



domnick hunter

03 MAXIGAS N_2 NEWS

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MAXIGAS Makes Modified Atmosphere Packaging Effortless



Terra Harvest based in Melbourne, Australia specialise in food packaging. Customers include major consumer food brands.

A MAXIGAS generator using the packaging plants existing compressed air line delivers nitrogen with an oxygen content of 0.5% to a TNA ROBAG vertical form fill seal machine (VFFS) and flushes snack food bags with nitrogen gas prior to sealing to improve quality and extend shelf-life.

MAXIGAS dispenses with the need for multi-packs of high pressure cylinders. Instead of having to carefully store, handle, disconnect and reconnect cylinder packs an N2MAX106 effortlessly provides up to 11.4 Nm³/hr of nitrogen gas at the touch of a button.

Former Terra Harvest Managing Director, Al Lewin says, "The installation took less than a year to achieve payback and now represents continuing efficiency and profit. Not only are we achieving operational and cost efficiencies, but we are also gaining occupational health and safety benefits by not having to store and constantly manipulate heavy packs of cylinders."



Coca-Cola Bottlers Ireland improve health and safety



Coca-Cola Bottlers Ireland is part of the Coca-Cola Hellenic Bottling Company, which operates in 26 countries and produces soft drinks under franchise for Coca-Cola Company.

The site in Dublin bottles carbonated drinks and produces post-mix concentrated syrups that are delivered to restaurants.

Three thousand 18 litre tanks of post-mix are produced every week for cafes and restaurants and one hundred 300 litre tanks are produced every week for exclusive distribution to a leading fast-food chain.

Coca-Cola blanket post-mix tanks of the concentrated syrup with nitrogen

to pressurise the vessel. Nitrogen was supplied via gas bottles, but health and safety concerns forced a new solution to be found.

The company was familiar with domnick hunter since they already used OIL-X EVOLUTION filters, condensate drains, oil/water separators, PNEUDRI, Liquid CO₂ filters (-40°C), and a CO₂ purifier.

In 1999 an N2MID350 was installed by Dalco Nitrogen Systems, official MAXIGAS distributor, to deliver nitrogen with a purity of 99% at a flowrate of 5m³/hr.

Typical annual savings of between £10,000 and £12,000 have been achieved since the switch from bottles to PSA nitrogen. Frank Cassidy, Maintenance Manager, says "We've made a good saving from the MIDIGAS nitrogen generator, but that wasn't the main reason for installing it, we were looking for ways to improve employee health and safety."

In this issue:

Irish chemicals company makes huge savings

No more storing or handling cylinders at Australian snacks company



domnick hunter fabrication reduces gas costs by 66%

In May, domnick hunter fabrication installed an N2MAX116 nitrogen generator to reduce its reliance on argon.

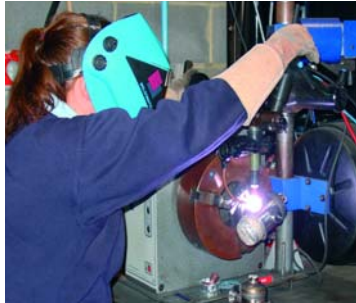
Since installation annual expenditure on gas has been reduced by around 66%.

More than 5,000 stainless steel vessels are produced each year at the Boldon Business Park site and are exported to domnick hunter customers worldwide.

With the majority of stainless steel vessels intended for critical applications such as food, beverage or pharmaceutical production, where cleanliness and sterility are paramount, finished quality is a very important consideration.

Welding tends to erode stainless steel's anti-corrosion properties. Chemical treatments after welding can remove oxide layers and restore corrosion resistance, however work of this type is costly.

An inert gas shrouding system during TIG welding is a better way to prevent the weld from oxidising.



This system typically protects the molten weld pool at 3 points:

- 1) At the weld torch
- 2) Trailing the weld
- 3) The backing or root of the weld – a purging or backing gas is used here

In addition to its relatively high cost, cryogenic argon can be very temperamental following any kind of shutdown such as holidays, or during ambient air temperature changes in summer months, when it can off-gas to the atmosphere and equate to expensive losses.

The MAXIGAS generator delivers nitrogen gas with a purity of 99.999% at a flowrate of 7.3m³/hr.

dh fabrication still maintains a small argon cylinder supply for weld gas, but nitrogen is now used for the purging and trailing gas.

Ron Forbister, General Manager at domnick hunter fabrication says, "The main advantage of the nitrogen generator is its simplicity compared to cryogenic argon which could be quite unreliable. Another advantage is that it is easy to increase nitrogen capacity, simply by adding extra generators."

Arch Chemicals reduces costs by 45%

Arch Chemicals, Inc. is a global speciality chemicals company with processing sites in more than 20 countries.

The Arch site in Dublin manufactures copper and zinc Omadine® biocides in bulk quantities. These biocides are used in market leading marine antifouling paints and as an anti-dandruff ingredient in popular shampoo brands.

Arch relies on nitrogen to blanket Xylene, a flammable substance that is a key component during the manufacturing process. Nitrogen's inert properties provide an effective blanket that prevents oxygen from coming into contact with flammable substances and therefore does not support combustion.

The company previously used bulk liquid nitrogen but considered alternatives when a process that relied on liquid nitrogen was re-located to a different site and made nitrogen gas a viable alternative.

Nitrogen is production-critical for Arch; any nitrogen failures could cause the loss of valuable production output which would reduce profitability and availability of product for customers.

Because nitrogen is critical, Arch could not dispense with the services of their original gas supplier immediately. Instead, with the help of Dalco Nitrogen systems, official MAXIGAS distributor, they installed a trial unit.

Arch soon realised they could achieve substantial cost savings and still maintain nitrogen quality.

As do most chemical companies, Arch has strict health and safety procedures that require every new piece of equipment to be scrutinised by a hazard analysis check. The check indicated that nitrogen could pose a risk in the form of oxygen deficiency so extra precautions were needed. Dalco was able to fully meet these demands by installing oxygen analysers that would immediately detect any nitrogen leaks and trigger an audible and visual alarm.

Following the hugely successful trial, Arch installed a N2MAX112 with a nitrogen purity of 99% in April 2005.

Kevin Whelan, Plant Manager at Arch says, "Despite incurring exit costs for leaving the 12 month contract with our original supplier early, we are making savings of around 45%."

In addition to the incredible cost savings Arch has also benefited from space saving advantages following the removal of their bulk liquid nitrogen tank.



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