturers participated and were considered, but Baldor's Dodge bearings were chosen because they offered what he describes as the best quality-to-cost ratio.

"While this is not a formal equation, it does help us determine what something will cost us in the long run," explains Boots. "We believe Dodge bearings offer quality and reliability and will ultimately deliver cost savings by increasing operational equipment effectiveness (OEE), which to us means we'll have less downtime."

Another reason for selecting this product line, according to Boots, is the added value that Baldor and AIT will offer ConAgra Foods plants all over North America. He says part of the value will come from Baldor's continued research and development of new and innovative products, and the other part will come from field support.

"Our plants will have full access to Baldor and AIT experts who will help identify ways to improve our processes and applications," says Boots. "By offering solutions, this partnership will be able to deliver the continuous improvement cost savings back to us, helping us achieve our goals."

Today, ConAgra Foods plants are using a wide variety of bearings from assorted manufacturers. But Boots believes that standardizing on what he describes as the best bearing is the right strategy. He's confident it will work because of the positive numbers from a couple of plants that have already started to use the bearings, like the Connell, Washington, plant.

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"Here is a plant that has less downtime and really high numbers on the OEE scale," says Boots. "That's great news, but what about all the other plants? If we can help all our facilities be this successful, then the win is so much bigger – that's the goal of standardizing on Dodge bearings."

ConAgra Foods, headquartered in Omaha, Nebraska, is one of North America's leading food companies, with brands in 97% of American households.