Choosing a British made gas spring?

Andy Hubbard manages the sales and marketing department of Camloc Motion Control where he is responsible for UK manufactured gas springs and dampers. Here he answers some of the questions he is asked in his day to day business

Where are your motion control products designed and manufactured?

Camloc Motion Control designs and manufactures gas springs and dampers at its factory in Leicester in the East Midlands, right in the heart of the UK.

What guarantees can you offer on the traceability of materials and product quality?

We work closely with our approved supply chain to ensure our exacting quality standards are met. Certificates of conformity and material traceability are in place for critical parts. We carry out a variety of checks and audits on our supply chain with our top 20 suppliers being physically audited on a regular basis. We are BS EN ISO 9001:2008 accredited and are extremely proud of our exemplary record in our quality accreditation audits.

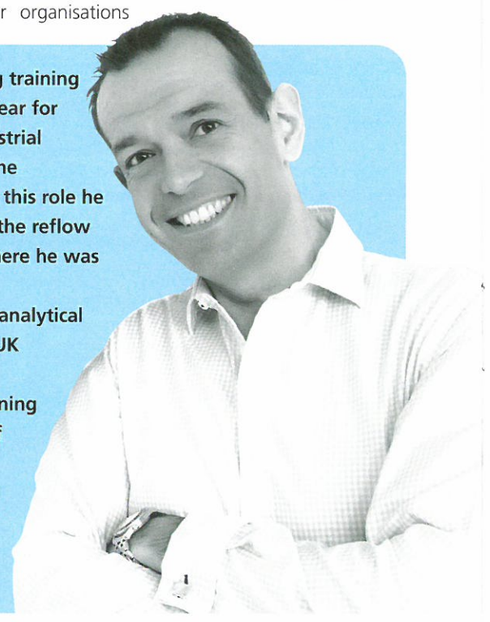
Does British manufacture mean more reliable delivery and shorter lead times?

Of course British manufacture does not guarantee more reliable delivery or shorter lead times. Any company is only as good as its staff, supply chain and its own processes and procedures. We are a lean manufacturer that makes to order. From our own perspective, yes, we believe that we are able to offer more reliable delivery and shorter lead times. Our standard lead time is 20 working days from receipt of order, comparable parts from competitors throughout Europe take between six to eight weeks.

Last year we achieved 99.09% on time delivery and this year we are currently on 100%. As a UK manufacturer, we are very much in control of our own destiny when it comes to lead times. If we have a customer who is desperate for parts and facing line-stop, we can, and do, change our production scheduling wherever possible in order to support them. Flexibility is key.

Can I expect Camloc to solve my particular design problem?

We have field sales engineers on the road talking to customers face-to-face about their technical applications and projects, backed up by a team of Design Engineers at the factory in Leicester. We are the experts in gas springs and dampers. We work closely with customers' design engineers to offer the best solution for their applications. For smaller organisations with limited resources, we will size and position the gas springs for the customer. Whether complicated 3D modelling for large blue chip organisations or a quick sketch from small start-up businesses, we will work with all of our customers to provide a professional bespoke solution for their individual applications.



After leaving college in 1990, Andy Hubbard developed a taste for engineering training at a local engineering company, which manufactured industrial ovens, switchgear for the Eurostar and electrical cabinets. The company also designed and built industrial reflow conveyors for the surface mount technology industry. Having learned the business from the shop floor, Hubbard was appointed as a buyer and it was in this role he first became aware of Camloc gas springs, using them on the access panels of the reflow conveyors. He was then promoted on to Sales and Marketing Co-ordinator, where he was responsible for selling and exporting product around the world.

In 1997, Hubbard joined the world's largest manufacturer of weighing and analytical equipment, Mettler Toledo. Here he was responsible for the marketing of the UK laboratory division and distributor sales until 2002.

After five years working for a private company delivering Government training contracts, Hubbard returned to his engineering roots, taking up the position of sales and marketing manager for Camloc Motion Control, designers and manufacturers of Camloc gas springs and dampers. Now responsible for global sales, Hubbard and his team supply thousands of customers worldwide across a variety of industry sectors including: construction, military, medical, mobility & disability, automotive, rail and general industrial.

How long does it take to design, prototype and deliver a manufactured product?

We will turn a typical gas spring application enquiry around within approximately seven days – that's tailor made to the customer's requirements, prototyped and despatched to the customer. This varies massively on the complexity of the application and whether we have to design a new product to do the job. Production volumes are normally despatched within 20 working days.

Will Camloc retrofit/replace a gas spring which may have been supplied by a competitor?

Yes, absolutely. We are frequently asked to quote and supply our own equivalent parts. A customer can either supply details of their application and we can look at it from scratch or let us have look at the competitor part, we will test the competitor part and offer our own equivalent.

Are you seeing an increase in the number of people wanting to 'Buy British' made product?

We are speaking to a lot more customers who are stressing the importance of, and the desire to, source and specify UK manufactured product. Price, lead time and product quality are of course important, but so is the level of technical support on offer and the ability to speak to someone either face-to-face or over the phone to talk through what the customer needs to solve their problems. It can be tempting for companies to source on price alone, but they also want and often need the technical support, lead time and product quality. That's where, as a UK manufacturer, we must find the balance between continuing to remain competitive on pricing, whilst still offering quality products and first class customer and technical support.

What product innovations have you seen in recent years?

We have over recent years developed a number of specialist products for extreme and hi-tech applications such as products for military use. For example, working against very exacting customer requirements, we have designed blast mitigation dampers for use on seating in military vehicles to attenuate blasts caused by under vehicle explosions such as the IEDs in Afghanistan. Independent drop and live blast testing have confirmed that we have great products that perform and meet the toughest NATO standards.

Gas springs and dampers are everywhere and used on many different applications. We have a very flexible approach to working with customers to meet their needs, no matter how demanding. For more specialist projects, it may mean working with a customer for months or even years to design and develop a brand new concept.

Is there a general rule of thumb for mounting gas springs?

Yes. First, you need to understand that there are two mounting points for a gas spring; the moving mounting point and the fixed mounting.

The moving mounting point is the point that traverses or moves through an arc when the lid or door of the application is opened or closed.

The fixed mounting point remains stationary throughout the application being cycled and acts only as a pivot point for the gas spring.

Once you understand this difference, you can start to position your gas spring. Assuming the centre of gravity is approximately in the middle of the lid, start by positioning the moving mounting point approximately one third the length of the lid from the hinge.

This method works as a general guide for positioning a gas spring and is typically used by customers at a prototyping stage in conjunction with Camloc's Vari-Lift variable force gas spring. It will obviously vary depending upon the individual application, weights, centre of gravity and external friction forces but it's a useful guide to remember.

Is there a right and wrong way to mount a gas spring?

A typical standard gas spring should always be mounted rod down. There are a few exceptions but generally rod down is the right way. Firstly, when mounted rod down, the oil in the gas spring acts as a damping medium and slows the gas spring as it approaches the end of its stroke. Secondly, and whether mounted rod down on the application or being stored in the box in the warehouse, a gas spring needs the oil to be in contact with the seal package to stop it from drying out and perishing over time.

What are the key considerations when positioning gas springs to maximise the life of the spring?

With any gas spring, safety is of paramount importance. However, the life expectancy of a gas spring varies tremendously on the application and the environment in which it is being used.

Gas springs do not like side loads so they should be avoided. A side load will create a localised wear path on the seal package causing a leak path for the gas and oil over time. Side loads can be avoided by ensuring that the moving and fixed mounting points are correctly aligned and that the application doesn't twist or flex during cycling. A good way to remove, or at least minimise, side load is to mount gas springs using at least one ball joint end fitting.

Dirt or dust on the rod can be pulled through the seal, damaging it and causing leaks so contamination should also be avoided. The same will occur if the rod becomes damaged – scratched or dented – as a result of the rod being exposed to external influences and debris during cycling. Where a gas spring is being used in a particularly dirty environment or one where it is prone to contamination, we would recommend the fitting of a protective shroud to minimise contamination ingress and to maximise the life expectancy of the product.

If a gas spring uses a long stroke and requires a high force, there is a risk of the rod bowing. This will at best increase wear on the seal package, create a leak path resulting in the gas and oil escaping. At worst, if the bowing is too great because the gas spring is over gassed for the length of stroke, there is the very real potential of a catastrophic failure; the rod will buckle and potentially snap on the application. As a manufacturer recommending a gas spring for a customer, we would select the optimum stroke and force to suit each specific application to ensure that buckling is avoided.