

Hello (Salve) New N₂ Gas Generation System Goodbye (Addio) Prohibitive Costs

The Challenge

Valerio's, part of the Carnevale business, have been manufacturing Italian cheese and meat in Bedford since 1966. They have used N₂ for modified atmosphere packaging (MAP) for over 20 years. 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 0.5%. As a result, aerobic decay and deterioration caused by oxidation slow down and food is fresher both in terms of taste and appearance. The use of nitrogen as a filler gas also provides a pressurised atmosphere that prevents packages from collapsing, and gives a smoother result than vacuum packaging.

With a 20 year old nitrogen gas generator, Valerio's recognised the need to replace the equipment or find a different source for their nitrogen. Maziak were approached to give them alternatives to their existing provider.

Maziaks' Solution

Aside from a new nitrogen gas generator, the goals were to improve and optimise air compressor energy efficiency with the latest technology, reduce existing and future N₂ costs and improve accessibility to energy data and the performance statistics of the N₂ gas generation system.

This was achieved via the installation of an HPC SM13 fixed speed compressor with ultra-premium efficiency IE4 motor and Sigma Controller; a Parker KMT-4 Desiccant Dryer and most importantly a Parker Midigas 6 N₂ generation unit. The features of this unit (pictured right) include:

- ◆ Can operate from a standard factory compressed air supply
- ◆ Delivers 5% down to 10ppm oxygen content, without the need for any additional purification
- ◆ Automatic economy mode
- ◆ Built-in oxygen analyser for continuous purity monitoring
- ◆ Digital and analogue outputs for remote monitoring
- ◆ Alarm capabilities
- ◆ User friendly control interface
- ◆ Compact design
- ◆ Modular concept



Results

The system installed by Maziak has delivered significant advantages to **Valerio's**.

They have achieved major cost savings compared to their previous system, alongside the obvious benefits of having brand new, technically innovative equipment, resulting in improved energy efficiency and reliability. Also, this onsite N₂ generation solution is over £10,000 per annum less, compared to the option of sourcing N₂ gas via bulk delivery and tank storage.

With a payback period of under 4 years, this equates to a hefty saving.