

MAP QUALITY ASSURANCE

The package test system Dansensor® Lippke 4000 came to Omnibar's rescue

Omnibar

Omnibar is a small, innovative company based in Missoula, Montana, US that produces a unique high-nutrition food bar in which the protein content is provided by top-quality beef. Other ingredients include sweet potatoes, organic oats, flax seed, almond butter and plums. Since they first appeared on the market in 2013, Omnibars have proved a popular hit with endurance athletes, seeking a calorie-dense food that also has a substantial protein component.

The packaging process required serious consideration

The company was founded by Cooper Burchenal, who was seeking new markets for the high-grade, grass-fed cattle reared on the family ranch in Montana's Blackfoot River Valley. "We came up with the idea for a calorie-dense food bar that could use beef as the protein in 2010," says Cooper.

"At the time, everyone thought we were crazy, and some of our initial prototypes suggested they might be right." But after three years of intensive experimentation and market testing, the team finally arrived with a formulation that finally hit the spot – "think savoury jerky meets a soft fruit leather" is how the company describes the product.

Packaging was an issue that required serious consideration. "There had been nothing like this, so we were facing some complex scientific questions about shelf life and product stability that would ensure that the product remained fresh and stable, while keeping the regulatory authorities happy," Cooper says. Vacuum packaging was not feasible as this draws the product's natural oils to the surface. In addition, oxygen would need to be excluded to prevent oxidation of the oils. The company opted for horizontal flow wrapping under a nitrogen flush. "We commenced production and everything was going swimmingly, but then we discovered that packaging was failing," says Cooper.

"Over a period of weeks the residual oxygen levels in the packaging were slowly climbing up to regular atmospheric levels. This was a disaster.



"With MOCON's leak testing and seal integrity technology we were able to identify the problem within the packaging seal and make a very fine adjustment to the packaging machine to resolve the issue," says Cooper.

CASE STUDY OMNIBAR

CASE STUDY

We had just got into a major grocery chain and we had to pull a lot of products. We were facing potential losses of tens of thousands of dollars, which would have been hugely harmful for a tiny outfit like ours that was just getting started."

Help was needed quickly

There was an urgent need to find the source of the problem quickly and to fix it quickly. "We simply did not know how to resolve this potentially catastrophic situation," recalls Cooper. "Montana is a big state but has very few people and resources. We did not have the local resources to sort out this issue and I did not know where to turn. Here I am faced with a problem that I do not understand, I do not know how to fix it, and it is threatening me."

Rescue came in the form of MOCON. Omnibar had already invested in one of Mocon's Pac Check 302 portable gas analyzers to check for residual oxygen within the packages as part of the quality assurance process. Cooper decided to give MOCON a call to see if it could help with the packaging problem. "I explained the problem and sent pictures and videos. The technical support specialist came back to me and said 'this is your problem, this is how you fix it and this is the machinery we have to do the job.' That meant the world to me."

The solution was a Dansensor Lippke 4000

"MOCON supplied Omnibar with a Dansensor Lippke 4000 machine designed to test packaging for leaks and seal strength.



The machine works by inflating the package under precisely controlled pressure and rates of inflation, automatically recording the data. The pressure within the package can be maintained at a given level; if the pressure decreases over a given time, the extent of any leakage can be gauged. Alternatively the package can be inflated until it bursts, with the point of bursting corresponding to the point of failure on the packaging. "With MOCON's leak testing and seal integrity technology we were able to identify the problem within the packaging seal and make a very fine adjustment to the packaging machine to resolve the issue," says Cooper.

"MOCON's technical staff showed us how to set up the Dansensor Lippke 4000 machine, how to operate it and how to build it into our continuous production. For Cooper, MOCON's technology and technical support almost literally saved the company. "We are small and just getting started. I could have lost a quarter of our annual production had we not taken this action. Has it been cost effective? Frankly it was the best money I ever spent. How long was the return on investment? It was immediate! I am utterly grateful."



As well as solving the immediate problem, the Dansensor Lippke 4000 has now been incorporated into Omnibar's package testing and quality assurance program, with the data available for presentation to third party auditing. "It is simple to set up and use and we received excellent technical support," Cooper says.



Omnibar's factory in Missoula, Montana, US



Omnibar case study, October 2015