

A Yorkshire-based precision engineering firm bases its strategy on working as the development and manufacturing arm of its OEM customers on high added value, low volume products

A healthy future

Claro's managing director Martin Doxey likes to ask visitors what his precision products are for, and how they are made. In many cases they are designed to fit the sensitive hands of surgeons. 'We focus on getting it right dimensionally, but it has to look and feel right. When a surgeon picks up one of our instruments he wants to feel the quality.'

The focus is on instrumentation: current work includes a prototype 'suture passer'; an adjustable spinal implant; and a device used in corneal transplants, combining an optical element with a chemically sharp blade - Claro makes the sleeves and other parts to micron tolerances, and undertakes assembly, including a gas tight seal. 'We've done a lot of development work with the company that supplies them' says Doxey; 'and now we are producing batches every month, 300 to 400 at a time as they are for single use; the edge has to be perfect and there must be no contamination. In the machining sense it's conventional, but a lot of work has to be done under a microscope.'

Then there's a 'cruciate ligament jig' used in knee surgery, which enables surgeons to precisely control bone drilling. The complex components are made in 17/4 PH, by direct sintering; effectively they are built up in 30 micron layers, so structurally they are different to wrought materials, and have strong directional properties. 'We're not actually in production,' explains Doxey (in fact the part was made in Finland). 'But when I heard there was research under way to create products directly in 17/4 PH and cobalt chrome, I wanted to be an early adopter of the technology.' He's well placed for this, as some of this research is taking place in Yorkshire, with the Advanced Manufacturing Research Centre (AMRC) prominent.

The fitting staff are housed in a pleasant location - they had been close to the turning area, and subjected to some of the unpleasant squealing associated with turning exotic materials. The philosophy has been to get out of the factory the things that don't need to be near the machine tools, and to get the people away from noise. ■

At the other end of the scale the company is producing wave guide kits at a rate of 700 per week. The 'kit of parts' approach may mean Claro bringing together other subcontract processes such as anodising, and laser marking, managing the supply chain. The benefits to the customer include substantial savings in time, simpler administration, reduced inspection and inventory, recyclable packaging. 'Take one of our laser customers. They used to buy about 40 different items from us and they were always out of stock on one of them - always on a panic job. Now, we make up the kits, we control all the inventory; they phone and ask us to deliver and we just put the parts into re-useable boxes and ship them.'

A job which illustrates the company's 'can-do' attitude is an air-sampling probe which the customer builds into a smoke detection device. 'Claro has produced 300 per month for several years, and it's worked very well,' explains Martin Doxey. 'But the customer has found an incompatibility between the material and its environment, and as a result we have had to change the material and the design. It's a problem that might have occurred once in several thousand - but that's one too many.'

The change meant replacing acetyl with carbon-filled ptfе (1:3 carbon: ptfе) - and in a hurry, with 14,000 parts - essentially rods with through-holes - required in eight weeks). 'So we ordered 3km of this 20mm diameter solid rod and we are machining it to final product but the alarming thing is how aggressive it is to tooling - it will blunt micrograin carbide - so it needs retouching.' And as finish is important this means hand-finishing with a scalpel, a very tedious job, entrusted in this case to the fitters department.

About 40% of Claro's current business is in low volume medical work. It moved into this market via good links with universities 'and it's developed by a series of individuals coming to us with specific problems, wanting a product manufactured. Our expertise is to work out how to do it economically; our function is effectively to work as the development and manufacturing arm of medical companies and other OEMs on high added value low volume products. The key thing is to establish long term relationships; of our top twenty customers 17 were top twenty 4 years ago. We also do a lot on lasers, quite a bit of aerospace, plus electronics and telecoms (waveguide products); but the medical market is growing and it's where we are internationally competitive.' However, it's a market, he observes, which is attracting a lot of newcomers - 'and it's not a license to print money.'

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