CASE STUDY

MAP QUALITY ASSURANCE

MAP Check 3 boosts efficiency at leading snack maker

KiMs

KiMs is one of Scandinavia's leading producers of crisps, nuts and snack foods. The company continually strives for improvements in efficiency, and to this end has adopted the Japanese-inspired approach of 'lean production', a manufacturing philosophy that considers the expenditure of resources on anything other than increasing value for the customer to be wasteful and therefore a target for elimination.

Quality assurance testing

KiMs has appointed a dedicated Lean Manager, Flemming Carlsen, to target areas for improving efficiency and adding value for the customer. One of the first areas that Mr Carlsen focused on was the quality assurance testing on the Modified Atmosphere Packaging (MAP) line at KiMs factory in Søndersø in central Denmark, where 230 people are employed. A high proportion of the plant's products are packaged in nitrogen – an inert gas that keeps the products fresh for longer and improves their shelf-life.

To ensure that the packages contain only nitrogen, workers periodically remove packages and insert a needle to test the gas composition. If the gas content is found to be outside particular limits – if some oxygen has entered the package, for example – manual adjustments are then made to the gas inlet system into the packaging line.

"We were doing a lot of manual checks and destructive analysis," says Mr Carlsen. "Each time you test a package with a needle you waste time as well as packaging foil, and you have to re-work the product. It is important that we focus to create value for the customer – all these quality checks are not what the customer wants to pay for. The customer just wants the right quality every time, and the system we were using was not a solution."

Investment in on-line gas analysers

Mr Carlsen decided to invest in MOCON Europe´s new Dansensor® MAP Check 3 on-line gas analysers on three of the plant's MAP lines.

Dansensor MAP Check 3 - on-line gas analyser for quality assurance on MAP-enabled flow packaging machines. Enables major gas savings with optional GasSave function or when paired with Dansensor MAP Mix Provectus.

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Dansensor MAP Check 3 monitors the gas mixture entering each individual package and allows real-time control of package flushing with its advanced GasSave function, which can eliminate the problem of the line's operators using too much gas. All the data relating to gas levels is stored, resulting in an historical record which is important for audit and tracking in case of a query.

The perfect solution

After four months of running the machines, Mr Carlsen is pleased. "We have reduced the time needed for manual checks and gas adjustment, and the time needed for re-working samples," he says. "We have also reduced the amount of waste foil, and have cut down on the time needed to track back any problems. The system is very good for traceability. If we have a query, we can easily see what the gas level was at the time any problem occurred." The amount of gas being used has also been significantly reduced. While a full, detailed analysis of the new system has yet to be carried out, Mr Carlsen expects to see a reduction in gas consumption of around 20-25 per cent.

The savings on manpower have been considerable. "We still do some manual testing," says Mr Carlsen. "But whereas previously we did hourly tests, now we test when starting up a new production and then every four hours. This allows our workers to use their time more productively".

Mr Carlsen is also impressed with the Dansensor MAP Check 3's user-friendliness. "It is very easy to use.

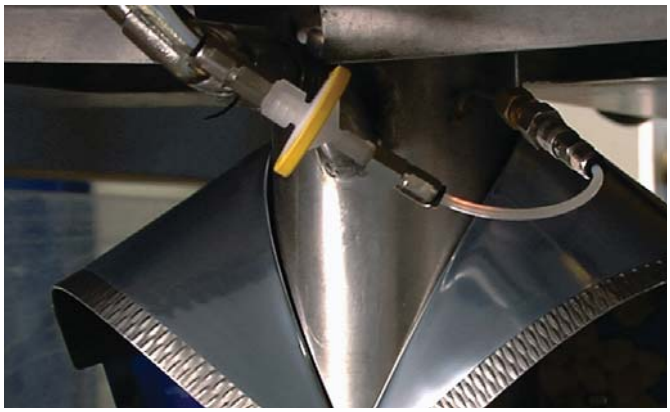
For the operators, they just need 15 minutes' instruction and they are able to use the equipment. For the technical people, after one hour's training they are able to create and change programs, and understand the various parameters that can be altered. And for the quality department to be able to gather, store and analyse the data is simple to understand and operate."

Cost savings

Overall, says Mr Carlsen, "We are very pleased. We will carry out the first major analysis of cost savings after six months, but certainly after four months it is looking very good and we have had a very positive experience. At this stage, I would estimate that the payback time on our investment would be only about one year. What is also interesting is that I can see that this technology would have been useful in other businesses I have worked in."

KiMs snack manufacturing facility, Søndersø, Denmark

KIMs case study, October 2012



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