MAZIAK CASE STUDY

Q: Why Did the Chicken Cross the Road?
A: To Reduce its Nitrogen Gas Costs by up to 80%

The Challenge

PG Amps are based in Wisbech, Cambridgeshire where they process and pack meat products for supermarket re-sellers. They have used N_2 for modified atmosphere packaging (MAP) for many years and had a 180 litre bulk liquid supply for this purpose.

Also known as 'gas flushing', this is a simple process of flushing packaged foods with inert high purity nitrogen in order to reduce the oxygen level below ≤1% in each tray. This slows down aerobic decay and deterioration caused by oxidisation, resulting in fresher food both in terms of taste and appearance.

The application requires a mixed gas supply, this being 70% Nitrogen and 30% Carbon Dioxide, to ensure the meat portions, primarily chicken, retain their natural colouring, texture and shelf life for many days longer than without it. The existing gas was supplied from 180 litre liquid dewars that were regularly topped up by a tanker delivery with a Witt gas mixing panel calibrated to blend the gases to their required state ready for use. Operating in a highly price sensitive market and with costs of the liquid supply was escalating, cost control and reduction were the main drivers for this site.

Maziaks' Solution

Maziak in partnership with **PG Amps** undertook a financial study of the site's existing operating costs and agreed a suitable solution that would provide a financial payback in significantly less than 2 years. The site's compressed air supply was also found to be at risk and the upgrade of this was made part of the project to kill two birds (specifically chickens!) with one stone.

The existing Witt gas blending panel could be re-used as is. The rest of the installation consisted of an HPC ASK40 22kw fixed speed compressor with ultra-premium efficiency IE4 motor and Sigma Controller; a Parker OFASHL055 Desiccant Dryer and most importantly a Parker NitroSource N_2 generator. The features of this unit (pictured) include:

- Operates from a standard factory compressed air supply
- Delivers 5% down to 10ppm oxygen content, without the need for additional purification
- Fully automatic operation and economy mode
- Built-in oxygen analyser for continuous purity monitoring with digital and analogue outputs for remote monitoring
- Plus alarm capabilities, user friendly control interface, compact design and modular concept

Results

The system installed by Maziak has delivered significant advantages to **PG Amps.** They have achieved major cost savings and a marked improvement in reliability. They are also reaping the rewards of having brand new, technically innovative equipment resulting in improved energy efficiency. The Carbon Dioxide supply still needs to be supplied via liquid tank but, as it is a significantly lower proportion of the gas used, the deliveries are much reduced.