

# Mortimer PR Services

Knockalls Farm, Mitcheldean, Gloucestershire, GL17 0DP  
Tel ++44 (0)1594 542578 E-mail richard@mortimerpr.co.uk

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## Midtherm gets back in control with MSS Lasers nitrogen generators

Midtherm Laser is one of MSS Lasers biggest users of nitrogen generation equipment. Located in Dudley in the West Midlands, Midtherm Laser has been in business since 2001 and has a very diverse customer base covering the automotive, pharmaceutical, aerospace, petrochemical, and architectural sectors. Parts produced by the company have been used in Bentley and Aston Martin cars, the Tate Gallery, Terminal 5 and for the 2012 Olympics. The company has a highly professional outlook and won a Birmingham Post achievement business award, is an Investor in People and has ISO9001, ISO14001 and AS9100 accreditation.



The company has three Bystronic lasers on its main site and a fourth laser on a satellite site. Dean Cockayne, Operations Director explains the history, "We started with bulk liquid nitrogen storage, so the costs were tank rental and the nitrogen itself. Other issues were the space occupied by the tank which was located outside, and the logistics of delivery and reordering." When the nitrogen

supplier relocated its call centre to Europe, the supply chain became unwieldy, leading to delivery delays, time wasted chasing deliveries and occasional disruption to the production schedule when the nitrogen tank ran out. Dean Cockayne says, "We could not tolerate this level of uncertainty and unnecessary administrative load, so we examined the possibility of nitrogen generation. We found that MSS Lasers was very knowledgeable and had a fully tried and tested solution." Midtherm Laser started by renting the system so that they could be confident that any breakdowns or teething problems would be resolved by the supplier. Dean Cockayne continues, "MSS Lasers went into a lot of detail to ensure the system was properly sized for our current and future requirements. The service has been extremely good and we have now purchased the system with absolute confidence in its reliability and effectiveness."

The system at Midtherm Laser has two nitrogen generators running in tandem with a VSD variable speed compressor allowing the gas to be stored at 300 bar. All the equipment is now secure inside the factory and, because of the higher storage pressure, occupies less space than the old rented storage tank. Dean Cockayne says, "We cut at 20 bar so we need 32 bar at the machine. The higher storage pressure allows us to store 33% more gas. Also the tandem design of the system gives us a backup in case of breakdown, as we can still run on one generator." The company uses nitrogen to cut all its non-ferrous material such as stainless steel, aluminium, copper and titanium.



Midtherm is now also cutting thin gauge mild steel, up to 3mm, with nitrogen rather than using conventional oxygen. By replacing this with nitrogen it allows the machines to cut profiles faster whilst eliminating edge oxidization, resulting in overall cost reductions due to the removal of extra cleaning operations which would have been required before painting or powder coating.

Currently, Midtherm operates for 20 hours per day and the nitrogen generator easily keeps up with demand. Dean Cockayne says, "We have plenty of nitrogen which makes it economical for us to use it on 99% of our products. Bought in gas has doubled in price over the last 5-6 years, so we anticipate a payback on the system within two years. We can even tweak the purity levels of the generated gas to make it go further." The MSS Lasers system has a modular construction, so it can be expanded as requirements grow. Dean Cockayne adds, "Our next investment will be in extra storage, as this will be the next limiting factor as we expand our production."

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Consideration of environmental issues is important to the company as part of its ISO14001 certification. By installing nitrogen generation from MSS lasers, not only has it reduced the carbon emissions associated with nitrogen delivery vehicles but, the VSD compressor, as well as driving the nitrogen generation plant, has replaced the four compressors previously used within the factory, further cutting energy consumption. Dean Cockayne concludes, "The MSS Lasers nitrogen generator is crucial to the performance of our company as we rely on it entirely. It has helped us reduce costs, increase efficiency and improve product quality. We are now fully in control of our nitrogen supply, enabling us to plan our production schedules far more effectively."